

Exhibit 4

IN THE SUPREME COURT OF OHIO

Bria Bennett, et al.,

Petitioners,

v.

Ohio Redistricting Commission, et al.,

Respondents.

Case No. 2021-1198

Original Action Filed Pursuant to Ohio
Constitution, Article XI, Section 9(A)

*[Apportionment Case Pursuant to S.
Ct. Prac. R. 14.03]*

EXHIBITS TO BENNETT PETITIONERS' OBJECTIONS – VOLUME 3
(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
akhanna@elias.law
bstafford@elias.law
T: (206) 656-0176

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

Donald J. McTigue* (Ohio Bar No. 0022849)
**Counsel of Record*
Derek S. Clinger (Ohio Bar No. 0092075)
McTIGUE COLOMBO & CLINGER LLC
545 East Town Street
Columbus, OH 43215
dmctigue@electionlawgroup.com
dclinger@electionlawgroup.com
T: (614) 263-7000

Counsel for Petitioners
Bria Bennett et al.

Dave Yost
OHIO ATTORNEY GENERAL
Bridget C. Coontz (0072919)
Julie M. Pfeiffer (0069762)
30 E. Broad Street
Columbus, OH 43215
Tel: (614) 466-2872
Fax: (614) 728-7592
bridget.coontz@ohioago.gov
julie.pfeiffer@ohioago.gov

Counsel for Respondents
Governor Mike DeWine,
Secretary of State Frank LaRose, and
Auditor Keith Faber

W. Stuart Dornette (0002955)
Beth A. Bryan (0082076)
Philip D. Williamson (0097174)
TAFT STETTINIUS & HOLLISTER LLP
425 Walnut St., Suite 1800
Cincinnati, Ohio 45202-3957
T: (513) 381-2838
dornette@taftlaw.com
bryan@taftlaw.com
pwilliamson@taftlaw.com

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, North Carolina 27612
phil.strach@nelsonmullins.com
tom.farr@nelsonmullins.com
john.branch@nelsonmullins.com
alyssa.riggins@nelsonmullins.com
T: (919) 329-3812

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

John Gilligan (Ohio Bar No. 0024542)
Diane Menashe (Ohio Bar No. 0070305)
ICE MILLER LLP
250 West Street, Suite 700
Columbus, Ohio 43215
John.Gilligan@icemiller.com
Diane.Menashe@icemiller.com

Counsel for Respondents
Senator Vernon Sykes and
House Minority Leader-Elect Allison Russo

DAVE YOST
OHIO ATTORNEY GENERAL
Erik J. Clark (Ohio Bar No. 0078732)
Ashley Merino (Ohio Bar No. 0096853)
ORGAN LAW LLP
1330 Dublin Road
Columbus, Ohio 43215
T: (614) 481-0900
F: (614) 481-0904
ejclark@organlegal.com
amerino@organlegal.com

Special Counsel to Ohio Attorney General
Dave Yost

Counsel for Respondent
Ohio Redistricting Commission

IN THE SUPREME COURT OF OHIO

Bria Bennett, et al.,

Petitioners,

v.

Ohio Redistricting Commission, et al.,

Respondents.

Case No. 2021-1198

Original Action Filed Pursuant to Ohio
Constitution, Article XI, Section 9(A)

*[Apportionment Case Pursuant to S. Ct.
Prac. R. 14.03]*

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. For the purpose of this report, I have been asked to examine whether and how the revised redistricting plan for the Ohio State House of Representatives and Ohio Senate, adopted by the Ohio Redistricting Commission on January 22, 2022, (attached as Exhibits A and B) (“Revised Plan”), addresses the standard set forth in Article XI, Section 6(B), namely, that “[t]he statewide proportion of districts whose voters, based on statewide state and federal partisan general election results during the last ten years, favor each political party shall correspond closely to the statewide preferences of the voters of Ohio.”
2. As this Court stated in its January 12, 2022 opinion declaring invalid the General Assembly plan adopted by the Commission on September 16, 2021, “[i]f it is possible for a district plan to comply with Section 6 and Sections 2, 3, 4, 5, and 7, the commission must adopt a plan that does so.” *League of Women Voters of Ohio v. Ohio Redistricting Comm.*, Slip Opinion No. 2022-Ohio-65 at ¶ 88.
3. I demonstrate that this “partisan proportionality” standard was once again clearly not met by the map adopted by the Ohio Redistricting Commission. In short, it was possible to draw General Assembly maps that both complied with the line-drawing requirements of Sections 2, 3, 4, 5, and 7 of Article XI of the Ohio Constitution and closely corresponded to the statewide preference of Ohio voters. Despite this fact, the Commission adopted a plan that does not closely correspond to such preferences.
4. In order to ascertain whether it was possible for the Commission to comply with both Section 6(B) and Sections 2, 3, 4, 5, and 7 of the Ohio Constitution, I submit my own alternative

maps (attached as Exhibits C and D). These maps are largely identical to the maps submitted to this Court as an attachment to my previous report in this case, dated October 22, 2021. I have made amendments to these maps to correct a few minor line-drawing issues (described in paragraph 27-28 below). I also renumbered the districts in the Senate map to ensure compliance with Article XI, Section 5; that is, I numbered the districts as if the Commission were ready to adopt this plan without revisions. Neither change impacted the partisan seat count of the map or led to a violation of another provision of Article XI.

5. I understand that, prior to the Commission's adoption of the Revised Plan, maps were submitted to the Commission that were identical to the ones I submit today (with the exception of the numbering of Senate districts, which I have now finalized).
6. The alternative maps attached as Exhibits C and D comply with each of the requirements of Sections 2, 3, 4, 5, and 7. They also produce a partisan breakdown that closely corresponds to the preferences of Ohio voters, with precise proportionality in the Senate, and a closer correspondence with partisan proportionality in the House than the Revised Plan. These maps also draw, on a plan-wide basis, more compact districts than those in the Revised Plan and split fewer counties.
7. Additionally, during my examination of the Revised Plan, I discovered that the plan contains multiple House districts that split more than one township or municipal corporation, in contravention of Article XI, Section 3(D)(3).
8. I also discovered that many of the purportedly Democratic districts in the Revised Plan's House map are actually toss-up districts in which the forecasted Democratic vote share is between 50 and 52 percent. For most of these districts, the vote share falls within the very close 50 to 51 percent range, likely making the seats up for grabs in any given election and highly responsive to changes in electoral conditions from cycle to cycle. By contrast, none of the Republican-leaning districts in the Revised Plan's House map fall within the 50 to 52 percent Republican range. This creates a false impression as to the parties' respective seat shares, since the Republican seat share is the minimum number of seats Republicans are likely to win, while the Democratic seat share is that party's likely maximum. This issue is compounded by the fact that almost all of these toss-up districts are held by Republican incumbents.
9. I was also asked to conduct a careful examination of the key geographic regions where the likely partisan outcomes associated with the Revised Plan were notably different from those associated with my map and the other alternative maps considered in my initial report. In most respects, my alternative plan is more respectful of traditional redistricting criteria than the Revised Plan. Above all, it produces districts with higher compactness scores and fewer county splits, while also producing a number of Democratic-leaning districts that is consistent with the partisan proportionality standard of Article XI, Section 6(B). Moreover, in and around metro areas, the Revised Plan still uses non-compact districts and splits communities, including Black communities, in order to avoid the creation of districts likely to elect Democratic candidates, opting instead to generate a series of districts with Democratic vote shares very slightly above 50 percent, almost all of which include Republican candidates who enjoy the advantages of incumbency.

II. QUALIFICATIONS

10. 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 E.
11. 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.”
12. 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.
13. 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.

14. 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. 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

15. 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 the Revised Plan approved by the Commission and uploaded to the web page of the Ohio Redistricting Commission, true copies of which are attached as Exhibits A and B.² For the analysis conducted in this report, I use three software packages: Stata, Maptitude for Redistricting, and ArcGIS Pro. In creating my maps, I used the same U.S. Census redistricting data used by the Ohio Redistricting Commission, as archived in the “Ohio University Common and Unified Redistricting Database.”³

IV. MEASURING PARTISAN PROPORTIONALITY

16. The Ohio Constitution instructs the Commission to use “statewide state and federal partisan general election results during the last ten years” to ascertain the “statewide preferences of the voters of Ohio” and attempt to draw a map in which the “statewide proportion of districts whose voters favor each party . . . correspond[s] closely” to those “statewide preferences.”
17. As this Court explained in its January 12, 2022 opinion in this case:

As used in Article XI, Section 6(B) of the Ohio Constitution, the term “statewide preferences of the voters of Ohio” means the percentages of votes received by the candidates of each political party based on the total votes cast in statewide state and federal

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>

partisan elections during the preceding ten years. In this case, there is no dispute that under this methodology, which looks at votes cast in statewide elections over the relevant period, about 54 percent of Ohio voters preferred Republican candidates and about 46 percent of Ohio voters preferred Democratic candidates.

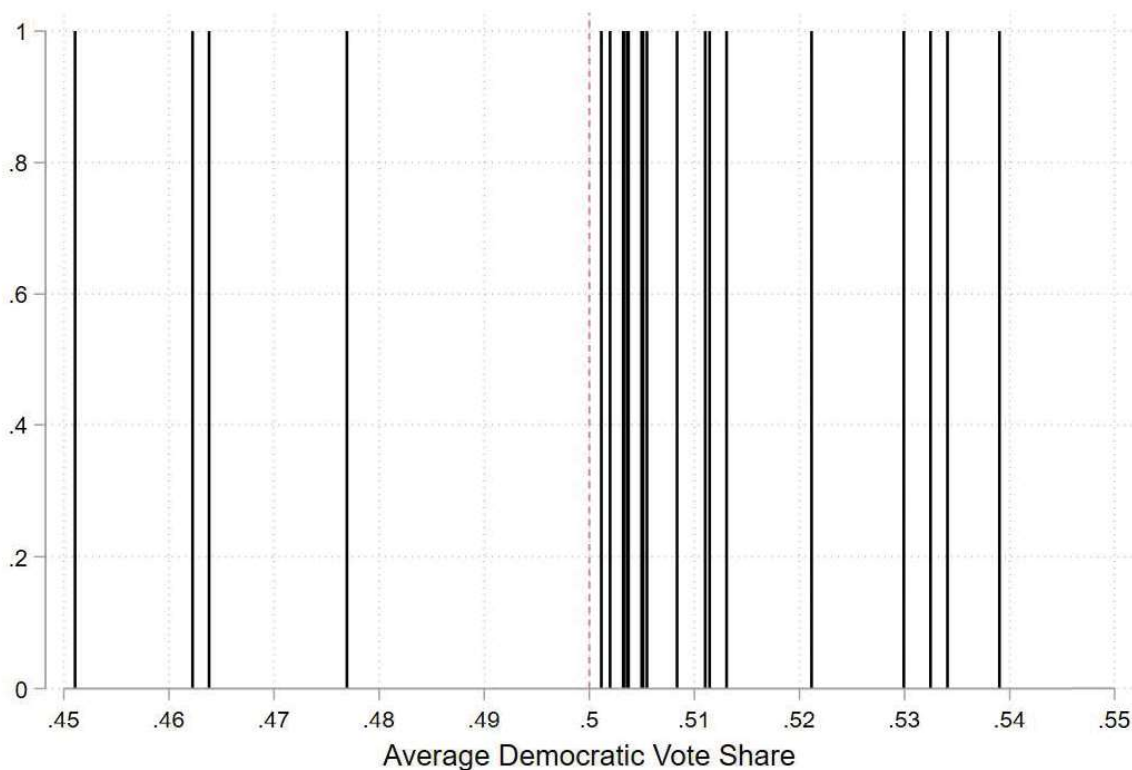
League of Women Voters of Ohio v. Ohio Redistricting Comm., Slip Opinion No. 2022-Ohio-65 at ¶ 108. Thus, the Commission must attempt to draw a plan with a seat share that “closely corresponds” to a breakdown of 54 percent in favor of Republicans and 46 percent in favor of Democrats.

18. Determining the proportion of districts that favor each party, based on consideration of the relevant elections identified in Article XI, Section 6, requires an aggregation of the precinct-level results of these past elections to the boundaries of a map’s proposed districts. However, precinct-level election results linked with geo-spatial boundaries were not available for the 2012 and 2014 elections, as the Commission itself acknowledged in its initial Article XI, Section 8(C)(2) Statement (accompanying the since-struck down September 16, 2021 General Assembly plan), attached as Exhibit H. As discussed in my previous report to this Court, using the full statewide election results from 2012 to 2020, the statewide preferences of Ohio voters must be translated into state legislative maps in which 45.9 percent of seats favor Democrats and 54.1 percent of seats favor Republicans. Since there are 99 seats in the Ohio House of Representatives, a statewide vote share of 45.9 percent would be associated with 45.44 Democratic seats, which rounds down to 45 seats. Similarly, a 45.9 percent vote share would be associated with about 15.15 Democratic seats in the 33-member Ohio Senate, which rounds down to 15 seats.
19. As was the case in my previous report, I opted to use the Commission’s precise methodology for ascertaining each party’s seat count under the Revised Plan. I do so not as an endorsement of the methods used by the Commission, but rather, in order to facilitate apples-to-apples comparison. Accordingly, I aggregated the precinct-level results of each election from 2016 to 2020 to the level of the districts in the Revised Plan. For each district, I calculate the average Democratic share of the votes received by the candidates of the two major parties across each of these elections. I then ascertain the number of districts in which this quantity is greater than 50 percent. Using this technique, I determine that the Revised Plan produced 42 majority-Democratic House seats and 57 majority-Republican House seats, as shown in Table 1 below. In the Senate, the Revised Plan produced 13 majority-Democratic Senate seats and 20 majority-Republican seats, as shown in Table 2 below. Both of these maps fall short of partisan proportionality, by two seats in the Senate and three seats in the House.
20. In addition to this examination of seats above and below the 50 percent cut-point, it is also useful to examine how many of the Democratic- and Republican-leaning seats are razor-thin majorities, and how many are more comfortable majorities. I count the number of seats where the average Democratic share of the vote for the two major parties was less than 48 percent—let us call these “expected Republican seats.” And I count the number of seats where the average Democratic share of the vote for the two major parties was greater than 52 percent—let us call these “expected Democratic seats.” Finally, I count the number of seats that we

might call “toss-ups,” where the average Democratic vote share was between 48 percent and 52 percent.

21. As set forth in Table 1 below, in the Revised Plan, all of the majority-Republican House seats are greater than 52 percent Republican. Of the 42 majority-Democratic seats, only 29 are greater than 52 percent Democratic. The main difference between the invalidated plan and the Revised Plan is the creation of an additional set of toss-up seats that are nominally Democratic. All 13 of the toss-up seats are slim Democratic majorities. As set forth in Table 2, in the Commission’s Senate plan, there are 19 expected Republican seats, 9 expected Democratic seats, and 5 toss-ups, of which 4 have a slim Democratic majority and 1 has a slim Republican majority.
22. Indeed, a large number of nominally Democratic-leaning seats (as identified using the Commission’s methodology) reflect razor-thin margins. Figure 1 provides a discrete histogram of the average Democratic vote share in the House districts of the Revised Plan. Each vertical line corresponds to a district. I display the range of districts with an average Democratic vote share between 45 percent and 55 percent.

Figure 1: Discrete Histogram of District-Level Average Democratic Vote Share, Revised House Plan⁴



⁴ Note that this chart does not include very safe seats, which have partisan indices of lower than 45 or greater than 55 percent.

23. Figure 1 demonstrates a remarkable “bunching” of 10 districts between 50 percent and 51 percent, with an additional 3 districts with a Democratic vote share a little over 51 percent. In contrast, there are no Republican-leaning districts in this range.
24. As explained further below, by generating a large number of seats with comfortable Republican majorities and a set of toss-up seats with very slim Democratic majorities, the Commission has generated plans that would provide the Republican Party with a majority of seats even in the event of a very comfortable Democratic statewide victory.
25. This discrepancy in the allocation of toss-up seats is more severe than the previous plan approved by the Commission on September 16, 2021 (the “Invalidated Plan”). In that plan, all of the majority-Republican seats in the House were similarly greater than 52 percent Republican, while the 5 toss-up seats were Democratic-leaning.

V. COMPARING THE REVISED PLAN TO MY ALTERNATIVE PLAN

26. On October 22, 2021, I produced to this court my own redistricting plan for the Ohio House and Senate (“Rodden I”). As described in my previous report, the plan created 43 Democratic seats in the House and 15 Democratic seats in the Senate.
27. Following the Court’s January 12, 2022 order striking down the Invalidated Plan, I conducted another review of the Rodden I plan in conjunction with its potential submission to the Commission for consideration in the remedial process. In doing so, I discovered that my proposed plan contained a few technical line-drawing issues.
28. The technical issues I discovered consisted of the following:
 - A few small sets of largely unpopulated census tracks being separated from their townships and municipalities;
 - Certain district lines being drawn to follow township boundaries instead of municipal boundaries.
29. After discovery of these issues, I promptly revised the plan to correct each of the items described above. These revisions did not impact the plan’s partisan seat count or its compliance with any other provision of Article XI. They were not difficult to make.
30. I understand that a revised version of my initial plan was submitted to the Commission by Petitioners Bria Bennett and the League of Women Voters on January 20, 2022.
31. Section 5 of Article XI requires that, for incumbent Senators not running for office in the election following a redistricting (here, the 2022 election), the number that corresponds to the district each such Senator represents must be assigned to a district containing the largest portion of the population of the candidate’s previous district. Thus, once a Senate plan is finalized, incumbents are assigned to specific districts, and those districts are numbered accordingly.

The map I submitted did not assign incumbents to specific districts, as it was not clear whether the Commission would consider the plan at all or, if it did, make further changes to it that required renumbering districts.

32. In my submission to this court (“Rodden II”), attached as Exhibits C and D, I have renumbered the Senate districts in compliance with Section 5 and present this Court with a map that is in adoption-ready form. The renumbering of the map in no way impacted any district boundaries nor the partisan seat share of the map. Aside from this renumbering of Senate districts, the maps attached as Exhibits C and D are identical to the maps submitted by Petitioners Bennett and League of Women Voters to the Commission on January 20.
33. Rodden II fully complies with each of Article XI’s provisions, including the subdivision split provisions of Sections 3 and 4, and the district-numbering provisions of Section 5.
34. Rodden II also performs better than the Revised Plan in terms of the number of county splits. The total subdivision splits from each county are set forth in Tables 1 and 2 below. In total, Rodden II splits 32 counties on the House side and 15 on the Senate side. By contrast, the Revised plan splits 37 counties on the House side and 17 on the Senate side. For both the House and the Senate, the Revised Plan splits a greater number of counties than the Invalidated Plan.
35. In compliance with Article XI, Section 3(D)(3), Rodden II does not split more than one municipal corporation or township in any House district.
36. The Revised Plan, on the other hand, violates Section 3(D)(3) in its House map in several instances. First, the Revised Plan’s House map splits both Akron and Copley between Districts 31 and 33, as can be seen in Figure 2 below. Figure 2a shows a place along the border between Districts 31 and 33 where Copley Township is split, and Figure 2b displays a place along the same border where the City of Akron is split.

Figure 2a: Split of Copley Township between Districts 31 and 33, Summit County

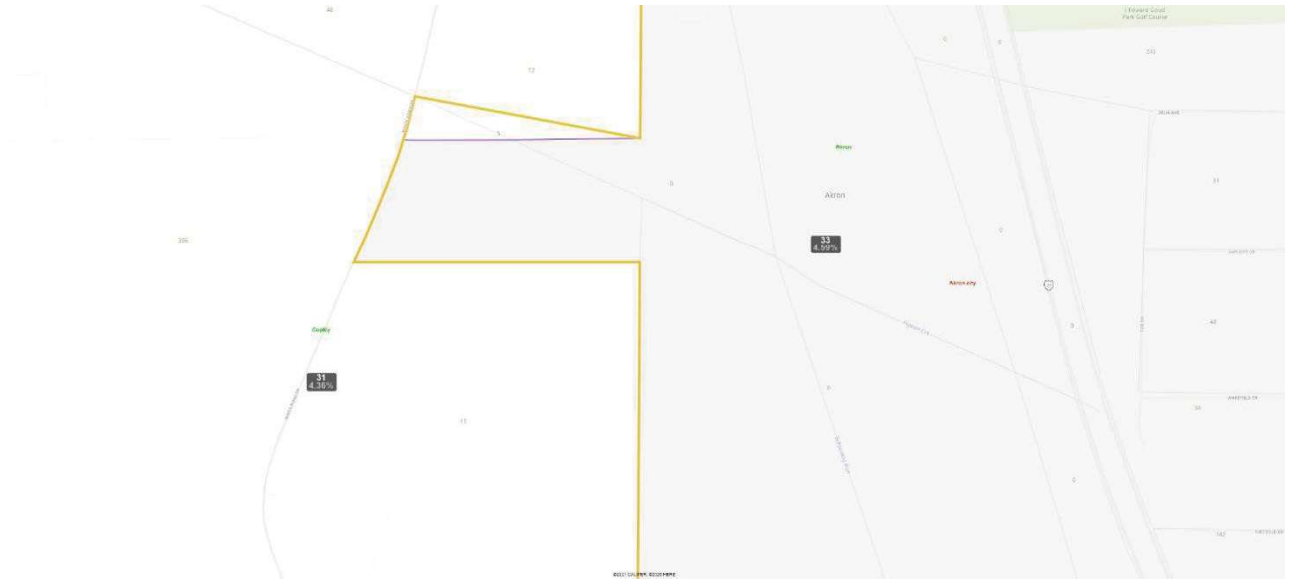
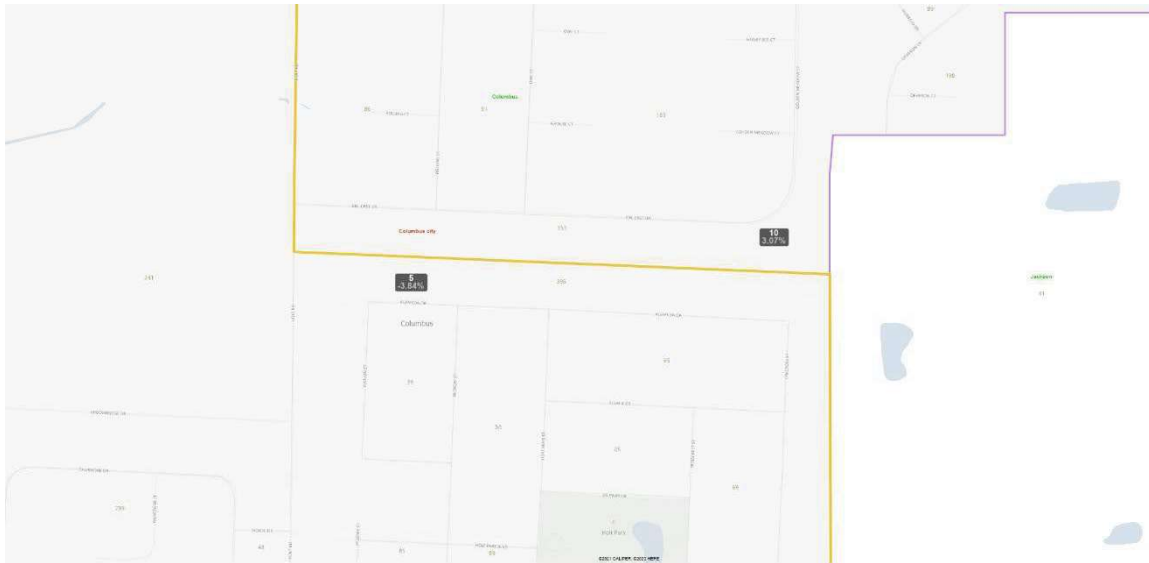


Figure 2b: Split of Akron between Districts 31 and 33, Summit County



37. Second, the Revised Plan's House map splits *three* cities and townships between Districts 10 and 5: the city of Columbus (see Figure 3a below), Grove City (Figure 3b), and Jackson Township in several different places (see Figures 3c, d, and e).⁵

Figure 3a: Split of Columbus between Districts 10 and 5, Franklin County



⁵ The above analysis does not include instances where the Revised Plan splits more than one municipal corporation or township in a district and only one such split contains populated areas of a municipal corporation or township on both sides of the district line. For example, the Revised Plan splits Columbus and New Albany between Districts 4 and 9. However, only Columbus has populated areas in both districts. New Albany, on the other hand, has population only in District 4, and any portion of its territory extending into District 9 is unpopulated. My discussion of splits in this report is limited only to those instances where the Revised Plan splits the populated regions of more than one municipal corporation or township between two districts.

Figure 3b: Split of Grove City between Districts 10 and 5, Franklin County



Figure 3c: First Split of Jackson Township between Districts 10 and 5, Franklin County

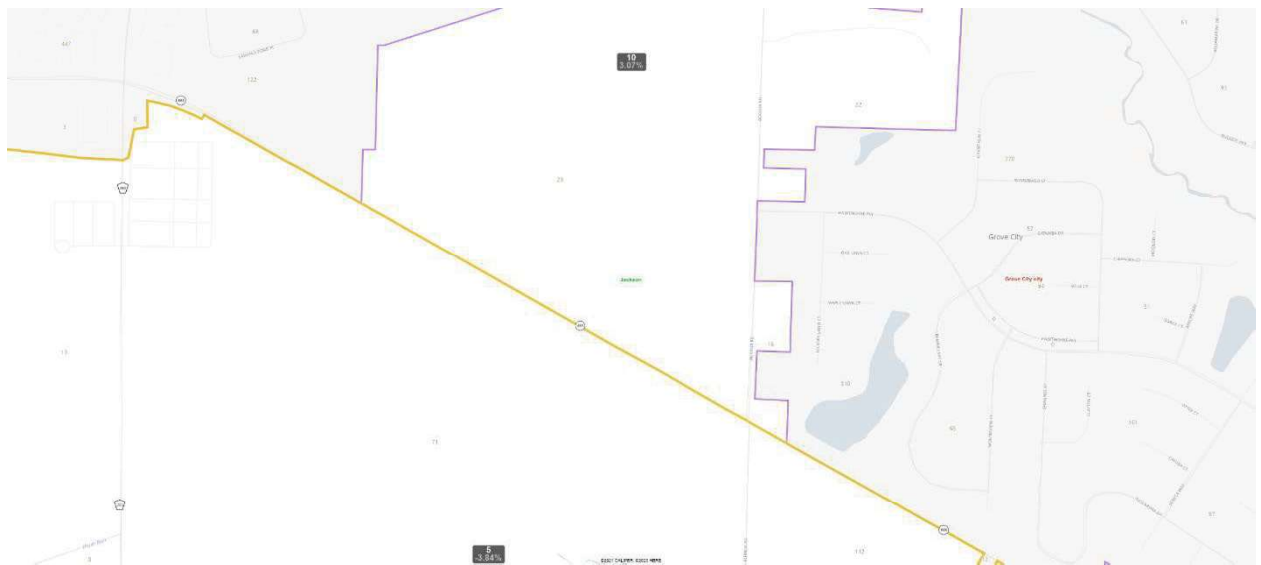


Figure 3d: Second Split of Jackson Township between Districts 10 and 5, Franklin County

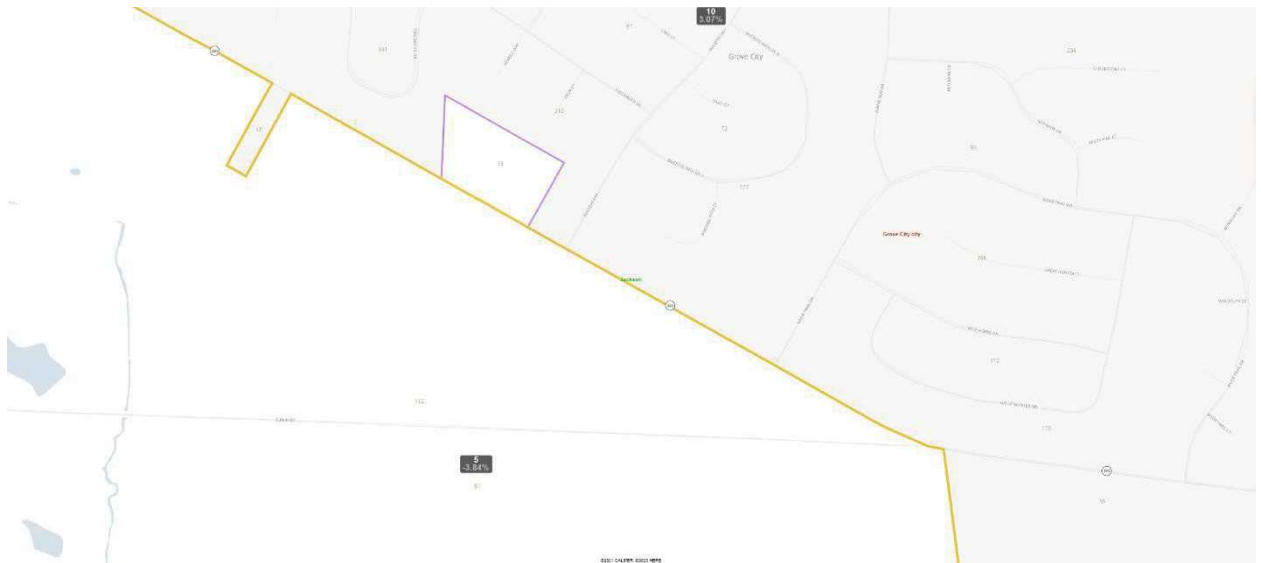


Figure 3e: Third and Fourth Splits of Jackson Township between Districts 10 and 5, Franklin County



38. Although my understanding is that Section 3(E)(1)(a) of Article XI allows the Commission to create a district that splits “two municipal corporations or townships whose contiguous portions do not contain a population of more than fifty per cent, but less than one hundred percent, of one ratio of representation”—provided that it is not possible to comply with Section 3(D)(3)—this section does not apply to the splits described above. First, the municipal and township splits between Districts 10 and 5 are not justifiable under Section 3(E)(1)(a) because those split *three* cities and townships, while that provision allows for only

two such splits. Second, my understanding is that the Commission did not provide an explanation of those splits together with its approved plan, as set out in Section 3(E)(1)(d).

39. Rodden II also performs better than the Revised Plan on plan-wide compactness under Reock, Polsby-Popper, and Area/Convex Hull scores. The scores for the two plans are reproduced in Table 1 below for the House and Table 2 for the Senate.
40. As discussed, the revisions to Rodden I reflected in Rodden II did not impact the new plan's seat share. As a result, Rodden II again contains 43 Democratic seats in the House and 15 Democratic Seats in the Senate. This achieves proportionality in the Senate while coming within two seats of proportionality in the House.
41. The Revised Plan, by contrast, falls short of proportionality in both houses, containing 42 seats with average Democratic vote shares above 50 percent in the House and 13 such seats in the Senate (again, using the Commission's methodology), as set forth in Tables 1 and 2 below.
42. As noted above, the Revised House Plan also creates a large number of Democratic-leaning "toss-up" districts, while creating no such districts for Republicans. Particularly with regard to the 10 Democratic House seats between 50 and 51%, this razor-thin Democratic margin could be easily overcome by specific circumstances such as incumbency advantage or even a mildly favorable electoral environment. In fact, as discussed further below, almost all of the new "toss-up" districts created in the Revised Plan have Republican incumbents, who are more likely to outperform partisan indices in a given election as compared to other candidates.
43. Thus, the concessions the Revised Plan does make in the direction of proportionality come exclusively in the form of highly competitive toss-up districts, which only fall in the Democratic category because they contain a forecasted Democratic vote share just slightly above 50%. As demonstrated with Figure 1 above, many of the purportedly Democratic districts under the Revised Plan are, in truth, up for grabs in any given election, while the Republican districts are quite safe. In other words, the Republican seat share of 58 percent in the House set forth in Table 1 operates as a likely floor for Republicans: even in a Democratic wave election in which Republicans lose every toss-up district, Republicans will nonetheless likely win the seats forecasted under the Commission's methodology. At the same time, the Democratic seat share of 42 percent in the House is a likely ceiling: if they win *every* toss-up seat, they will likely only achieve the number of forecasted Democratic seats.

Table 1: House Maps Comparison Between Rodden II and the Commission's Revised Plan

	Commission Revised Plan	Rodden II Plan
Average compactness scores		
(Higher scores = more compact)		
Reock	0.40	0.41
Polsby-Popper	0.30	0.36
Area/Convex Hull	0.74	0.79
Number of split counties	37	32
<hr/>		
# of seats with average two-party Democratic vote share >.5	42	43
Expressed as percentage of seats	42.4%	43.4%
# of seats with average two-party Republican vote share >.5	57	56
Expressed as percentage of seats	57.6%	56.6%
Distance from proportional seat allocation (seats)	3	2
Expressed as percentage of seats	3.0%	2.0%
<hr/>		
# of seats with average two-party Democratic vote share >.52	29	39
Expressed as a percentage of seats	29.3%	39.4%
# of seats with average two-party Democratic vote share <.48	57	56
Expressed as percentage of seats	57.6%	56.6%
# of seats with average two-party Democratic vote share between .48 and .52	13	4
Expressed as percentage of seats	13.1%	4.0%
<hr/>		

Table 2: Senate Maps – Comparison Between Rodden II and the Commission’s Revised Plan

	Commission Revised Plan	Rodden II Plan
Average compactness scores		
(Higher scores = more compact)		
Reock	0.41	0.44
Polsby-Popper	0.30	0.37
Area/Convex Hull	0.74	0.78
Number of split counties	17	15
<hr/>		
# of seats with average two-party Democratic vote share >.5	13	15
Expressed as percentage of seats	39.4%	45.5%
# of seats with average two-party Republican vote share >.5	20	18
Expressed as percentage of seats	60.6%	54.5%
Distance from proportional seat allocation (seats)	2	0
Expressed as percentage of seats	6.1%	0
<hr/>		
# of seats with average two-party Democratic vote share >.52	9	12
Expressed as a percentage of seats	9.1%	12.1%
# of seats with average two-party Democratic vote share <.48	19	18
Expressed as percentage of seats	57.6%	54.5%
# of seats with average two-party Democratic vote share between .48 and .52	5	3
Expressed as percentage of seats	5.1%	3.0%
<hr/>		

44. Even if toss-ups are not considered in this analysis, and one takes the Commission’s approach whereby any seat with a Democratic seat share of over 50% is classified as Democratic-leaning, the Revised Plan falls short of proportionality. As described above, the Revised Plan deviates from a proportional seat share by three seats in the House and two seats in the

Senate. Its failure to achieve proportionality is not due to a need to comply with other provisions of Article XI. This is made clear by Rodden II, which, of particular note, achieves perfect proportionality in the Senate, without violating any other Article XI rules. In fact, Rodden II achieves this with districts that are substantially more compact, split fewer counties, and are more attentive to traditional redistricting principles.

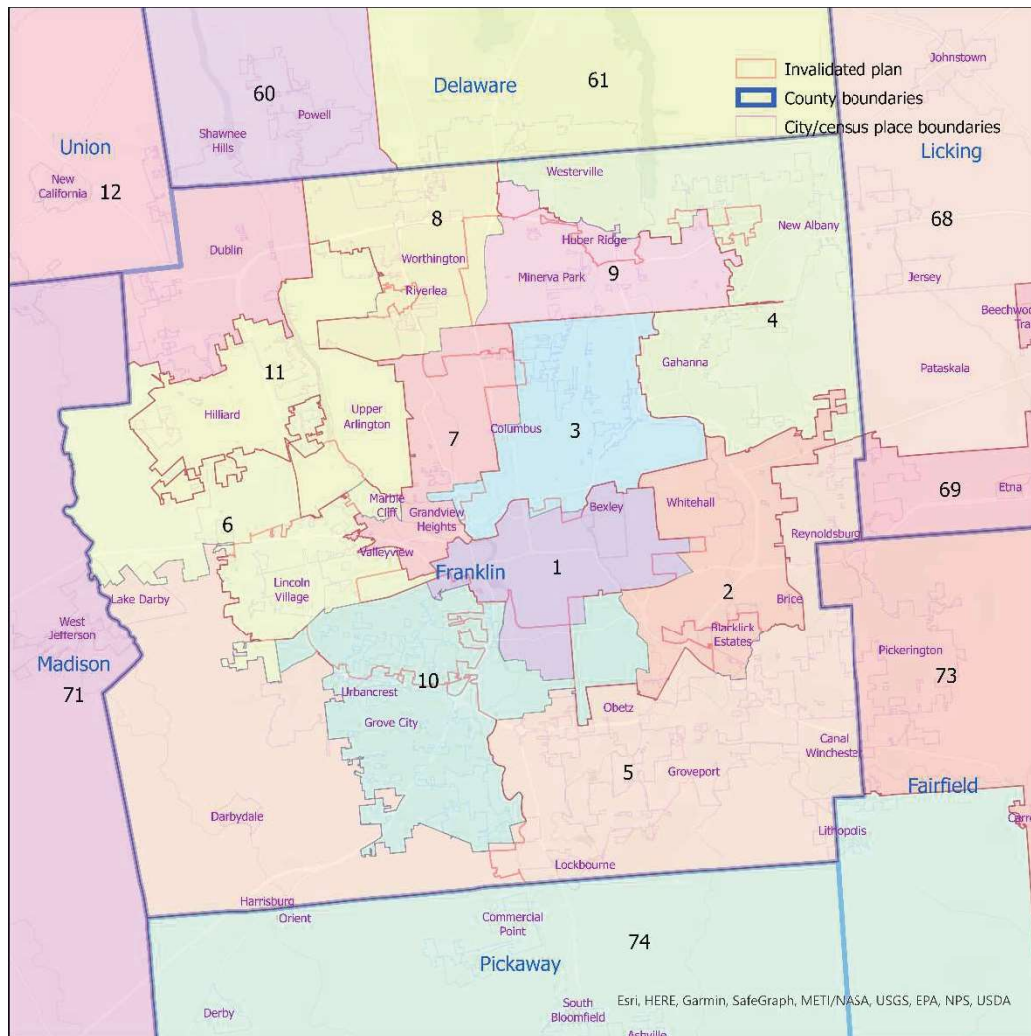
VI. ANALYSIS OF SPECIFIC REGIONS WITHIN THE REVISED COMMISSION PLAN

45. The above makes clear that the Revised Plan falls short of partisan proportionality, despite the fact that it was possible to draw a map that closely corresponds to the statewide preferences of Ohio voters without violating any of Article XI's other provisions. As described above, the Revised Plan differs from the invalidated plan in that it produces a handful of additional toss-up districts. This was achieved in part by taking voters from existing majority-Democratic districts—in some cases turning comfortable Democratic districts into toss-up districts. It was also achieved by taking comfortable Republican districts with Republican incumbents and moving some Democratic voters in, thereby turning them into toss-up districts.
46. In this section, I will take a closer look at specific districting choices made by the drawers of the Revised Plan in various regions of the state. This exercise will help to further demonstrate that the disproportionality of the Revised Plan is not required to achieve compliance with Article XI, but rather reflects deliberate partisan choices.

Franklin County

47. Figure 4 uses unique colors to display the districts of the Revised Plan in Franklin County. It also includes the invalidated boundaries in red. In my earlier expert report, I described a long, non-compact North-South district on the West side of Franklin County that carved out a comfortable Republican district. It has been removed. In its place, however, is a highly non-compact District 5 that traverses the entire Southern boundary of the Franklin County, also grabbing exurbs to the East and West. This district has an average Democratic vote share of around 52 percent. The Revised Plan also creates a rather non-compact District 10 around a Republican incumbent who won with 58 percent of the vote in 2018 and 55.5 percent in 2020. District 10 has an average Democratic vote share of 50.5 percent. And, like the Invalidated Plan, the Revised Plan reflects the unnecessary effort to extract Dublin from Franklin County and attach it with rural Union County

Figure 4: Franklin County



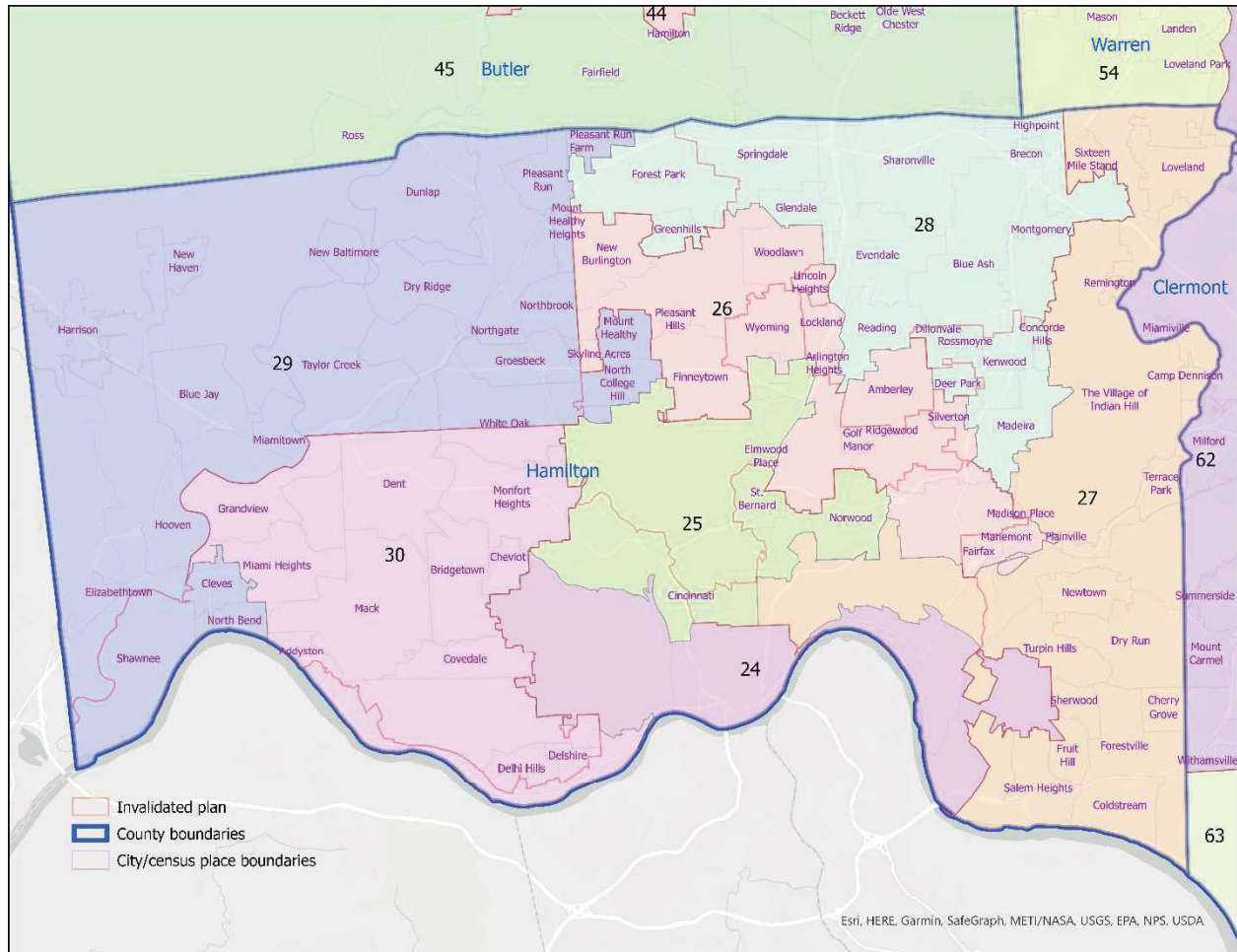
48. The Franklin County districts in the Revised Plan are still unnecessarily non-compact. The average Polsby-Popper score for the Franklin County districts is .22, in contrast with .37 in Rodden II. Recall that higher scores indicate greater compactness. The average Reock score for the Franklin County districts of the revised plan is .38, while for Rodden II it is .47. Moreover, Rodden II does not split Franklin County.

Hamilton County

49. In my earlier report, I described a Hamilton County arrangement in the Invalidated Plan that made some moves that split communities of interest in order to produce two comfortable Republican seats in the Western suburbs of Cincinnati. In particular, District 29 combined a largely white exurban and rural area with a suburban community with a large Black population, Forest Park. The Revised Plan removes Forest Park from District 29, but simply

replaces it with another metro Cincinnati community with a large minority population—this time North College Hill. There are other small changes in the Western suburbs as well, but the configuration with two comfortable Republican suburban districts, 29 and 30, is retained. District 28 is also altered, but it remains a tossup district, as in the Invalidated Plan.

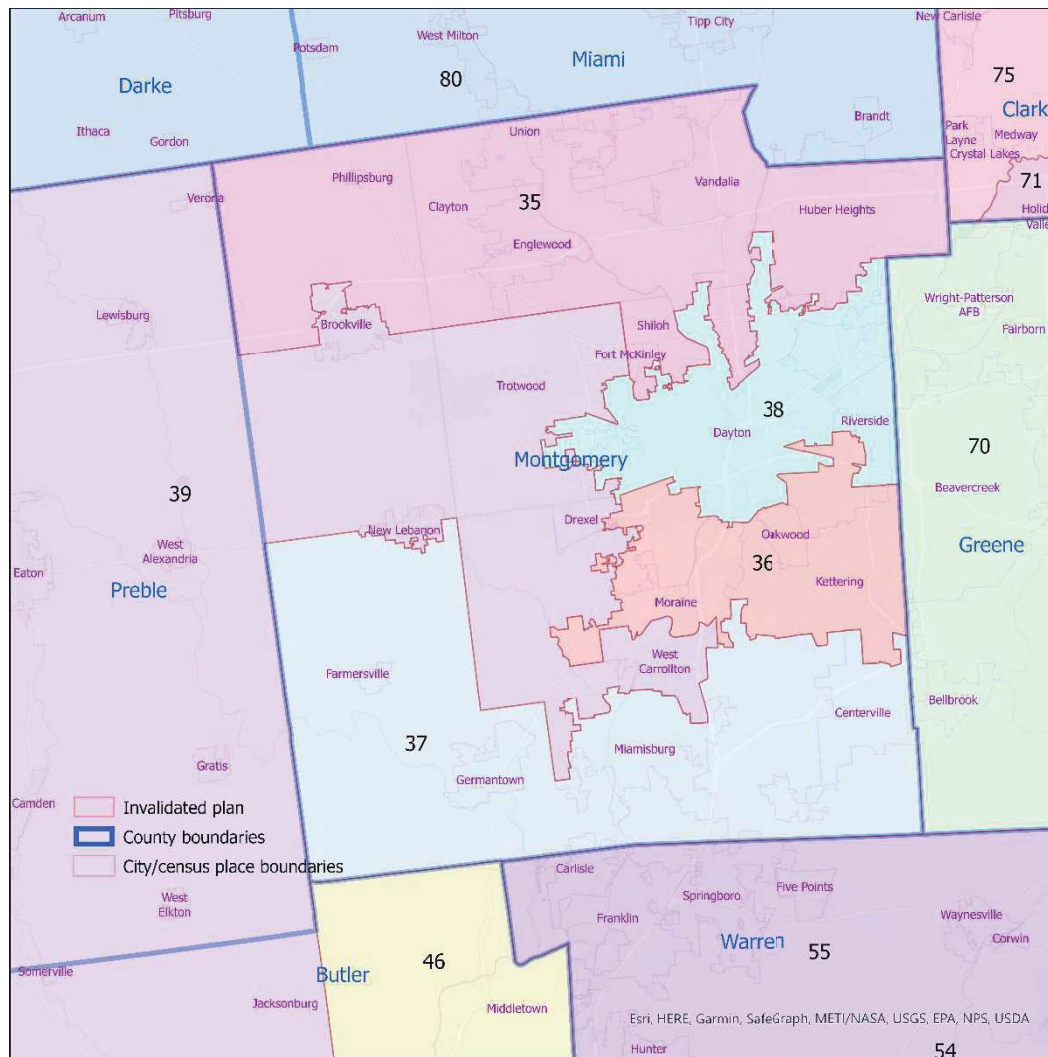
Figure 5: Hamilton County



50. A somewhat more consequential change was made on the Eastern side of the county. There is still a long, non-compact North-South district, numbered 27, on the Eastern border of the county built around the incumbent Republican, Representative Brinkman. This district has been redrawn to become even less compact, reaching into Cincinnati in order to extract just enough Democratic voters to reach the 50 percent threshold. It has an average Democratic vote share of 50.2 percent.
51. The Cincinnati districts are unnecessarily non-compact. The average Polsby-Popper Score for the Hamilton County districts is .175, in contrast with .26 for the Rodden II Plan. The average Reock score for the Revised Plan is .33, while for the Rodden II Plan it is .43.

Montgomery County

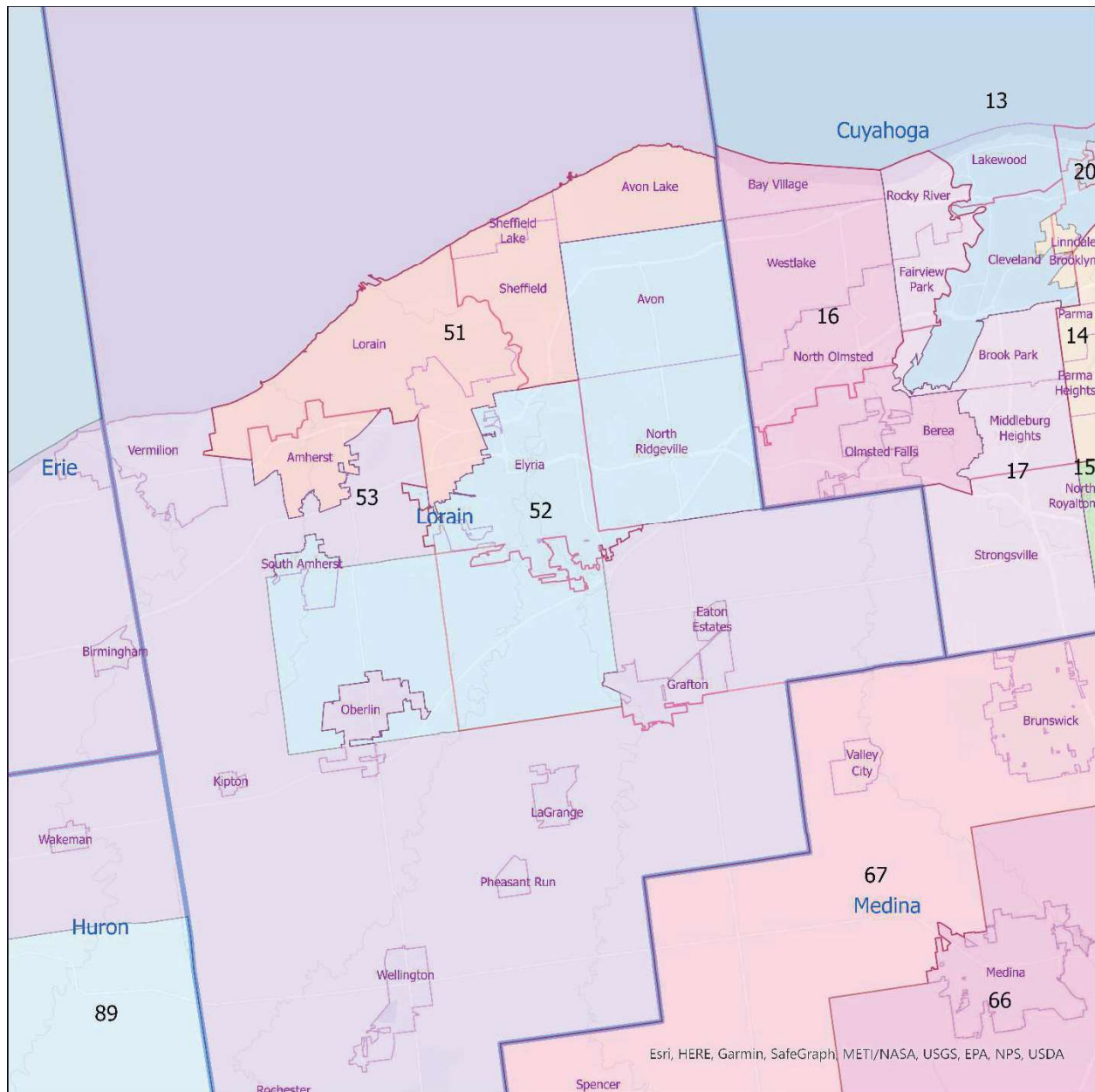
Figure 6: Montgomery County



52. In my earlier report, I pointed out that the Commission's plan took the relatively compact Black community of metropolitan Dayton and scattered it across 4 separate districts. Fragments of Dayton's Black community are combined with various suburban, majority-white districts in order to generate 3 districts with comfortable Republican majorities. A key part of this approach was to extract the Black community of Trotwood and other areas on the West side of Dayton and combine them with rural Preble County to the West. As can be seen in Figure 6, this structure has not changed. In fact, the entirety of the Invalidated Plan remains the same in Montgomery County.

Lorain County

Figure 7: Lorain County

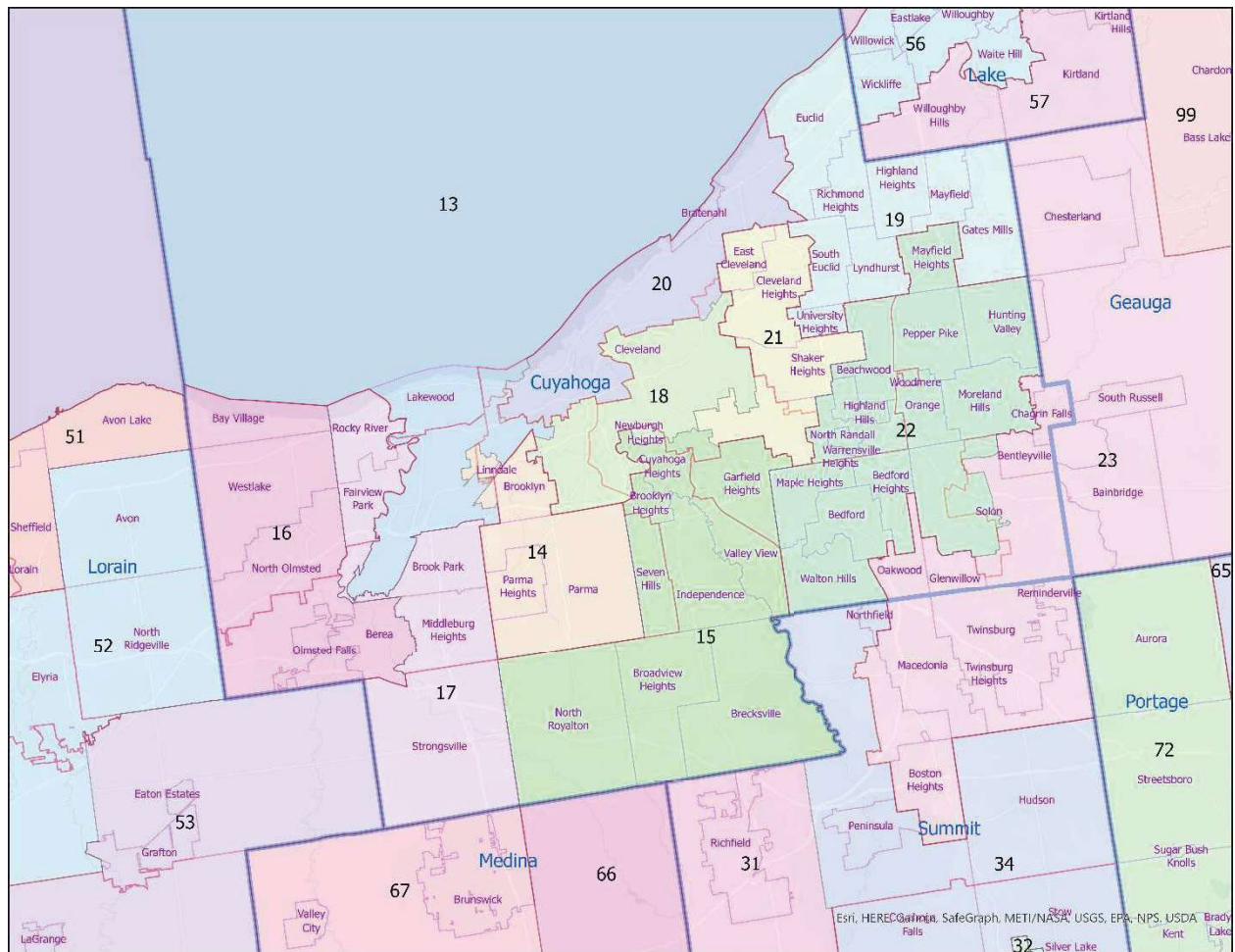


53. My previous report pointed out that the invalidated plan combined the cities of Elyria and Lorain into a very Democratic district with a 5 percent population deviation, which had the effect of creating two comfortable Republican districts in the remainder of the county. The Revised Plan now separates the two cities. The reconfigured Elyria-based district is drawn

to include a Republican incumbent, Gayle Manning, who received 56 percent of the vote in 2020, and 55 percent in 2018, though the district has an average statewide Democratic vote share of 50.3 percent, making it nominally Democratic-leaning. Note that this razor's edge vote share was obtained by carefully extracting the highly-Democratic city of Oberlin from the district (see Figure 7).

Cuyahoga

Figure 8: Cuyahoga County



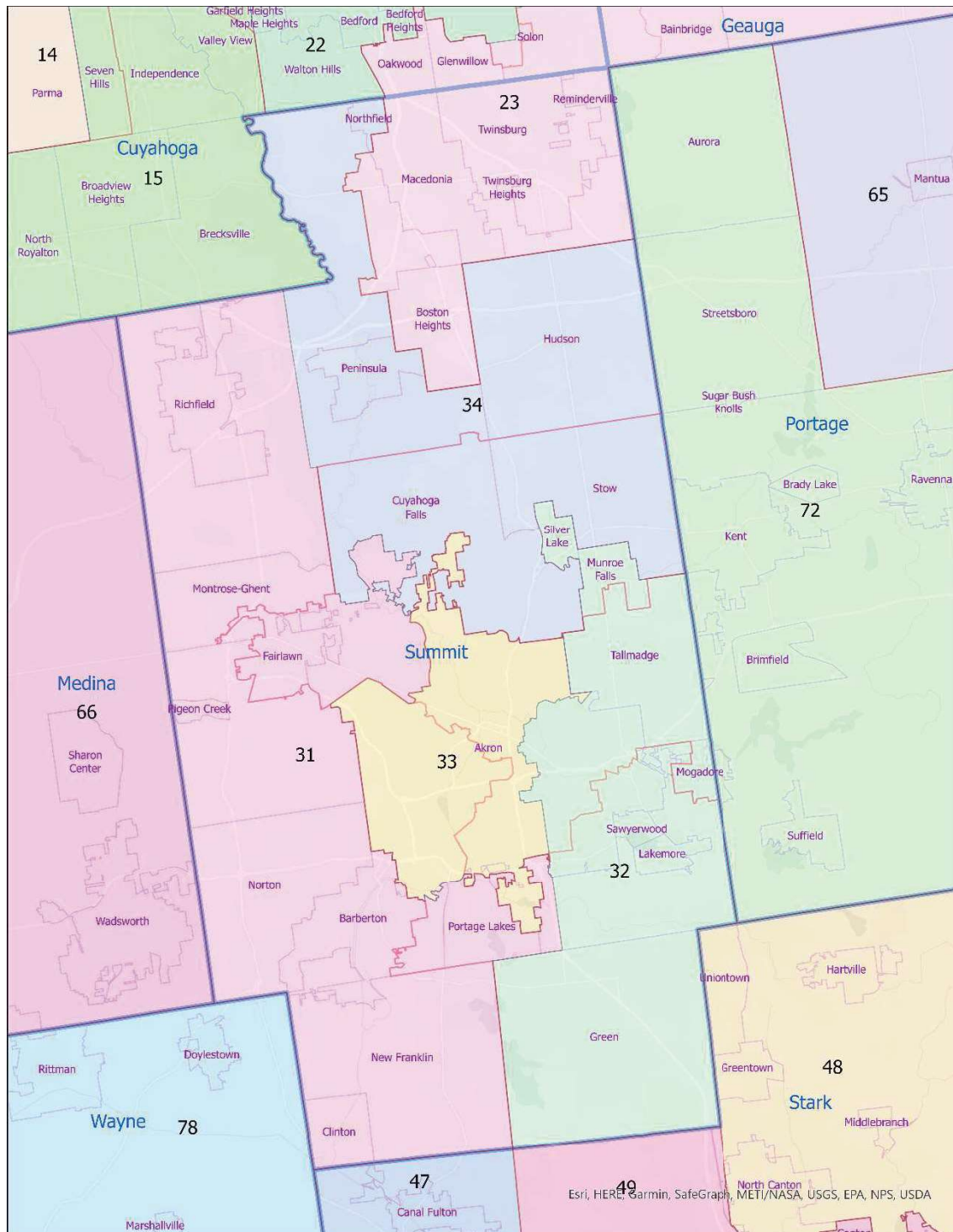
54. In Cuyahoga County, the version of District 17 in the invalidated map traversed the Southern tier of Cuyahoga County, and it was solidly Republican. The previous version of Parma-based District 15 was slightly over 50 percent Democratic. A substantial reconfiguration has taken place in order to produce an additional toss-up district. The reconfigured version of District 17 is a highly non-compact district based in the suburbs of Southwestern Cuyahoga County, reaching up via a very narrow corridor around Cleveland Hopkins International

Airport to extract a narrow sliver of Democratic communities near the lake, ultimately turning District 17 into a tossup, with a 50.5 percent Democratic vote share. As with most of the other newly crafted toss-up districts, District 17 contains a successful Republican incumbent—in this case, one who received 61 percent of the vote in 2018 and 58 percent in 2020.

Summit

55. In the invalidated configuration of Summit County, Districts 32, 33, and 34 were Democratic-leaning districts that contained parts of Akron, but a safely Republican District 31 was built to snake around the Western and Northern border of the county. District 31 is still a highly non-compact district that reaches all the way from the Northern border to the Southern border of the county, but some voters have been extracted from Akron to make District 31 a toss-up, with a Democratic vote share of 50.5 percent. This was also achieved by removing some Democratic voters from District 32, moving it from an expected Democratic district to a tossup, at 50.8 percent. In keeping with the pattern described above, both of these districts contain Republican incumbents. In other words, while the Invalidated Plan had three expected Democratic districts and one expected Republican district, the revised configuration includes two expected Democratic districts and two toss-ups.
56. The Revised plan achieves this by using a non-compact configuration. Its average Polsby-Popper score is .19, with a Reock score of .33. The Summit County configuration in Rodden II, which included four expected Democratic seats, was far more compact, with an average Polsby-Popper score of .32, and a Reock score of .44.

Figure 9: Summit County



VII. CONCLUSION

57. It is possible to draw a plan that more closely corresponds with Ohioans' statewide voting preferences than the Revised Plan while complying with Article XI's other provisions, and the Revised Plan's remaining deviations from proportionality can only be understood as an attempt to secure partisan advantage for Republicans. Rodden II demonstrates that it was possible to comply with Section 6(B)'s proportionality requirement, while at the same time complying with Article XI's other requirements. Additionally, the Revised Plan creates an inordinate number of Democratic-leaning toss-up seats, many of which have a razor-thin margin of between 50 and 51 percent, giving the false impression that these districts are likely to go to Democrats when, in actuality, they are up for grabs. The problem with this is not competitive seats *per se*—which the political science literature indicates can be good for voters and enhance democratic accountability—but rather the disproportionate number of competitive seats that slightly lean in the Democrats' favor. Such a distribution may indicate an intent to favor one party over the other, and may not result in actual proportional partisan representation given the disparity across the two major parties. This problem is compounded by the fact that most of these tossups have Republican incumbents, who are likely to perform better than an index based on past statewide elections might project. Finally, a localized analysis of specific redistricting decisions within the Revised Plan further confirms that the Revised Plan's lack of proportionality was not the result of a need to comply with other Article XI provisions, but rather, the consequence of a deliberate choice on the part of mapmakers to benefit Republican legislative candidates.

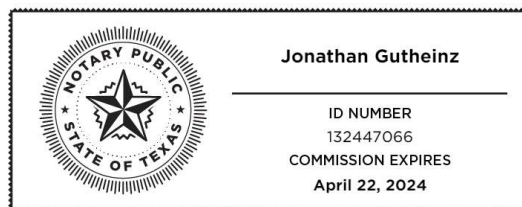
Jonathan Rodden

Jonathan Rodden

Sworn to before me this 25th day of January 2022.

Jonathan Gutheinz

Notary Public



My commission expires 04/22/2024

Notarized online using audio-video communication

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:	M48BMRXD
Access PIN:	TBVGBT

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

Exhibit A

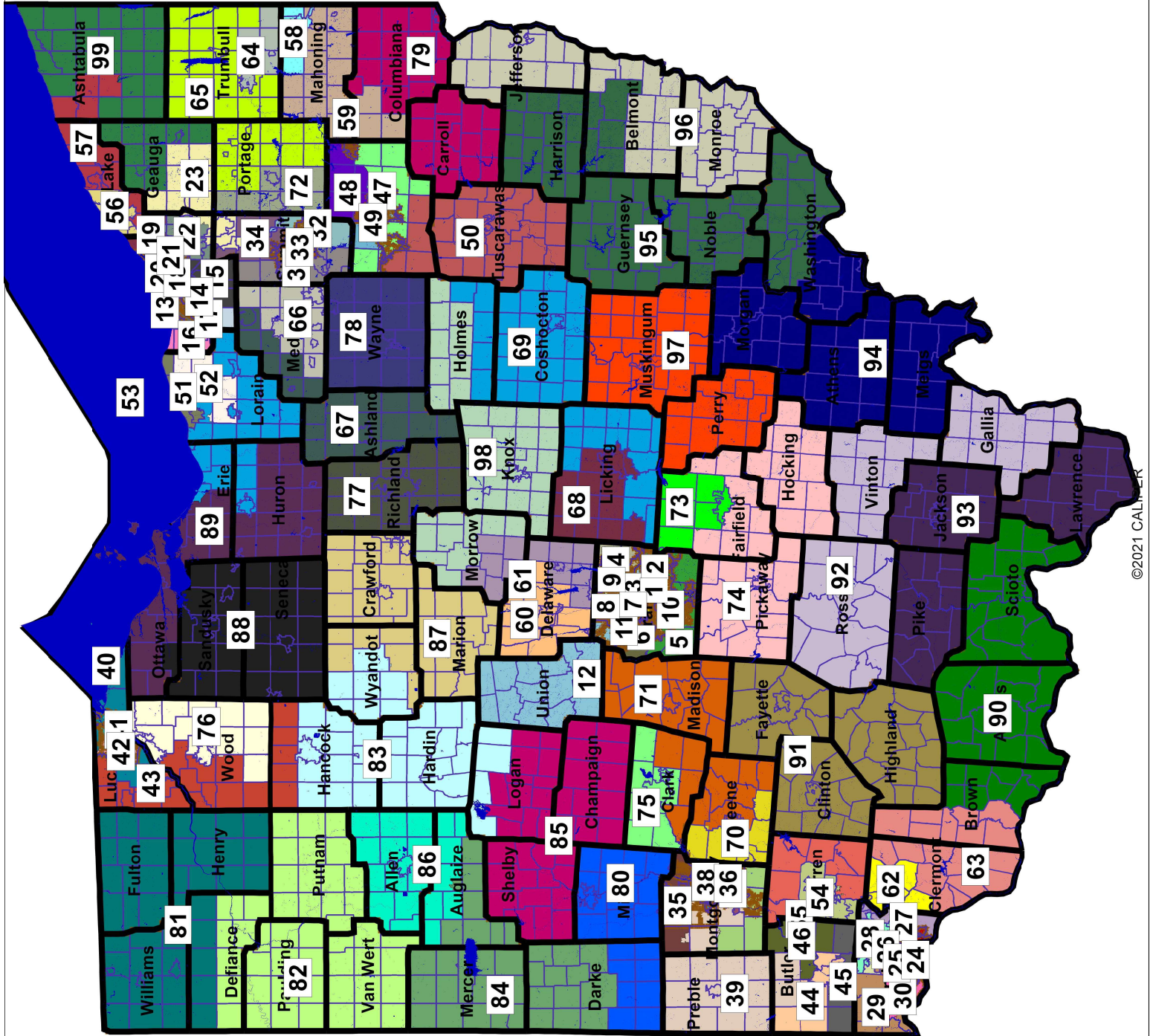


Exhibit B



Exhibit C

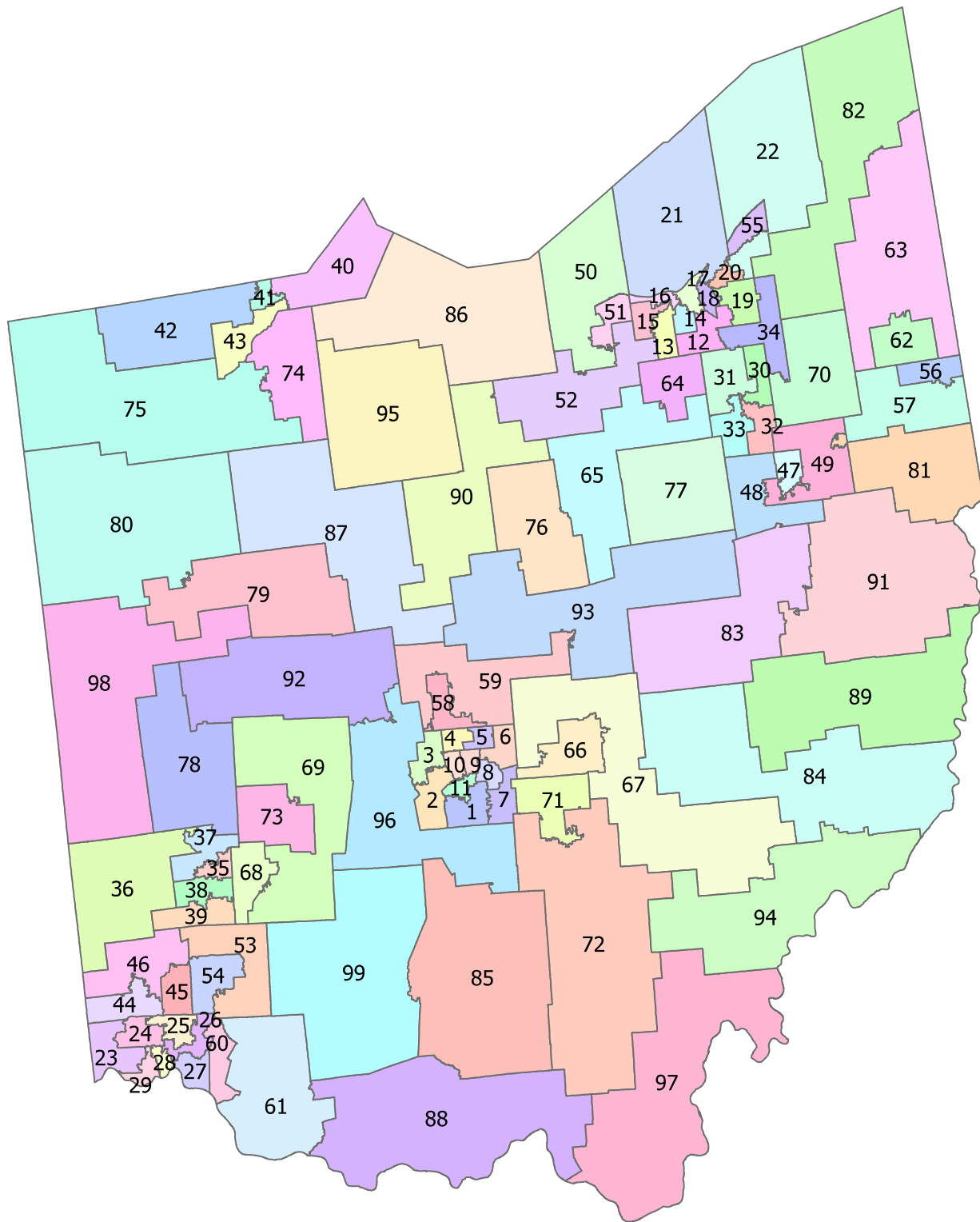


Exhibit D

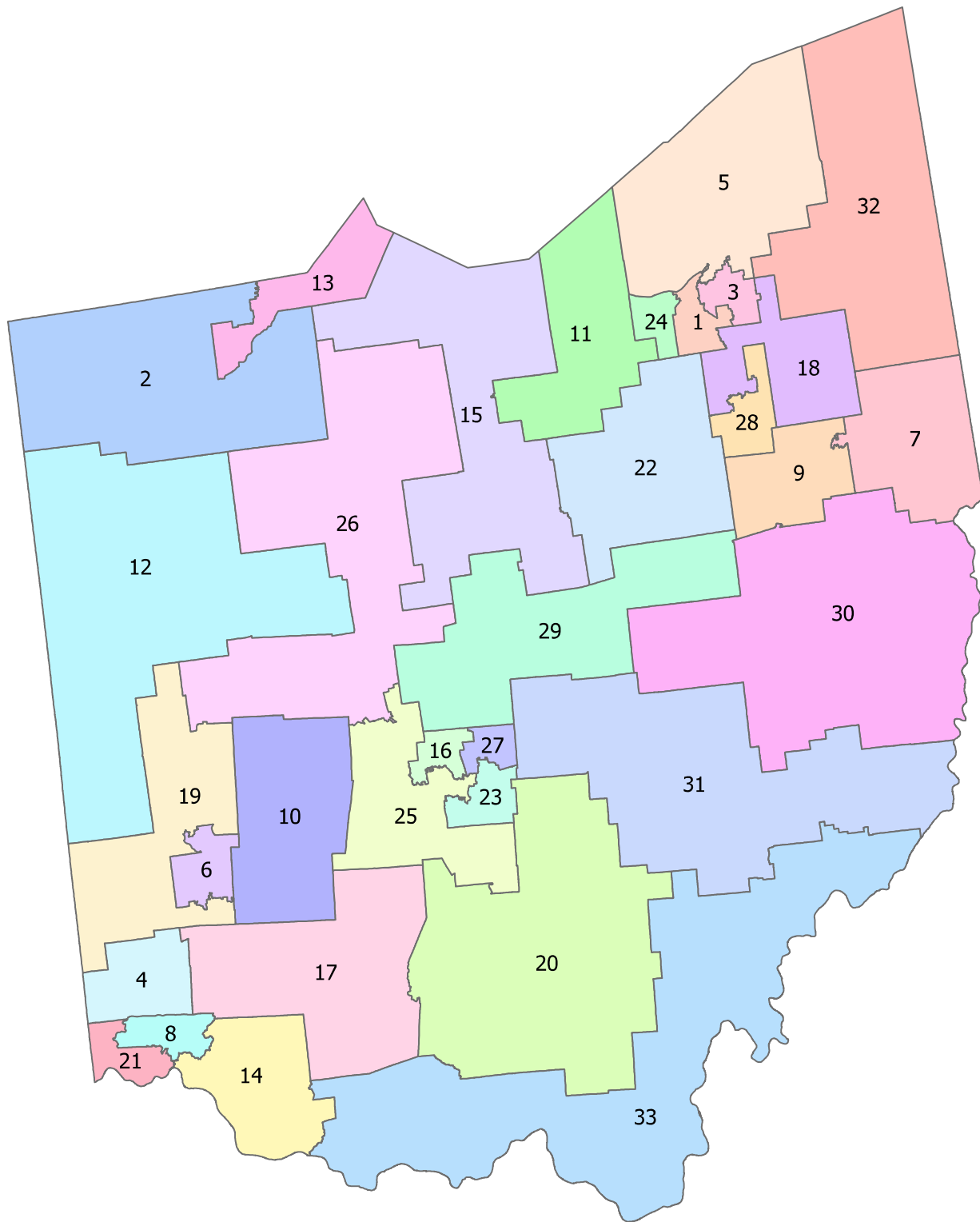


Exhibit E

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

Exhibit F

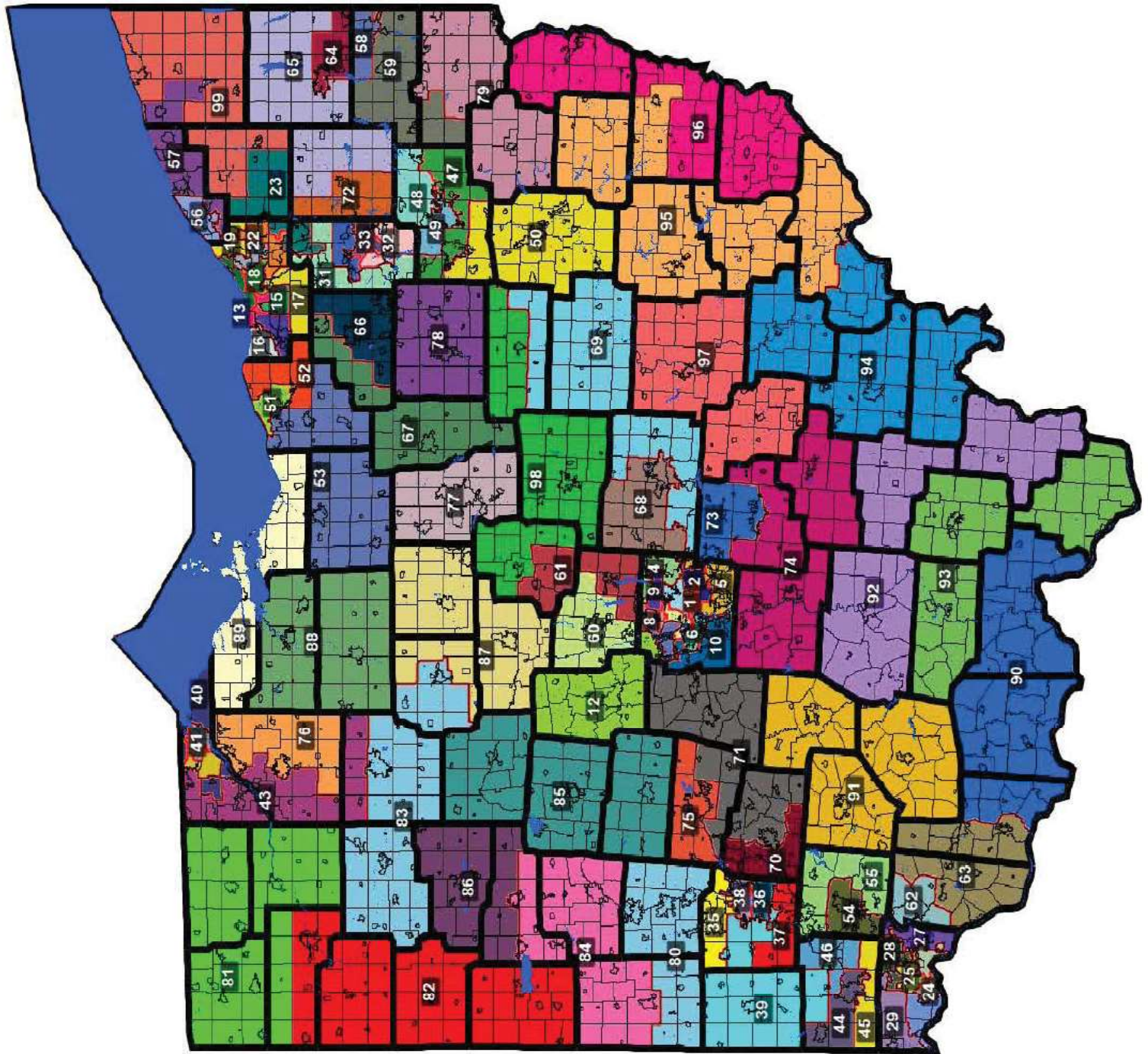


Exhibit G

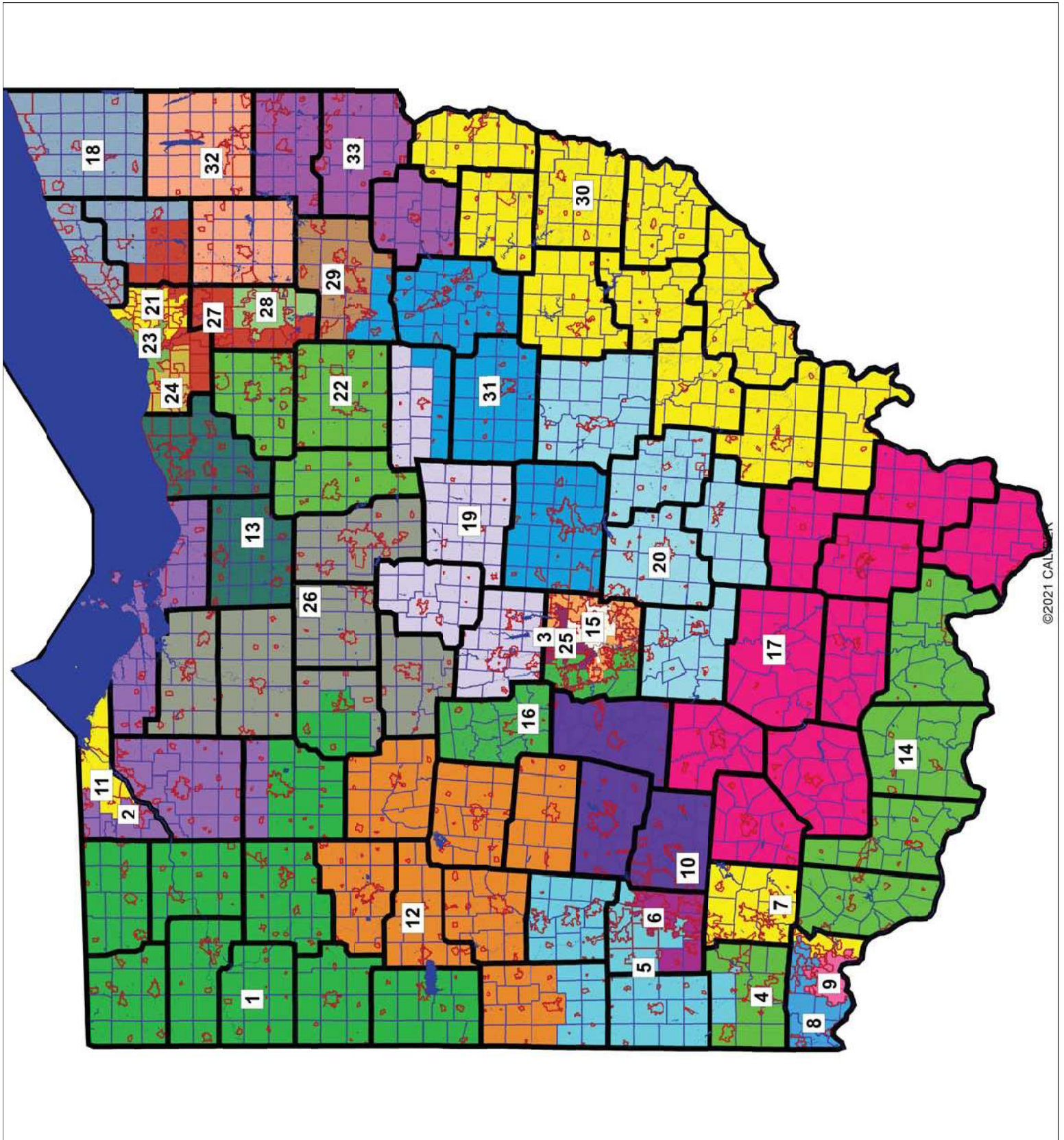


Exhibit H

Article XI, Section 8(C)(2) Statement

Pursuant to Article XI, Section 8(C)(2) of the Ohio Constitution, the Ohio Redistricting Commission issues the following statement:

The Commission determined that the statewide preferences of the voters of Ohio predominately favor Republican candidates.

The Commission considered statewide state and federal partisan general election results during the last ten years. There were sixteen such contests. When considering the results of each of those elections, the Commission determined that Republican candidates won thirteen out of sixteen of those elections resulting in a statewide proportion of voters favoring statewide Republican candidates of 81% and a statewide proportion of voters favoring statewide Democratic candidates of 19%. When considering the number of votes cast in each of those elections for Republican and Democratic candidates, the statewide proportion of voters favoring statewide Republican candidates is 54% and the statewide proportion of voters favoring statewide Democratic candidates is 46%. Thus, the statewide proportion of voters favoring statewide Republican candidates is between 54% and 81% and the statewide proportion of voters favoring statewide Democratic candidates is between 19% and 46%. The Commission obtained publicly available geographic data for statewide partisan elections in 2016, 2018, and 2020. Publicly available geographic data for those elections was not available for elections in 2012 and 2014. Using this data, the Commission adopted the final general assembly district plan, which contains 85 districts (64.4%) favoring Republican candidates and 47 districts (35.6%) favoring Democratic candidates out of a total of 132 districts. Accordingly, the statewide proportion of districts whose voters favor each political party corresponds closely to the statewide preferences of the voters of Ohio.

The final general assembly district plan adopted by the Commission complies with all of the mandatory requirements of Article XI, Sections 2, 3, 4, 5, and 7 of the Ohio Constitution. The Commission's attempt to meet the aspirational standards of Article XI, Section 6 of the Ohio Constitution did not result in any violation of the mandatory requirements of Article XI, Sections 2, 3, 4, 5, and 7 of the Ohio Constitution.

CERTIFICATE OF SERVICE

I hereby certify that the foregoing was sent via email this 25th day of January, 2022 to the following:

DAVE YOST
OHIO ATTORNEY GENERAL
Bridget C. Coontz (0072919)
Julie M. Pfeiffer (0069762)
30 E. Broad Street
Columbus, OH 43215
Tel: (614) 466-2872
Fax: (614) 728-7592
bridget.coontz@ohioago.gov
julie.pfeiffer@ohioago.gov

*Counsel for Respondents
Governor Mike DeWine,
Secretary of State Frank LaRose, and
Auditor Keith Faber*

W. Stuart Dornette (0002955)
Beth A. Bryan (0082076)
Philip D. Williamson (0097174)
TAFT STETTINIUS & HOLLISTER LLP
425 Walnut St., Suite 1800
Cincinnati, Ohio 45202-3957
T: (513) 381-2838
dornette@taftlaw.com
bryan@taftlaw.com
pwilliamson@taftlaw.com

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, North Carolina 27612
phil.strach@nelsonmullins.com
tom.farr@nelsonmullins.com
john.branch@nelsonmullins.com
alyssa.riggins@nelsonmullins.com
T: (919) 329-3812

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

John Gilligan (Ohio Bar No. 0024542)
Diane Menashe (Ohio Bar No. 0070305)
ICE MILLER LLP
250 West Street, Suite 700
Columbus, Ohio 43215
John.Gilligan@icemiller.com Diane.Menashe@icemiller.com

Counsel for Respondents
Senator Vernon Sykes and
House Minority Leader-Elect Allison Russo

Erik J. Clark (Ohio Bar No. 0078732)
Ashley Merino (Ohio Bar No. 0096853)
ORGAN LAW LLP
1330 Dublin Road
Columbus, Ohio 43215
T: (614) 481-0900
F: (614) 481-0904
ejclark@organlegal.com
amerino@organlegal.com

Counsel for Respondent
Ohio Redistricting Commission

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