

Ohio General Assembly Redistricting Plan

Paul Miller – June 2023

Overview

This general assembly redistricting plan has been made to comply with the requirements of Article XI of the Ohio Constitution. Actions taken under Section 3, Division (E)(1) and Section 4, Division (B)(3) are noted in a separate (attached) statement, in accordance with Section 3, Division (E)(2).

This statement is intended to describe the mapping process as a strictly mathematical and geographical one based on a plain reading of Article XI, given the public's concerns over the lack of transparency in the creation and adoption of previous redistricting plans, and the ongoing concerns over allegations of partisan favoritism. Accordingly, this statement serves to demonstrate that there are no grounds for suspicion that this general assembly redistricting plan has been drawn primarily to favor or disfavor a political party, per Section 6, Division (A), but, rather, that it has been drawn by a strict adherence to the rules established in Article XI.

The commonly used online resource called the Dave's Redistricting App (DRA; davesredistricting.org) was used exclusively to create this plan, and for analysis.

Population Deviation

Based upon the most recent federal decennial census, the population of the state of Ohio was determined to be 11,799,448. Per Section 3, Division (A), the population of one House of Representatives ratio of representation was determined to be 119,186, and the population of one Senate ratio of representation was determined to be 357,559.

Per Division (B)(1), the population of each House district is within the range of a minimum of 113,227 (95% of one ratio of representation) and maximum of 125,145 (105% of one ratio of representation), and the population of each Senate district is within the range of a minimum of 339,681 (95% of one ratio of representation) and maximum of 357,436 (105% of one ratio of representation).

Any deviation from the whole ratios in this plan was necessary for minimizing the numbers of split counties, municipal corporations and townships, per Section 3, Divisions (C)(3) and (D)(2). The total population deviation of each plan is within the 10% threshold established by court precedent. The population deviation for the House plan is 9.92%, compared with 9.97% in the current plan. The population deviation for the Senate plan is 9.77%, compared with 9.62% in the current plan.

Minority Representation

Per Section 3, Division (B)(2), the plan has been made to comply with all applicable provisions of the constitutions of Ohio and the United States, and with federal law. With regard to federal law, the DRA standards for minority representation were utilized to ensure compliance with the Voting Rights Act of

1965 (VRA), so that any plan with a minority representation score under 40 as determined by DRA (and therefore considered “bad” or “very bad” by the app) would be open to contestation as a potentially unconstitutional plan, and any plan with a minority representation score of 40 or above (and therefore considered “OK,” “good” or “very good”) would be considered VRA compliant.

The House plan has 11 majority-minority districts, and another 4 districts with minority populations at or exceeding 40%. As all 15 of these districts lean to the Democratic Party by wide margins, and minority voters in Ohio strongly favor Democrat candidates, it is safe to say that these other 4 districts qualify as minority-opportunity districts, so that there are a total of 15 districts which are VRA compliant. (*Yale Law Journal* defines a minority-opportunity district as one “where minority voters are able to elect their candidate of choice because they outnumber nonminority voters within their preferred party, which in turn is the district’s majority party.”) DRA ascribes the House plan a minority representation score of 58, which it considers “OK,” and nearly “good.” For comparison, the current plan has 6 majority-minority districts and 8 minority-opportunity districts, for a total of 14 which are VRA compliant, and a minority representation score of 53.

The Senate plan has 1 majority-minority district and 3 safe Democrat minority-opportunity districts. In total, there are 5 districts (15.2%) which are VRA compliant, from an overall minority population of 21.6% of the state’s voting age population. DRA ascribes the Senate plan a minority representation score of 40, which it considers “OK.” For comparison, there is 1 less potential minority-opportunity district than in the current plan which has a minority representation score of 46, but there are also 9 safe Democrat districts, compared with 6 in the current plan.

District Formation and Numbering

Per Section 3, Division (B)(3), every district is composed of contiguous territory, and the boundary of each district is a single nonintersecting continuous line.

Per Division (C), each House district has been numbered in the following manner: Counties were ranked by population from the largest to smallest. Each county with a population of more than one ratio of representation was assigned as many districts as it has whole ratios of representation, and each county with a population of between 95% and 105% of one ratio of representation was assigned a district. Each county’s fraction of the population in excess of a whole ratio was assigned to another district as part of only one adjoining district. Districts were grouped into groups of 3 based on the requirements for drawing Senate districts in Section 4. The House districts were then assigned numbers corresponding with the resulting Senate districts so that every numbered Senate district is 3 House districts numbered as consecutive integers, with the greatest number of each group corresponding with that Senate district’s number, being the same number divided by 3.

The numbers of the House districts that are portions of Senate districts which include House districts from multiple counties have been assigned in the order of the Senate districts so as to keep the whole general assembly plan internally consistent, comprehensive and easy to follow, rather than the way it has normally been done, which is by drawing the House districts and then adding them together to make up the Senate districts. The result of this approach is a plan that is much more compact than previously enacted plans, per the requirement of Section 6, Division (C) that “General assembly districts shall be

compact.” DRA ascribes the House map a compactness score of 81, which is considered “very good” (the highest rating), and the Senate map a score of 84, also “very good.” For comparison, the current House map has a compactness score of 52 (“OK”), and the current Senate map has a score of 49 (“OK”).

Section 3 (Requirements for drawing House of Representatives districts) – Splits

No unnecessary division of political units has been done. All splits in the House plan are necessary for following all the rules in Section 3 while maximizing the overall compactness of each of the two plans.

With regard to Section 3, Division (C)(3), which reads, “Where feasible, no county shall be split more than once,” it was not feasible to create every House district without splitting a county more than once and still meet all of the requirements. Exceptions to this guideline were made the fewest number of times possible, which was determined to be three, in the counties of Shelby, Coshocton and Athens, respectively, and no county was split more than twice. These decisions were made because the massive population deficits created in the northwestern, eastern and southeastern parts of the state by following the requirements in succession creates a need to carefully manipulate the populations of districts in the more rural counties.

While not necessary, counties with populations under 95% of one ratio of representation were kept intact wherever feasible. In total, 37 counties are split a total of 76 times. 22 counties are required to be split about 65 times as they have populations over 105% of one ratio of representation. Besides these, in order to meet all the requirements, 15 counties under 95% of one ratio of representation were split a total of 18 times. The minimization of county splits to only 11 more than the minimum required by following the constitutional criteria was accomplished by intentionally creating more single-county districts than necessary, and by combining multiple excess portions after the division of counties with more than one ratio of representation into single districts. For comparison, the total number of counties split is 3 less than in the current plan, and the total number of county splits is 1 less than in the current plan. 61 single-county districts are required; there are 65, compared with 63 in the current plan.

Per Division (D)(2), no municipal corporation or township is split whose contiguous portions contain a population of more than 50%, but less than 100%, of one ratio of representation.

Precincts have been split the fewest number of times necessary to meet the population requirements without violating any other requirements. This has only been done where meeting the population requirements necessitated the division of a township or municipal corporation, where such division did not suffice without a further division at the block level, and where a recombination of precincts to avoid it was seen to have had enough of a negative effect on the compactness of the districts being split as to also reduce the cumulative compactness score of the entire plan by a whole integer. For comparison, the total number of precinct splits is 60 less than in the current plan, the county-district and district-county splitting scores are both slightly lower/better in this one (1.19 vs. 1.16, and 1.15 vs. 1.14, respectively), and the overall DRA splitting score of 99 (“very good”) is equivalent between the two plans.

Per the DRA analysis, these splits affect 2.69% of people in the state, as compared with 7.63% in the current plan.

Section 4 (Requirements for drawing Senate districts) – Splits

Per Section 4, Division (B)(1) there are 13 single-county districts in the Senate plan, as there should be, and the fraction of the population in excess of a whole ratio of representation is part of at most only one adjoining district.

Per Division (B)(2), no county having less than one Senate ratio of representation but at least one House ratio of representation is part of more than one Senate district. 14 counties are split a total of 20 times, as compared with the current plan's 15 counties split the same number of times. The result of fewer counties split with a greater overall compactness score has been accomplished by prioritizing compactness in both the House and Senate maps, as per the requirement of Section 6, Division (C).

For comparison, the total number of precinct splits is 35 less than in the current plan, the district-county splitting score is slightly lower/better in this one (1.18 vs. 1.16; the county-district splitting score is an equivalent 1.16), and the overall DRA splitting score of 87 ("very good") is equivalent between the two plans.

Per the DRA analysis, these splits affect 2.16% of people in the state, as compared with 3.08% in the current plan.

Section 6 (Additional district standards)

This plan meets the requirements of Section 6. As described above, the plan was drawn to follow Article XI of the Ohio Constitution, rather than primarily to favor or disfavor a political party, per Section 6, Division (A), particularly with the goal of creating compact districts, per Division (C), but without unnecessarily unseating many incumbents, in accordance with concerns previously expressed by the president of the Senate in his capacity as a member of the Ohio Redistricting Commission.

With regard to Division (B), which reads, "The 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," there is a clear conflict with the Supreme Court of Ohio's recent interpretation and rulings concerning general assembly redistricting, such that the Constitution cannot be followed in this matter if they were to stand.

Whereas the rules established in Article XI other than that of Section 6, Division (B) are designed to prevent partisan gerrymandering, the rule established by this division is designed to necessitate it as part of the minority party's national strategy for winning elections, carried out by ostensibly nonpartisan organizations working to that specific end. In order for the minority party to gain more than its fair share of legislative seats to coincide with the "proportional vote" argument upheld by the Supreme Court's bare majority (and soon to be overturned in this state as it has already been in the state where it was first upheld), the mapmakers would need to overcome the urban-rural concentration gradient of voters which naturally exists along party lines by artificially inflating the voting power of one party by dispersing it into more districts while simultaneously pigeonholing voters of the opposing party into fewer districts, a process called "cracking and packing," but better known as gerrymandering. As the other rules in Article XI are explicitly designed to prevent this and are otherwise consistent among each other, it is inevitable that the portion of the constitutional amendment which established the new rules that will

ultimately be rejected is Section 6, Division (C). As evidence, the redistricting commission hired professionals from both major parties who could not accomplish the task set before them as ordered, through the commission, by the court, due to what one of them referred to as the “wonky rules”—that is, the strict procedures intended to prevent gerrymandering. When pressed by the auditor of state in his capacity as a member of the commission, they declared that following the Constitution while simultaneously fulfilling the court’s unreasonable demands is impossible, and they ultimately retired. Furthermore, this is not only the opinion of the experts hired by the redistricting commission, but of Democratic Party front organizations that are ostensibly opposed to gerrymandering. The analysis tab on any map in DRA notes, where “fair” is understood by these activists as synonymous with “proportional,” according to the recently invalidated legal arguments, “Compact districts aren’t always fair. To the extent that a state’s political geography has a significant urban-rural political divide, maps with more compact districts tend to be less proportional, and maps that are more proportional tend to have less compact districts.” In other words, the mapmaker must take away either from the proportionality of seats leaning to one party against the other, or from the compactness of the plan, in order to add to the other, while the constitution allows neither action, as Section 6 reads, “Nothing in this section permits the commission to violate the district standards described in Section 2, 3, 4, 5, or 7 of this article,” and while a plan favoring the minority party more than a constitutional plan could theoretically be drawn, it could not be so without being drawn primarily to favor or disfavor a political party, in violation of Division (A), and by reducing the compactness of the districts, in violation of Division (C).

That said, the criterion in Division (B) is understood as legally binding with as much weight as the other two, insofar as it is possible to follow it without breaking the others. The necessity by federal law of creating majority-minority and opportunity districts for Ohio’s minority populations in conjunction with the rules established in Sections 3 and 4 makes producing a map centered around Democrat-leaning districts practically inevitable, and is within the reasonable bounds of fairness. Any deliberate attempt beyond this to artificially draw districts for one party or the other by way of cracking and packing constitutes a gerrymander, such as was avoided by this plan in favor of the drawing of compact districts. As with the minority representation score, any proportionality score below 40 using the DRA metric would have been rejected and the map redrawn by sacrificing some compactness, but this was not a problem. DRA ascribes a proportionality score of 49 (“OK”) to the House plan, and a score of 60 (“good”) to the Senate plan. Considering that these scores are substantially higher than what could be reasonably expected in a state which has recently favored the majority party in statewide and federal elections by a roughly 3:2 margin, but is not so heavily weighted to the minority party as to constitute an illegal gerrymander, it may be considered to correspond closely to the statewide political party preferences of the voters of Ohio, as described in the division. While further analysis may be warranted here, this plan is therefore compliant with Section 6, Division (B) on its face, and any attempt to manipulate the margins to align with a partisan political strategy without regard for the constitutional process as followed by this plan, even as ordered by the court, would constitute a clear violation of Divisions (A) and (C).

Objective Models for Proportionality

DRA uses a composite score to measure the recent margins of partisan statewide and federal elections. The composite for Ohio takes into account the 2016 and 2020 US presidential, the 2016 and 2018 US senatorial, the 2018 gubernatorial and the 2018 state attorney general elections. As such, it is a useful

tool for determining the statewide preferences of the voters of Ohio based on statewide state and federal partisan general election results during the last ten years. According to the composite, Ohio's statewide voting margin is 52.41% Republican to 45.34% Democrat.

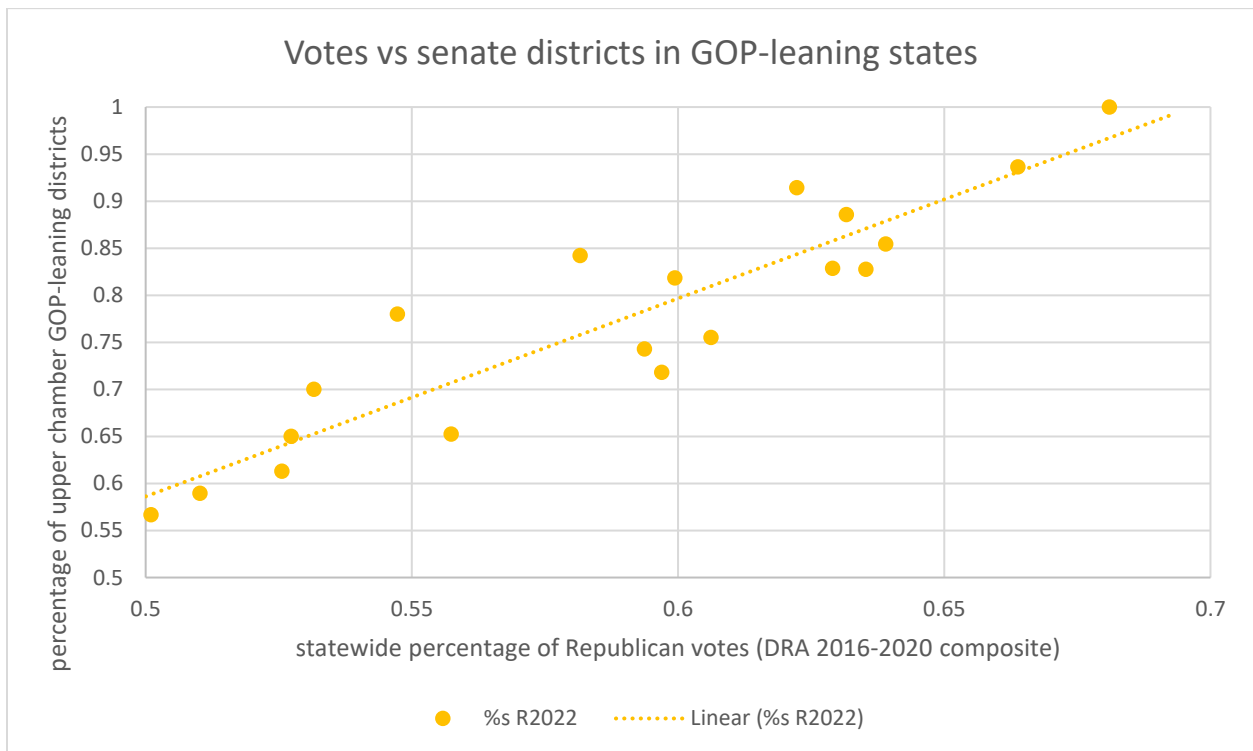
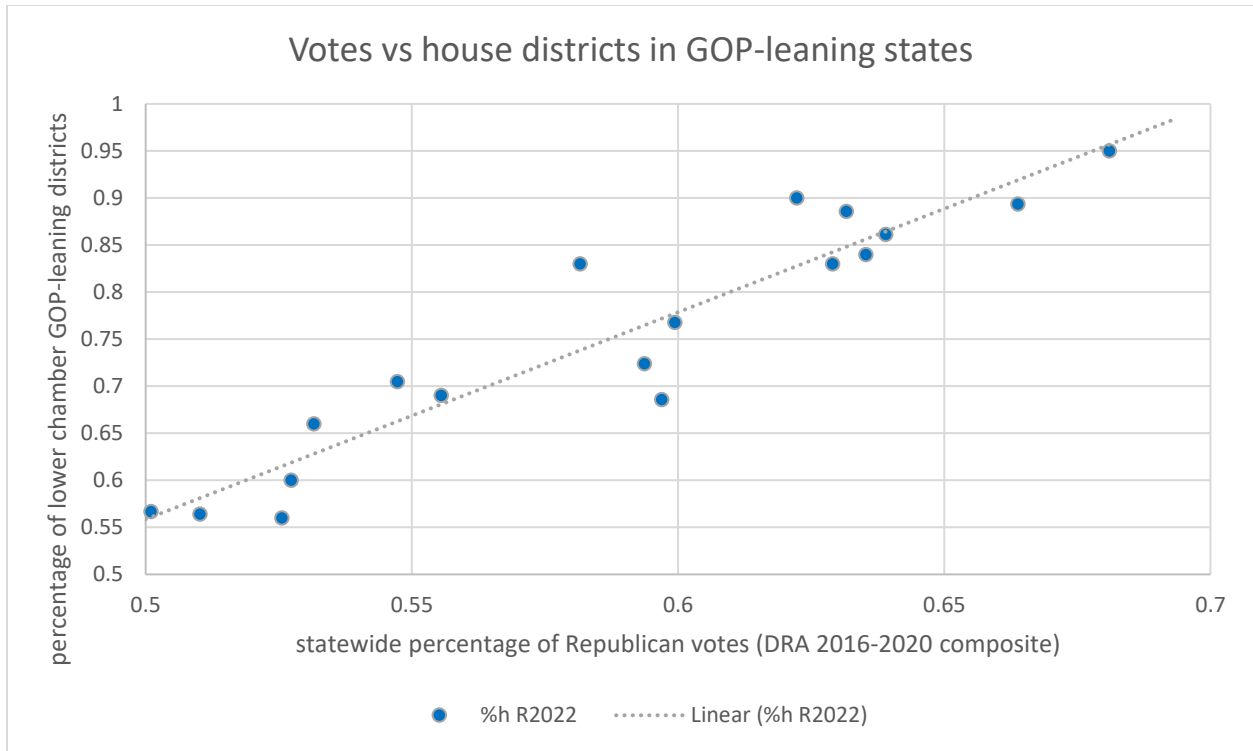
However, as we are also past the 2022 elections, these also need to be taken into consideration, and Republicans were favored in all statewide elections by a much greater than historical margin, evidencing a continuing trend. Currently, Republican candidates are receiving about 58% of the votes in statewide state and federal elections, and this is a more reliable measure of the two-party divide between the major parties than previous data from the last decade are, as minor parties were removed from the ballot during that time. For example, the average of the 2022 gubernatorial and senatorial elections, where Governor DeWine carried 62.8% and Senator Vance carried 53.3% of the vote, is 58.05%; these are the widest and the closest margins in statewide state and federal elections in 2022, respectively.

The following table demonstrates that, without allowing for write-ins, voters preferred Republicans over Democrats in all 2022 statewide state and federal elections in Ohio by an average margin of about 58% Republican to 42% Democrat.

Office	Rep	Dem	R+D	% Rep	% Dem
US Senate	2192114	1939489	4131603	53.06%	46.94%
Governor/LtGov	2580424	1545489	4125913	62.54%	37.46%
Attorney General	2422508	1588967	4011475	60.39%	39.61%
Secretary of State	2383834	1577421	3961255	60.18%	39.82%
Auditor of State	2397207	1683216	4080423	58.75%	41.25%
Treasurer	2390542	1692160	4082702	58.55%	41.45%
Chief Justice	2250001	1743963	3993964	56.34%	43.66%
Justice (Fischer)	2272728	1702716	3975444	57.17%	42.83%
Justice (DeWine)	2249123	1726660	3975783	56.57%	43.43%
Average	2348720	1688898	4037618	58.17%	41.83%

Comparing the percentage of Republican voters in states with a majority of Republican voters against the number of districts favoring Republican candidates in the general elections yields a very high correlation coefficient (0.941 for the lower chambers; 0.917 for the upper), just as we would expect if the number of votes for a particular party were positively correlated with the number of seats won by that party, and if the argument for proportional representation were not a mathematically sound metric. As there is an unmistakable positive correlation, we can perform a simple linear regression, where the independent variable is the percentage of Republican votes in statewide state and federal general elections, and the dependent variable is the percentage of Republican-leaning districts in a redistricting plan. By plotting the values in a scatter plot, we can then see approximately how many Republican-leaning seats there should be in any given state's redistricting plan. (The same could be done for the Democratic Party; I have chosen the Republican Party because Ohio is a predominantly Republican state.)

Based on the best fit line and on Ohio's approximately 58% Republican lean, but with no other considerations, about 75% of Ohio's House districts and about 78% of Ohio's Senate districts should lean Republican.



This means Republicans should control about 74 seats in the House and 26 seats in the Senate based upon statistical norms, to whatever extent the requirement of Section 6, Division (B) can be followed.

Without considering the 2022 election results, Ohio is still regarded as having a statewide 52.41% lean by the DRA 2016-2020 composite data. Based on this, the percentages of House and Senate districts which should lean Republican are about 62% (61 seats) and 64% (21 seats), respectively.

Of the other states in the United States, New Hampshire's recent (pre-2022) historical voting demographics are the most closely aligned with Ohio's. According to the DRA 2016-2020 composite, New Hampshire's statewide voting margin is 51.94% Republican to 45.22% Democrat. Prior to the 2022 redistricting, New Hampshire's plan favored Republicans in 72% (101.5 of 141) of House districts and 75% (18 of 24) of Senate districts. Therefore, if Ohio is measured against the state with the closest historical voting demographics to its own, the redistricting plan should favor Republicans in approximately 72 of 99 House districts and 25 of 33 Senate districts. By this standard, a plan with these values would more closely align to the statewide preferences of the voters of Ohio than any other would.

Among states in the Midwestern United States, Iowa's voting demographics are the most closely aligned with Ohio's. According to the DRA 2016-2020 composite, Iowa's statewide voting margin is 53.16% Republican to 43.96% Democrat. Prior to the 2022 redistricting, Iowa's plan favored Republicans in 64% (64 of 100) of House districts and 70% (35 of 50) of Senate districts. As of 2022, Iowa's plan favors Republicans in 66% (66 of 100) of House districts and 70% (35 of 50) of Senate districts. The average of Iowa's current and most recent plans has favored Republicans in 65% of House districts and 70% of Senate districts. Therefore, if Ohio is measured against the state with the closest historical voting demographics to its own in the same region, the redistricting plan should favor Republicans in approximately 65 of 99 House districts and 23 of 33 Senate districts. By this standard, a plan with these values would more closely align to the statewide preferences of the voters of Ohio than any other would.

Among states bordering Ohio, Indiana's voting demographics are the most closely aligned with Ohio's. According to the DRA 2016-2020 composite, Indiana's statewide voting margin is 54.73% Republican to 42.1% Democrat. Prior to the 2022 redistricting, Indiana's plan favored Republicans in 73% (73 of 100) of House districts and 74% (37 of 50) of Senate districts. As of 2022, Indiana's plan favors Republicans in 70.5% (70.5 of 100) of House districts and 78% (39 of 50) of Senate districts. The average of Indiana's current and most recent plans has favored Republicans in 71.75% of House districts and 76% of Senate districts. Therefore, if Ohio is measured against the state with the closest historical voting demographics to its own with which it shares a border, the redistricting plan should favor Republicans in approximately 72 of 99 House districts and 25 of 33 Senate districts. By this standard, a plan with these values would more closely align to the statewide preferences of the voters of Ohio than any other would.

Based on other states whose voting margins and regional interests are most closely aligned with Ohio's, the statewide preferences of the voters allow a range of districts exclusively favoring Republicans in 65 to 72 House contests and in 23 to 25 Senate districts.

So we see that the result of linear regression predicting about 62% of House and 63 or 64% of Senate districts favoring Republicans is well short of the range here in the Midwest, so that anything below these percentages could not reasonably be determined as being at all aligned with the statewide preferences of the voters of Ohio, especially after the most recent elections.

The plan included here favors Republicans in about 70 House districts (70.7%) and in 23 Senate districts (69.7%). As these values are both at or between the national and regional averages, they are therefore closely aligned with the preferences of the voters of Ohio based on recent statewide general elections.