

**IN THE SUPREME COURT OF PENNSYLVANIA**

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Misc. Docket No.: \_\_\_\_\_

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**RON Y. DONAGI; PHILIP T. GRESSMAN; PAMELA GORKIN;  
DAVID P. MARSH; JAMES L. ROSENBERGER; EUGENE BOMAN; GARY  
GORDON; LIZ MCMAHON; TIMOTHY FEEMAN; AND GARTH ISAAK,**

Petitioners,

vs.

**2021 LEGISLATIVE REAPPORTIONMENT COMMISSION  
OF THE COMMONWEALTH OF PENNSYLVANIA,**

Respondent.

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**MATH/SCIENCE PROFESSORS'  
BRIEF IN SUPPORT OF PETITION FOR REVIEW**

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In the Nature of an Appeal from the Final Plan  
of the 2021 Legislative Reapportionment Commission

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## TABLE OF CONTENTS

TABLE OF AUTHORITIES .....	iv
TABLE OF ATTACHMENTS.....	vii
INTRODUCTION .....	1
STATEMENT OF JURISDICTION.....	3
ORDER IN QUESTION.....	4
SCOPE AND STANDARD OF REVIEW .....	4
QUESTION INVOLVED .....	5
STATEMENT OF THE CASE.....	5
A.    The Math/Science Professors and Their Experts Used Computational Redistricting to Develop Alternative Plans that Fully Comply with All Relevant Criteria.....	5
B.    The LRC Issued a Preliminary Reapportionment Plan in December 2021.....	6
C.    In January 2022, the Math/Science Professors Filed Exceptions to the Preliminary Plan and Identified Specific Ways the Plan Could Be Improved to Satisfy Legal Requirements. ....	7
D.    In February 2022, the LRC Adopted a Final Plan that Made Some but Not All Necessary Improvements. ....	8
E.    The Math/Science Professors Have Created an Alternative Senate Plan that Makes Changes to Just 19 Districts to Bring the Plan into Compliance with All Legal Requirements.....	9
SUMMARY OF ARGUMENT .....	11
ARGUMENT .....	12

I.	The Math/Science Professors Have Deployed Computational Redistricting to Identify the Ways in Which the Final Plan Is Unlawful. ....	12
II.	The LRC Final Senate Plan Violates the Constitution’s Requirement to Avoid Dividing Political Subdivisions Unless “Absolutely Necessary.” .....	15
III.	The LRC Final Senate Plan Is Unlawful Because It Fails to Provide All Voters an Equal Opportunity to Translate Their Votes into Representation. ....	19
A.	The LRC Final Senate Plan Exhibits Excessive Pro-Republican Bias and Unfairly Dilutes the Votes of Democratic Voters.....	20
1.	The LRC Final Senate Plan Flunks the Majority-Responsiveness Measure of Partisan Fairness.....	22
2.	In Close Elections, the LRC Final Senate Plan Would Permit Republicans to Obtain More Seats with Fewer Votes than Required for Democrats. ....	24
3.	The LRC Final Senate Plan’s Mean-Median Score Demonstrates an Unlawful Republican Bias. ....	28
4.	The LRC Final Senate Plan’s Efficiency-Gap Score Demonstrates an Unlawful Republican Bias. ....	31
5.	The Level of Partisan Bias in the LRC Final Senate Plan Is Unjustified and Unwarranted and Thus Violates the Free and Equal Elections Clause.....	33
B.	The LRC Final Senate Plan Also Fails to Provide Equal Opportunity for Minority Voters to Translate Their Votes into Representation. ....	35
IV.	The Court Should Order the LRC Final Senate Plan or One of the Professors’ Plans to Take Effect in 2022 as an Interim Measure While the LRC Develops a New, Lawful Plan. ....	39
A.	Article I, Section 17(e) Does Not Require Using the LRC’s 2012 Final Senate Plan in the 2022 Elections. ....	40

B. Article I, Section 5 Prohibits Using the LRC’s 2012 Final Senate Plan in the 2022 Elections.....43

CONCLUSION.....48

CERTIFICATION OF WORD COUNT .....50

## TABLE OF AUTHORITIES

### Cases

<i>Albert v. 2001 Legislative Reapportionment Comm’n</i> , 790 A.2d 989 (Pa. 2002).....	40
<i>Butcher v. Bloom</i> , 203 A.2d 556 (Pa. 1964).....	46, 47
<i>Garcia v. 2011 Legislative Reapportionment Comm’n</i> , 559 Fed. App’x 128 (3d Cir. 2014).....	43
<i>Garcia v. 2011 Legislative Reapportionment Comm’n</i> , 938 F. Supp. 2d 542 (E.D. Pa. 2013), <i>aff’d</i> 559 Fed. App’x 128 (3d Cir. 2014) .....	43
<i>Holt v. 2011 Legislative Reapportionment Comm’n</i> , 38 A.3d 711 (Pa. 2012) ( <i>Holt I</i> ) .....	passim
<i>Holt v. 2011 Legislative Reapportionment Comm’n</i> , 67 A.3d 1211 (Pa. 2013) ( <i>Holt II</i> ) .....	1, 4, 13
<i>In re 1991 Pennsylvania Legislative Reapportionment Comm’n</i> , 609 A.2d 132 (Pa. 1992).....	42
<i>Johnson v. De Grandy</i> , 512 U.S. 997 (1994) .....	36
<i>League of Women Voters of Pa. v. Commonwealth</i> , 178 A.3d 737 (Pa. 2018) ( <i>LWV I</i> ) .....	passim
<i>LULAC v. Perry</i> , 548 U.S. 399 (2006).....	36
<i>Mellow v. Mitchell</i> , 607 A.2d 204 (Pa. 1992) .....	36
<i>Patterson v. Barlow</i> , 60 Pa. 54 (Pa. 1869).....	44
<i>Perry v. Perez</i> , 565 U.S. 388 (2012).....	47
<i>Pileggi v. Aichele</i> , 843 F. Supp. 2d 584 (E.D. Pa. 2012).....	43

### Constitutional Provisions

PA. CONST. art. I, § 5 .....	35, 39
------------------------------	--------

PA. CONST. art. I, § 29 .....	35, 39
PA. CONST. art. II, § 16.....	passim
PA. CONST. art. II, § 17(a) .....	6, 7
PA. CONST. art. II, § 17(d) .....	passim
PA. CONST. art. II, § 17(e).....	passim
PA. CONST. art. II, § 17(f).....	10

**Statutes**

42 Pa. C.S. § 725(1) .....	3
52 U.S.C. § 10301 .....	35

**Other Authorities**

All About Redistricting, <i>Maps Across the 2010 Cycle</i> , <a href="https://redistricting.ills.edu/resources/maps-across-the-cycle-2010-state-upper/">https://redistricting.ills.edu/resources/maps-across-the-cycle-2010-state-upper/</a> (last visited Mar. 5, 2022) .....	47
Bruce E. Cain, et al., <i>A Reasonable Bias Approach to Gerrymandering: Using Automated Plan Generation to Evaluate Redistricting Proposals</i> , 59 WM. & MARY L. REV. 1521 (2018) .....	13, 14
Daryl DeFord, et al., <i>Implementing Partisan Symmetry: Problems and Paradoxes</i> , POLITICAL ANALYSIS, preprint available at <a href="https://arxiv.org/pdf/2008.06930.pdf">https://arxiv.org/pdf/2008.06930.pdf</a> (2021) .....	21
Ellen Veomett, <i>Efficiency Gap, Voter Turnout, and the Efficiency Principle</i> , 17 ELECTION L.J. 249 (2018) .....	21
Emily Rong Zhang, <i>Bolstering Faith with Facts: Supporting Independent Redistricting Commissions with Redistricting Algorithms</i> , 109 CAL. L. REV. 987 (2021) .....	13, 14
Kate Huangpu, <i>Proposed Pennsylvania Legislative Maps Don't Do Enough to Increase Hispanic Representation, Residents Say</i> , Spotlight PA (Jan. 7,	

2022), <a href="https://www.spotlightpa.org/news/2022/01/pennsylvania-redistricting-hispanic-representation-proposed-maps/">https://www.spotlightpa.org/news/2022/01/pennsylvania-redistricting-hispanic-representation-proposed-maps/</a> .....	14
Mira Bernstein & Moon Duchin, <i>A Formula Goes to Court: Partisan Gerrymandering and the Efficiency Gap</i> , 64 NOTICES OF THE AMERICAN MATHEMATICAL SOCIETY 1020 (2017).....	21
Notice of Preliminary Apportionment Plan, 2021 Legislative Reapportionment Commission (Dec. 16, 2021), <a href="https://www.redistricting.state.pa.us/commission/article/1086">https://www.redistricting.state.pa.us/commission/article/1086</a> .....	7
Philadelphia 3.0, <i>Everything You Need to Know About Philly Committeeperson Elections</i> , <a href="https://www.phila3-0.org/ward_elections_faq">https://www.phila3-0.org/ward_elections_faq</a> (last visited Mar. 5, 2022). .....	17
Resolution 6A, 2021 Legislative Reapportionment Commission (Oct. 25, 2021), <a href="https://www.redistricting.state.pa.us/resources/Press/2021-10-25%20Resolution%206A.pdf">https://www.redistricting.state.pa.us/resources/Press/2021-10-25%20Resolution%206A.pdf</a> .....	7
U.S. Census Bureau, <i>American Community Survey: S2901 Citizen Voting-Age Population by Selected Characteristics</i> , <a href="https://data.census.gov/cedsci/table?q=citizen&amp;g=0400000US42&amp;d=ACS%201-Year%20Estimates%20Subject%20Tables&amp;tid=ACSSST1Y2019.S2901">https://data.census.gov/cedsci/table?q=citizen&amp;g=0400000US42&amp;d=ACS%201-Year%20Estimates%20Subject%20Tables&amp;tid=ACSSST1Y2019.S2901</a> (last visited Mar. 5, 2022).....	36
U.S. Dep’t of Commerce, U.S. Census Bureau, <i>2020 Census Redistricting Data Files Press Kit</i> , <a href="https://www.census.gov/newsroom/press-kits/2021/2020-census-redistricting.html">https://www.census.gov/newsroom/press-kits/2021/2020-census-redistricting.html</a> (last visited Mar. 4, 2022) .....	6

## **TABLE OF ATTACHMENTS**

Attachment A	Table Comparing the LRC Final Senate Plan to the Math/Science Professors' Proposal and Alternative Plan
Attachment B	Statewide Map and Insets Depicting the Math/Science Professors' Proposed Senate Plan
Attachment C	Statewide Map and Insets Depicting the Math/Science Professors' Alternative Senate Plan
Attachment D	Math/Science Professors' Exceptions to the LRC's Preliminary Senate Plan
Attachment E	Math/Science Professors' Exceptions to the LRC's Preliminary House Plan and Statewide Map and Insets Depicting the Math/Science Professors' Proposed House Plan
Attachment F	Final LRC Senate Plan Adopted on February 4, 2022
Attachment G	Final LRC House Plan Adopted on February 4, 2022

## INTRODUCTION

In its decisions in *Holt v. 2011 Legislative Reapportionment Commission*, 38 A.3d 711 (Pa. 2012) (*Holt I*), and *Holt v. 2011 Legislative Reapportionment Commission*, 67 A.3d 1211 (Pa. 2013) (*Holt II*), this Court established the important role that alternative plans can play in demonstrating that the Legislative Reapportionment Commission's (LRC) Final Plan is contrary to law. And the Court discussed how, with "advances in computer technology that certainly would not have been available" in prior redistricting cycles, petitioners could "proffer[] alternative plans not in the hope of having them accepted as 'better than' or 'preferable to' the Final Plan, but as evidence that the Final Plan was contrary to law." *Holt I*, 38 A.3d at 753.

Petitioners are professors of mathematics and science at some of the Commonwealth's leading colleges and universities. These Math/Science Professors have used technological advances in the new field of computational redistricting to present the Court with two alternative plans demonstrating that—despite the tremendous effort by the LRC's Chair, Commissioners, and staff—the LRC's 2022 Final Plan is contrary to law. First, the LRC Final Senate Plan violates the constitutional mandate that "[u]nless *absolutely necessary* no county, city, incorporated town, borough, township or ward shall be divided in forming either a senatorial or representative district." PA. CONST. art. II, § 16 (emphasis added).

Second, the LRC Final Senate Plan violates the guarantee of Article I, Section 5—the Free and Equal Elections Clause—to provide “citizens an equal right, on par with every other citizen, to elect their representatives.” *League of Women Voters of Pa. v. Commonwealth*, 178 A.3d 737, 804 (Pa. 2018) (*LWV I*). As the Math/Science Professors’ plans demonstrate, the LRC Final Senate Plan provides unlawful advantages to Republican voters over Democratic voters, and also to white voters over minority voters, in electing their preferred candidates.

Noting these constitutional deficiencies should not detract from the credit due the LRC’s Chair, Commissioners, and staff for the massive amount of thought and effort they invested in producing the LRC Final Plan. Their good faith and diligence are evident. But ultimately, the people of the Commonwealth deserve a plan that fully complies with the Pennsylvania Constitution. And at least as to the Final Senate Plan, the LRC came up short. Indeed, as Chair Nordenberg’s recent report amply demonstrates, where he and his staff took the best features of the proposals from the Democratic and Republican House Commissioners and then knitted together a “composite” Final House Plan, the results were far superior to where the Commission’s two Senate members went off on their own and negotiated what the Chair calls a “consensus” map that, in reality, placed the interests of both political parties’ incumbent officeholders over the voting rights of their constituents. *Compare* Report of Chair Mark A. Nordenberg at 71 (Mar. 4, 2022) (Nordenberg

Rpt.) (table demonstrating that the 2022 Final House Plan made dramatic improvements over its predecessor on nearly all the constitutional criteria), *with id.* at 70 (table demonstrating that the 2022 Final Senate Plan failed to do so); *see also id.* at 36–39 (contrasting the processes that led to the House “composite” map and the inferior Senate “consensus” map).

For the reasons set forth herein, the Court should find the LRC Final Plan contrary to law and remand it to the LRC to address the constitutional deficiencies in the Final Senate Plan. However, holding that the LRC Final Plan is contrary to law does not mean that the current, 2012 House and Senate Plans should be used for the 2022 elections. As explained below, Article II, Section 17 does not require leaving these 2012 plans in place for the 2022 elections, and the Free and Equal Elections Clause flatly forbids it. Accordingly, the Court should order into effect an *interim* plan for the 2022 elections that is either the LRC’s 2022 Final Plan or one of the Math/Science Professors’ plans, while the LRC develops a lawful plan for the 2024 to 2030 elections.

### **STATEMENT OF JURISDICTION**

This Court has jurisdiction pursuant to Section 17(d) of Article II of the Pennsylvania Constitution and 42 Pa. C.S. § 725(1), which gives this Court exclusive jurisdiction over appeals from the LRC’s final orders.

## ORDER IN QUESTION

This appeal concerns the LRC’s adoption of a final redistricting plan for Pennsylvania’s legislative districts based on the 2020 Census (the “Final Plan”). The LRC adopted its Final Plan on February 4, 2022. Attachment F contains a copy of the legal description of the Pennsylvania Senate component of the Final Plan and the map reflecting the Senate districts (the “Senate Plan”). Attachment G contains a copy of the legal description of the Pennsylvania House of Representatives component of the Final Plan and the map reflecting the House districts (the “House Plan”).

### SCOPE AND STANDARD OF REVIEW

This Court engages in a “de novo, non-deferential review of the specific challenges raised by the [petitioners].” *Holt II*, 67 A.3d at 1216. The LRC’s “final plan is not entitled to a presumption of constitutionality, but ‘enjoys the same status as any action or decision where the challenging party bears the burden; and here, the burden is upon [petitioners] to show that the plan is contrary to law.’” *Id.* (quoting *Holt I*, 38 A.3d at 735). A “successful challenge must encompass the Final Plan as a whole,” and the Court will “not consider claims that were not raised before the LRC.” *Id.* (quoting *Holt I*, 38 A.3d at 733).

Under the Pennsylvania Constitution, this Court may hold the LRC Plan unconstitutional “if the appellants establish that it is ‘contrary to law.’” *Id.* (citing *Holt I*, 38 A.3d at 733, and quoting PA. CONST. art. II, § 17(d)). “This entails

consideration of all relevant evidence, and legal authority, that a Final Plan is contrary to law,” including alternative plans offered for the purpose of demonstrating that the Final Plan is contrary to law. *Holt I*, 38 A.3d at 733.

### **QUESTION INVOLVED**

Is the LRC Final Plan contrary to law because the Final Senate Plan, as a whole, violates Article II, Section 16’s requirement that political subdivisions not be divided to form districts unless absolutely necessary and because the Final Senate Plan, as a whole, violates Article I, Section 5’s requirement that all voters must be afforded an equal opportunity to translate their votes into representation?

### **STATEMENT OF THE CASE**

#### **A. The Math/Science Professors and Their Experts Used Computational Redistricting to Develop Alternative Plans that Fully Comply with All Relevant Criteria.**

The Math/Science Professors—who recently participated in this Court’s proceedings regarding Pennsylvania’s congressional map—are leading professors of mathematics and science at some of Pennsylvania’s premier institutes of higher education, including Bucknell University, Lafayette College, Lehigh University, Penn State University, the University of Pennsylvania, and Villanova University. They have won numerous honors and recognitions from organizations such as the National Science Foundation, the Mathematical Association of America, the American Statistical Association, and the American Mathematical Society. Directly

relevant here, their fields of expertise include geometric analysis, spatial statistics, optimization methods, and algorithmic techniques.

Besides being experts in academic fields related to redistricting, the Math/Science Professors are also registered voters in the Commonwealth who care deeply about ensuring that the legislative redistricting process is fair to all Pennsylvanians. They come to the task of redistricting and this proceeding without allegiance to partisan interests. Instead, they wish to perform a public service by helping to ensure that Pennsylvania has a legislative redistricting plan that fully complies with all of Pennsylvania's constitutional requirements.

**B. The LRC Issued a Preliminary Reapportionment Plan in December 2021.**

Consistent with Section 17(a) of Article II of the Pennsylvania Constitution, the LRC was constituted in 2021 for the purpose of reapportioning the Commonwealth's Senate and House districts based on the 2020 Census.

After delays caused by the COVID-19 pandemic, the U.S. Census Bureau delivered the Public Law 94-171 redistricting data from the 2020 Census on August 12, 2021, and the full redistricting toolkit on September 16, 2021.<sup>1</sup> The 2020 Census data show that growth and demographic shifts in Pennsylvania's population have

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<sup>1</sup> See U.S. Dep't of Commerce, U.S. Census Bureau, *2020 Census Redistricting Data Files Press Kit*, <https://www.census.gov/newsroom/press-kits/2021/2020-census-redistricting.html> (last visited Mar. 4, 2022).

rendered the 2012 legislative reapportionment plan grossly malapportioned. The difference between the most overpopulated district and the most underpopulated district in the 2012 Senate Plan is 28% of an ideal district's population.

On October 25, 2021, the LRC certified the Census data for use in legislative redistricting, after reallocating certain inmates of Pennsylvania correctional institutions to their pre-incarceration addresses.<sup>2</sup> The LRC thus was required to file a preliminary plan within 90 days of that date. PA. CONST. art. II, § 17(a). The LRC did so on December 16, 2021, by a 3-to-2 vote for the House plan and a 5-to-0 vote for the Senate plan.<sup>3</sup> Accordingly, exceptions to the Preliminary Plan were due by January 18, 2022. PA. CONST. art. II, § 17(d).

**C. In January 2022, the Math/Science Professors Filed Exceptions to the Preliminary Plan and Identified Specific Ways the Plan Could Be Improved to Satisfy Legal Requirements.**

On January 18, 2022, certain of the Math/Science Professors filed Exceptions to the LRC's preliminary Senate and House plans. (Attachments D & E.) As to the Preliminary Senate Plan, the Math/Science Professors showed that the plan contained greater maximum population deviation (the difference between the populations of the largest and smallest districts) than necessary or appropriate, had

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<sup>2</sup> See Resolution 6A, 2021 Legislative Reapportionment Commission (Oct. 25, 2021), <https://www.redistricting.state.pa.us/resources/Press/2021-10-25%20Resolution%206A.pdf>.

<sup>3</sup> See Notice of Preliminary Apportionment Plan, 2021 Legislative Reapportionment Commission (Dec. 16, 2021), <https://www.redistricting.state.pa.us/commission/article/1086>.

more political-subdivision splits than absolutely necessary, was less compact than appropriate, unfairly favored Republican voters and diluted the power of Democratic voters, and failed to adequately afford minority voters an equal opportunity to elect their preferred candidates. (*See* Attachment D.)

The Math/Science Professors also submitted, with their Exceptions, proposed plans that corrected the deficiencies they identified in the preliminary Senate and House plans.<sup>4</sup> Compared to the LRC’s Preliminary Senate Plan, the Math/Science Professors’ proposed Senate plan (the “Professors’ Proposal”) contained a lower maximum population deviation, split fewer political subdivisions, was more compact, performed better on multiple metrics of partisan fairness, and provided enhanced minority electoral opportunity. (*See* Attachment D.)

**D. In February 2022, the LRC Adopted a Final Plan that Made Some but Not All Necessary Improvements.**

On February 4, 2022, the LRC adopted the Final Plan by a 4-to-1 vote. Nordenberg Rpt. at 3. The Final House Plan had a number of improvements, including a reduction in the maximum population deviation, slight improvements to overall compactness, and a reduction in municipal splits, although it still contained 7 noncontiguous districts (down from 9) and 87 split wards.

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<sup>4</sup> Counsel for the Math/Science Professors also served on the LRC block-assignment files that allowed the LRC to re-create the Math/Science Professors’ proposed plans or evaluate whether those plans had any features that the LRC wished to adopt as it worked to create the final reapportionment plans.

The LRC Final Senate Plan also represented some degree of improvement over the Preliminary Senate Plan in certain areas. For example, the Final Senate Plan reduced the maximum population deviation by more than a whole percentage point. But the Final Senate Plan exhibited little to no improvement in other areas. For instance, the Final Senate Plan is less compact than the Preliminary Senate Plan. And the Final Senate Plan continues to split more political subdivisions than is absolutely necessary. Perhaps most important, however, the Final Senate Plan represents virtually no improvement over the Preliminary Senate Plan in compliance with the Free and Equal Elections Clause. The Final Plan fails on multiple objective measures of partisan fairness and continues to deny minority voters an equal opportunity to translate votes into representation. For a convenient summary of the details, please see the table appended to this brief as Attachment A.

**E. The Math/Science Professors Have Created an Alternative Senate Plan that Makes Changes to Just 19 Districts to Bring the Plan into Compliance with All Legal Requirements.**

To assess the unlawfulness of the Final Plan, the Math/Science Professors' experts compared the Final Plan to the Senate and House Plans they proposed to the LRC in January 2022. Aspects of that analysis are set forth in more detail below.

The Math/Science Professors' experts then used computational-redistricting methods and algorithmic techniques, described more fully below in Part I of the Argument, to evaluate the extent to which specific changes could be made to the

Final Senate Plan to bring it into compliance with all applicable redistricting requirements. This process demonstrated that with modest changes to the boundaries of just 19 of the 50 Senate districts in the LRC Final Senate Plan—all within the Pittsburgh and Philadelphia metropolitan areas—the Plan as a whole could be brought into full compliance with *both* the neutral floor criteria of Article II, Section 16 *and* the Constitution’s Free and Equal Elections Clause.

This “Alternative Plan” offered here by the Math/Science Professors takes a “least-change” approach to the LRC Final Senate Plan, making only those changes necessary to bring that plan into compliance with the Constitution, especially the Free and Equal Elections Clause. Importantly, in creating the Alternative Plan, the Math/Science Professors precisely mirrored the LRC Final Senate Plan with respect to how the residences of the Senators seeking reelection are allocated across the 50 districts. In other words, the Professors’ Alternative Plan would not pit any Senator against a colleague unless they are already paired in the LRC Final Senate Plan.<sup>5</sup> The Alternative Plan thus also takes a “least-change” approach to the LRC Final Senate

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<sup>5</sup> The Alternative Plan leaves Senator Bob Mensch in District 24, rather than pairing him in District 17 and thus making District 24 an “open” seat, as the LRC Final Senate Plan does. This is of no consequence, however, as Senator Mensch announced in October 2021 that he would retire at the end of his current term, and his district, being even-numbered, will be scheduled for the 2022 elections regardless of whether it includes his residence. *See* PA. CONST. art. II, § 17(f).

Plan with respect to its treatment of incumbents. The Alternative Plan is described further below, and is depicted in color maps in Attachment C.<sup>6</sup>

### **SUMMARY OF ARGUMENT**

The LRC Final Plan is contrary to law because the Senate Plan violates the Pennsylvania Constitution. Pursuant to Article II, Section 17(d), this Court must remand the Final Plan to the LRC to give the LRC the opportunity to bring its plan into compliance with applicable law.

I. As shown below, the LRC Final Senate Plan splits more political subdivisions than “absolutely necessary.” PA. CONST. art. II, § 16.

II. As shown below, the LRC Final Senate Plan fails to provide “all voters ... an equal opportunity to translate their votes into representation.” *LWV I*, 178 A.3d at 814. The LRC Final Senate Plan contains a pro-Republican skew that is both significant and not justified by the need to satisfy other redistricting criteria. In addition, as shown by the Math/Science Professors’ two plans, the LRC Final Senate Plan denies minority voters an “equal opportunity to translate their votes into representation.” *Id.*

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<sup>6</sup> In conjunction with this filing, counsel for the Math/Science Professors are also serving on counsel for the LRC a block-assignment file that will allow the LRC, as it chooses, to re-create and assess the Alternative Plan. And of course the Math/Science Professors will promptly submit the same block-assignment file to this Court upon request.

III. Upon finding that the LRC Final Plan is contrary to law, the Court is not required to leave in place the prior decade's severely malapportioned plan for the 2022 election. In fact, the Free and Equal Elections Clause prohibits the use of the existing 2012 Plan for the 2022 election because it would be unlawfully dilutive. Accordingly, rather than use the manifestly unlawful 2012 Plan for the 2022 elections, the Court should order into effect on an interim basis either the LRC Final Plan or one of the Professors' plans.

## **ARGUMENT**

### **I. The Math/Science Professors Have Deployed Computational Redistricting to Identify the Ways in Which the Final Plan Is Unlawful.**

Just as they did in this Court's recent proceedings involving Pennsylvania's congressional map, the Math/Science Professors and their experts here created their proposed legislative maps using "computational redistricting," which draws from advances in mathematics, statistics, and computer science to apply high-performance computing, algorithmic techniques, and spatial demography to redistricting. The premise is simple: "Given the number of [redistricting] criteria typically present and the spatial nature of how the criteria operate, it is not easy for humans to find optimal redistricting outcomes on their own.... Put simply, good maps are needles in a haystack of bad or at least worse maps. Enter redistricting algorithms. They are capable of meticulous exploration of the astronomical number of ways in which a state can be partitioned. They can identify possible

configurations of districts and zero in on the maps that best meet the redistricting criteria. The algorithms sort through the haystack more efficiently and more systematically so that the needle—the better maps—can be found.”<sup>7</sup> In this way, a “computer program essentially substitutes for a very large body of neutral experts and the viable, neutral maps they draw.”<sup>8</sup>

The computational-redistricting process not only identifies high-performing maps, but also yields valuable information about the levels at which multiple competing redistricting principles can be balanced with each other, without unduly sacrificing any specific principle to achieve the others. This Court has long recognized that redistricting is a complex process that involves balancing multiple legal requirements. *See, e.g., Holt II*, 67 A.3d at 1237–41; *Holt I*, 38 A.3d at 759–61. Improving compliance with one redistricting requirement often creates “downstream consequences” for compliance with others.<sup>9</sup> For example, achieving population equality necessarily requires splitting some political subdivisions, and keeping certain counties intact could make the map as a whole less compact.<sup>10</sup>

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<sup>7</sup> Emily Rong Zhang, *Bolstering Faith with Facts: Supporting Independent Redistricting Commissions with Redistricting Algorithms*, 109 CAL. L. REV. 987, 1012–13 (2021) (internal quotation marks omitted) [hereinafter “Zhang”].

<sup>8</sup> Bruce E. Cain, et al., *A Reasonable Bias Approach to Gerrymandering: Using Automated Plan Generation to Evaluate Redistricting Proposals*, 59 WM. & MARY L. REV. 1521, 1536–37 (2018) [hereinafter “Cain”].

<sup>9</sup> Zhang, *supra*, at 1013.

<sup>10</sup> *Id.*

Exploring millions of alternatives by computer sheds light on these tradeoffs.<sup>11</sup> By systematically sorting through a very large number of plans, computational redistricting reveals the optimum levels at which specific criteria can be attained in balance with other criteria.<sup>12</sup>

The algorithms used by the Professors' experts were designed to incorporate Pennsylvania-specific local knowledge. For example, data gleaned from dozens of statewide and local elections were used to ensure that the resulting maps provide the fair electoral opportunities that the Commonwealth's growing Black and Latino communities have demanded—which likely helps explain why the Professors' maps, unlike the LRC's, did not divide the city of Allentown or a single ward in Philadelphia.<sup>13</sup>

As explained below, the Professors' Proposal and the Professors' Alternative Plan have harnessed the power of computational redistricting not only to demonstrate that the LRC Final Senate Plan is contrary to law, but also to show the LRC and this Court how it can be fixed.

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<sup>11</sup> See Cain, *supra*, at 1537; Zhang, *supra*, at 1013–15.

<sup>12</sup> *Id.*

<sup>13</sup> See, e.g., Kate Huangpu, *Proposed Pennsylvania Legislative Maps Don't Do Enough to Increase Hispanic Representation, Residents Say*, Spotlight PA (Jan. 7, 2022), <https://www.spotlightpa.org/news/2022/01/pennsylvania-redistricting-hispanic-representation-proposed-maps/>.

## **II. The LRC Final Senate Plan Violates the Constitution’s Requirement to Avoid Dividing Political Subdivisions Unless “Absolutely Necessary.”**

In *League of Women Voters*, this Court described the Pennsylvania Constitution’s four “neutral criteria”—population equality, minimizing the division of political subdivisions, contiguity, and compactness—as the “‘floor’ of protection for an individual against the dilution of his or her vote.” *LWVI*, 178 A.3d at 817.

The LRC was required to satisfy each of these criteria in adopting a Final Senate Plan. The Professors’ Proposal demonstrates that the LRC could have eliminated the noncontiguous district that remains in the Final Senate Plan and significantly increased the Final Senate Plan’s overall level of compactness. (Attachment A demonstrates these and other points by collecting in one table a set of metrics comparing the LRC Final Senate Plan, the Professors’ Proposal, and the Alternative Plan.) The Alternative Plan also shows that the LRC could have improved upon the Final Senate Plan’s level of population equality, as well as its compactness. (*Id.*) But the Math/Science Professors are not arguing that these deficiencies render the Final Senate Plan contrary to law.

Where the Math/Science Professors have found that the LRC Final Senate Plan *is* contrary to law, however, is in its unnecessary splitting of political subdivisions. (*Id.*) As this Court is aware, in adopting a Senate plan, the LRC was required not to divide any county, city, incorporated town, borough, township, or ward unless doing so was “absolutely necessary.” PA. CONST. art. II, § 16; *see LWVI*, 178 A.3d at 794.

Of course, “some divisions are inevitable” to comply with other legal requirements of redistricting, *Holt I*, 38 A.3d at 758, but the LRC Final Senate Plan has significantly more political-subdivision splits, both in total and in certain political-subdivision types, than are “absolutely necessary.”

Looking to the sum of splits across all six types of political subdivisions that the Constitution specifically requires to be kept intact—counties, cities, incorporated towns, boroughs, townships, and wards—accounts for tradeoffs even within the single redistricting criterion of respecting political subdivisions. Here, the LRC’s Final Senate Plan splits 23 counties, 3 cities, 0 towns, 8 boroughs, 1 township, and 8 wards, for a total of 43 splits of the political subdivisions listed in Pennsylvania’s Constitution. (Attachment A.) The Math/Science Professors’ computational-redistricting process shows that this number can be reduced by anywhere from **20% to 32%**—to the 29 total splits found in the Professor’s Proposal or to the 34 total splits found in the Professors’ Alternative Plan. (*Id.*) And this reduction (from 43 splits to either 34 or 29) does not come at the cost of compliance with other redistricting criteria. (*Id.*)

At least 14 county splits are “absolutely necessary” because these counties each contain greater population than is permitted for a single Senate district.<sup>14</sup>

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<sup>14</sup> Pennsylvania’s total population, as reflected in the 2020 Census, is 13,002,700, meaning the ideal population for each of the Commonwealth’s 50 Senate districts is 260,054.

Similarly, there are two municipalities (Philadelphia and Pittsburgh) that must be split due to their size. Thus, additional splits beyond these 16—and the LRC Final Senate Plan has 27 of them—represent the tradeoff between political-subdivision integrity and other redistricting aims.

The computational-redistricting process deployed by the Math/Science Professors’ experts shows that that it is not “absolutely necessary” to divide more cities than Philadelphia and Pittsburgh; yet the LRC Final Senate Plan also divides Allentown. (Attachment A.) Even a borough that crosses county lines does not necessarily have to be divided into two Senate districts. (*Id.*) The LRC Final Senate Plan divides 8 boroughs (all along county lines), while the Math/Science Professors’ Proposal shows this figure can be reduced by half. (*Id.*)

In addition, and importantly, there is no need to split the 8 wards—all in Philadelphia—that are divided in the LRC Final Senate Plan. The Professors’ Proposal splits just one ward, and the Alternative Plan alters the LRC Final Senate Plan to split *no wards at all*. Wards are “the bedrock” of the local party organizational structure in Philadelphia,<sup>15</sup> and the Professors’ Alternative Plan shows that splitting them is not necessary.

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<sup>15</sup> Philadelphia 3.0, *Everything You Need to Know About Philly Committeeperson Elections*, [https://www.phila3-0.org/ward\\_elections\\_faq](https://www.phila3-0.org/ward_elections_faq) (last visited Mar. 5, 2022).

This table illustrates the extent to which the LRC Final Senate Plan’s political-subdivision splits are unnecessary by comparing the LRC Final Senate Plan to the Professors’ Proposal, where green shading highlights metrics on which one plan outperforms the other and yellow indicates a tie:

<b>Metric</b>	<b>Professors’ Proposal</b>	<b>LRC 2022 Final Senate Plan</b>
Split Counties	20	23
Split Municipalities ( <i>including boroughs split on county lines</i> )	8	12
Split Wards	1	8
<b>Total Splits</b>	<b>29</b>	<b>43</b>

Even making relatively modest modifications to the LRC Final Senate Plan, as shown by the Alternative Plan’s changes to just 19 of the LRC’s 50 districts, can meaningfully improve the political-subdivision metrics:

<b>Metric</b>	<b>Professors’ Alternative</b>	<b>LRC 2022 Final Senate Plan</b>
Split Counties	23	23
Split Municipalities ( <i>including boroughs split on county lines</i> )	11	12
Split Wards	0	8
<b>Total Splits</b>	<b>34</b>	<b>43</b>

The Constitution’s plain text is unequivocal: Political-subdivision splits are to be avoided unless “absolutely necessary.” PA. CONST. art. II, § 16. The Math/Science Professors’ computational-redistricting process, as well as their two plans, shows that it is possible to create Senate plans that contain fewer political-

subdivision splits. But the number of splits is not, by itself, what shows the LRC Final Senate Plan is unlawful; rather, it is the fact that such splits are demonstrably not necessary to achieve other redistricting criteria. As shown in Attachment A, the Alternative Plan meets or exceeds the LRC Final Senate Plan’s performance on *all other criteria*, while *also* reducing the number of political-subdivision splits. The Professors’ Proposal has slightly greater population deviation than the LRC Final Senate Plan; but it, too, otherwise meets or exceeds the LRC Senate Plan’s performance on all other criteria. (*See* Attachment A.) *That* is what demonstrates, in concrete terms, that the LRC Final Senate Plan contains more political-subdivision splits than is “absolutely necessary,” in violation of Pennsylvania’s Constitution. *See* PA. CONST. art. II, § 16.

### **III. The LRC Final Senate Plan Is Unlawful Because It Fails to Provide All Voters an Equal Opportunity to Translate Their Votes into Representation.**

The LRC Final Senate Plan also is unlawful because it violates the Pennsylvania Constitution’s Free and Equal Elections Clause. Although compliance with the neutral criteria such as respect for political subdivisions represents a “floor” for ensuring fair elections, *LWV I*, 178 A.3d at 817, the Court must look beyond the “floor.” This Court *also* must separately evaluate whether a redistricting plan will give “*all* voters ... an equal opportunity to translate their votes into representation.” *Id.* at 814 (emphasis added).

Assessing the LRC Final Senate Plan across four objective measures of partisan fairness shows the Plan has a strong skew favoring Republicans, violating the Free and Equal Elections Clause. Through their computational-redistricting process, the Math/Science Professors and their experts have determined that this level of bias is entirely unnecessary, as much fairer maps (including those the Math/Science Professors have proposed) are achievable without sacrificing performance on any of the neutral floor criteria. (*See* Attachment A.)

The LRC Final Senate Plan also must ensure that the Commonwealth's minority voters are given an "equal opportunity to translate their votes into representation." *LWV I*, 178 A.3d at 814; *see* PA. CONST. art. I, § 29 (Racial and Ethnic Equality Clause). Again, the LRC Final Senate Plan fails on this measure. And again, through their computational-redistricting process, the Math/Science Professors and their experts have determined that maps providing minority voters an equal opportunity to translate votes into representation are eminently achievable without sacrificing performance on any neutral floor criterion. (*See* Attachment A.)

**A. The LRC Final Senate Plan Exhibits Excessive Pro-Republican Bias and Unfairly Dilutes the Votes of Democratic Voters.**

Article I, Section 5 of the Pennsylvania Constitution demands that a redistricting plan "prevent dilution of an individual's vote" and equalize the power of each citizen's vote "*to the greatest degree possible.*" *LWV I*, 178 A.3d at 817 (emphasis added). Scholars and scientists have established several reliable methods

to measure whether a redistricting plan will fulfill these aims by treating both major political parties fairly. Each method is a different way of evaluating the extent to which a proposed map comports with the principle of majority rule—the notion that the party whose candidates win a majority of the votes statewide should have a realistic probability of winning a majority of the legislative districts.

These metrics should be considered collectively, not individually, as academic literature from leading scholars in the field, including Professor Daryl DeFord—the Math/Science Professors’ expert in the congressional redistricting proceedings—makes clear that each specific metric has properties that can conceal partisan bias under some conditions.<sup>16</sup> Each of the metrics discussed in this brief relies on actual election data showing the votes cast for each candidate in each of the 9,178 voting precincts in each of Pennsylvania’s 17 statewide nonjudicial general elections held from 2012 through 2020.<sup>17</sup> “By overlaying the precinct-level election results on top of the geographic boundaries as shown on a particular map,” the experts were “able

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<sup>16</sup> Daryl DeFord et al., *Implementing Partisan Symmetry: Problems and Paradoxes*, POLITICAL ANALYSIS, preprint available at <https://arxiv.org/pdf/2008.06930.pdf> (2021); Ellen Veomett, *Efficiency Gap, Voter Turnout, and the Efficiency Principle*, 17 ELECTION L.J. 249, 252–62 (2018); Mira Bernstein & Moon Duchin, *A Formula Goes to Court: Partisan Gerrymandering and the Efficiency Gap*, 64 NOTICES OF THE AMERICAN MATHEMATICAL SOCIETY 1020, 1022–24 (2017).

<sup>17</sup> There were 17 such elections, for U.S. President, U.S. Senator, Attorney General, Auditor General, and State Treasurer in 2012; Governor in 2014; U.S. President, U.S. Senator, Attorney General, Auditor General, and State Treasurer in 2016; U.S. Senator and Governor in 2018; and U.S. President, Attorney General, Auditor General, and State Treasurer in 2020.

to determine whether a particular district had more Republican or Democratic votes during the elections.” *LWVI*, 178 A.3d at 773. This process provides a rich dataset that identifies how LRC Final Senate Plan would perform under various recent electoral patterns. As shown below, the LRC Final Senate Plan has an unmistakable—and significant—pro-Republican bias that is not dictated by the need to satisfy the neutral “floor” redistricting criteria. As a result, the LRC Final Senate Plan violates the Free and Equal Elections Clause.

**1. The LRC Final Senate Plan Flunks the Majority-Responsiveness Measure of Partisan Fairness.**

One measure of partisan fairness is a *majority-responsiveness measure* based on the plan’s seats-votes curve. This measure evaluates the extent to which a proposed redistricting plan allows each political party to convert a majority of votes into a majority of seats, without making it harder for one party or the other to do so. The LRC Final Senate Plan fails this measure, as it has four instances of antimajoritarian outcomes across the 17 elections studied. In other words, in 4 of the 17 elections, the victorious candidate carried fewer than half the districts. Moreover, each of these four instances favored Republicans, as the Republican candidate lost statewide while carrying most of the districts. By contrast, there was never a Democratic candidate who lost statewide yet carried most of the districts in the Final Senate Plan. This sharp asymmetry shows that the LRC Final Senate Plan makes it harder for Democratic voters to convert votes into seats. And, significantly, a fairer

plan is readily achievable, as both the Professors’ Proposal and the Professors’ Alternative show. The Professors’ Proposal has just two antimajoritarian outcomes, and they are evenly split between Republicans and Democrats. The Professors’ Alternative has four, but those also are split evenly between the political parties, demonstrating that the plan favors neither party over the other.

This table compares outcomes under the two Math/Science Professors’ plans to those under the LRC Final Senate Plan, with antimajoritarian outcomes shaded in red (favoring Republicans) or blue (favoring Democrats):

<b>Election</b>	<b>Winner</b>	<b>Dem. Vote %</b>	<b>Professors’ Proposal (Dem. Seats/ 50)</b>	<b>Professors’ Alternative (Dem. Seats/ 50)</b>	<b>2022 LRC Final (Dem. Seats/ 50)</b>
Auditor General ’20	R	48.4%	25	24	23
U.S. Senator ’16	R	49.3%	21	23	23
State Treasurer ’20	R	49.6%	26	28	25
U.S. President ’16	R	49.6%	25	26	23
U.S. President ’20	D	50.6%	28	27	25
Attorney Gen. ’16	D	51.4%	27	27	24
Auditor General ’12	D	51.7%	20	21	21
Attorney Gen. ’20	D	52.3%	29	28	28
Auditor General ’16	D	52.6%	26	25	25
U.S. President ’12	D	52.7%	25	24	23
State Treasurer ’16	D	53.4%	29	27	24
State Treasurer ’12	D	54.4%	27	26	25
U.S. Senator ’12	D	54.6%	29	28	25
Governor ’14	D	54.9%	32	30	29
U.S. Senator ’18	D	56.7%	29	28	29
Attorney Gen. ’12	D	57.5%	27	27	32
Governor ’18	D	58.7%	33	32	32

Figure 1 summarizes the number of antimajoritarian outcomes across the current LRC plan from 2012, the 2021 LRC Preliminary Senate Plan, the 2022 LRC Final Senate Plan, and the two plans from the Professors:

**Figure 1**

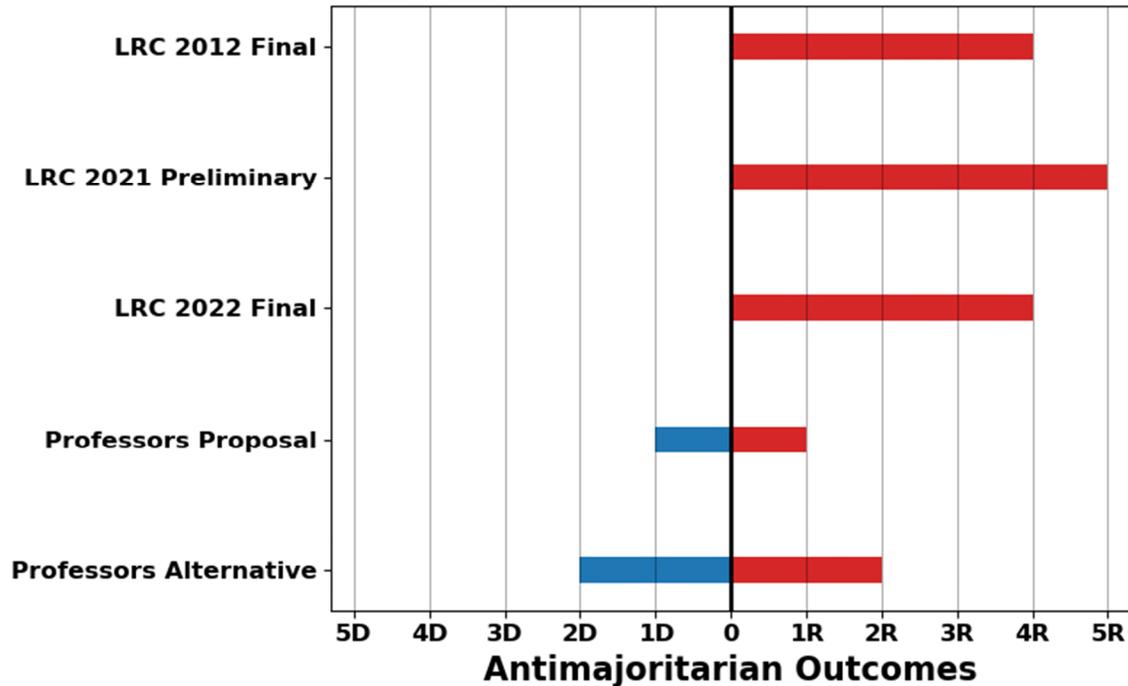


Figure 1 demonstrates that even relatively modest changes to the LRC Final Senate Plan—altering just 19 districts—could meaningfully improve citizens’ ability to translate their votes into representation in the Pennsylvania Senate.

**2. In Close Elections, the LRC Final Senate Plan Would Permit Republicans to Obtain More Seats with Fewer Votes than Required for Democrats.**

A map that treats voters of both political parties evenhandedly would yield closely divided outcomes in near-tied elections and would treat narrow Democratic victories symmetrically with narrow Republican victories, without favoring one

party over the other. The LRC Final Senate Plan fails this basic test, as it favors Republican voters to the detriment of Democratic voters.

Of the 17 real-world statewide elections used for this analysis, the Republican candidate prevailed in four elections. The winning margin for each of the Republican victors was less than 4%. Under the LRC Final Senate Plan, this vote share would have translated to an average of 26.5 Republican seats out of 50 (*i.e.*, 50 minus the average of 23, 23, 25, and 23, from the first four lines of the righthand column in the table above). So far, so good. An additional three of the 17 elections also involved a winning margin of less than 4%, but in these elections, the Democratic candidate prevailed. Under the LRC Final Senate Plan, this vote share would have translated to an average of only 23.3 Democratic seats (the average of 25, 24, and 21 from the table above)—**3.17 seats fewer** than what the same vote share generated for Republican voters in the elections where Republicans prevailed. In addition, in each of those three elections, Democrats never won more than half the seats. By contrast, in the four Republican victories, Republicans *always* won at least half the seats. Simply put, in a close election under the LRC Senate Plan, Republicans would be systematically advantaged, with fewer votes needed to obtain a greater number of seats.

Figure 2, below, illustrates how the LRC Final Senate Plan does not allow Democratic and Republican voters to translate votes into seats in the same way. The

red dots identify Republican candidates in each of the 17 studied elections, and the blue dots identify Democratic candidates in those same elections. Each dot is situated, from left to right, according to the share of the statewide major-party vote that the candidate received. And each dot is situated, from bottom to top, according to the number of districts the candidate carried in the LRC Final Senate Plan. Red and blue regression lines also have been applied. These are simply straight lines that run through the heart of the dots of the same color. The red line is fitted to the red dots and shows how Republicans translate votes into seats; the blue line is fitted to the blue dots and shows how Democrats translate votes into seats.

In a perfectly symmetric map, the red dots and blue dots would be thoroughly intermingled—which would show that neither Republican nor Democratic candidates would have an easier time translating votes into seats. In a fair map, as well, when both parties' vote shares are close to 50%, the seat share would also be close to half (here, 25 districts of 50)—and that would be true for both red dots and blue dots, many of which would cluster near the graph's center. In addition, in a perfectly fair, symmetric map, the red and blue lines would be identical (so we would see one “purple” diagonal line). By contrast, in a Republican-favoring map, the red dots (and thus the red line) generally would be higher and the blue dots (and thus the blue line) generally would be lower. That would signify that, for any given vote share, Republican candidates carry more seats than do Democratic candidates.

Figure 2

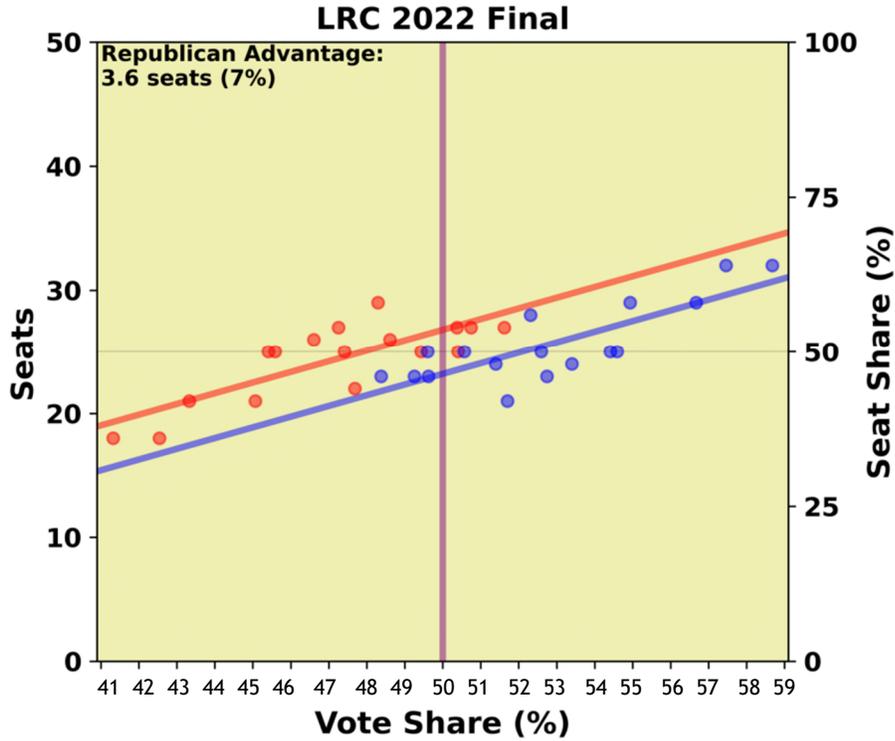


Figure 3

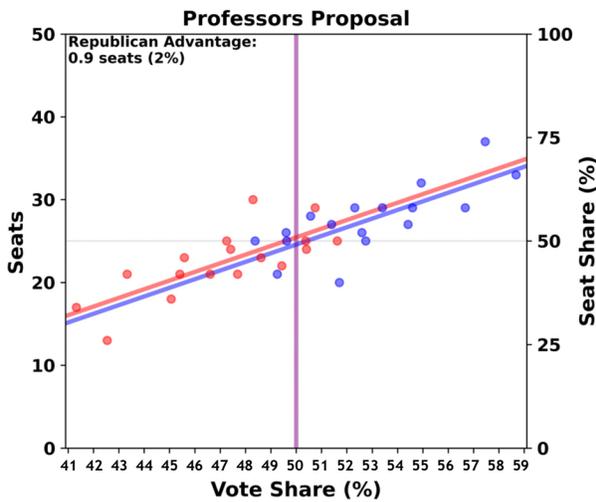
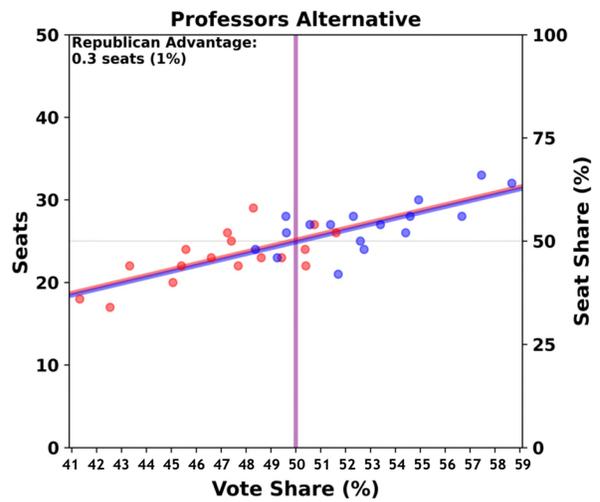


Figure 4



That is just what happens in Figure 2, which shows a more than 7% gap (3.6 seats) between Republican and Democratic seats. In other words, for any given vote

share, Republican candidates carry 7% more seats than Democratic candidates would carry with the same vote share. By contrast, as shown in Figures 3 and 4, both plans offered by the Professors have very close to the ideal “purple” regression line. Both of the Professors’ plans also favor Republicans, but by tiny amounts, unlike the LRC Final Senate Plan. This means that the Professors’ plans, unlike the LRC Final Senate Plan, allow Democratic and Republican voters to translate votes into seats in effectively the same way.

**3. The LRC Final Senate Plan’s Mean-Median Score Demonstrates an Unlawful Republican Bias.**

In *League of Women Voters*, this Court credited the *mean-median score* as a valid measure of partisan fairness for assessing a plan’s compliance with the Free and Equal Elections Clause. *See LWV I*, 178 A.3d at 774. The mean-median score captures how much of a state’s vote is needed to capture half the seats in a proposed map. The mean-median score relates to partisan symmetry: If one party is expected to turn a 52%-to-48% statewide vote advantage into a 27-to-23 seat advantage, then a symmetric result would mean the other party achieves the same seats advantage with the same statewide vote advantage. If the mean-median score is close to zero, then about half the districts in the proposed plan are more Democratic than the state as a whole, and about half the districts are more Republican than the state as a whole—an intuitively sensible property for any truly fair map. But if the mean-

median score is further away from zero, the proposed plan is skewed to favor one major political party and disfavor the other.

To calculate the mean-median score, the Math/Science Professors’ experts used the same actual election data showing the votes cast for each candidate in each of the 9,178 voting precincts in each of the 17 statewide general elections from 2012 through 2020. The Math/Science Professors’ experts overlaid the precinct-level election results on each map’s district boundaries and then compared, for each election, the vote share that the Democratic candidate garnered statewide with the vote share that the same candidate would have garnered in each proposed plan’s “median” district—the average of the 25th- and 26th-most Democratic district, or (identically) the average of the 25th- and 26th-most Republican district in each 50-district proposed plan. This comparison is the mean-median score presented here.<sup>18</sup>

The Math/Science Professors’ experts have analyzed whether the mean-median score favored Democrats or Republicans in each of the 17 elections analyzed (and by how much), and also have averaged the 17 scores to get a global sense of the direction and magnitude of any partisan skew. Plans that treat voters of both parties

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<sup>18</sup> In *LWV I*, experts calculated the mean-median score by identifying the median-district vote share and comparing it to the average vote share across the districts. 178 A.3d at 774. The manner of calculation used here (and which the Math/Science Professors’ experts also used in this Court’s recent congressional-districting case)—where the statewide vote share is used instead of the average district vote share—better controls for differences in voter turnout across districts in a redistricting plan.

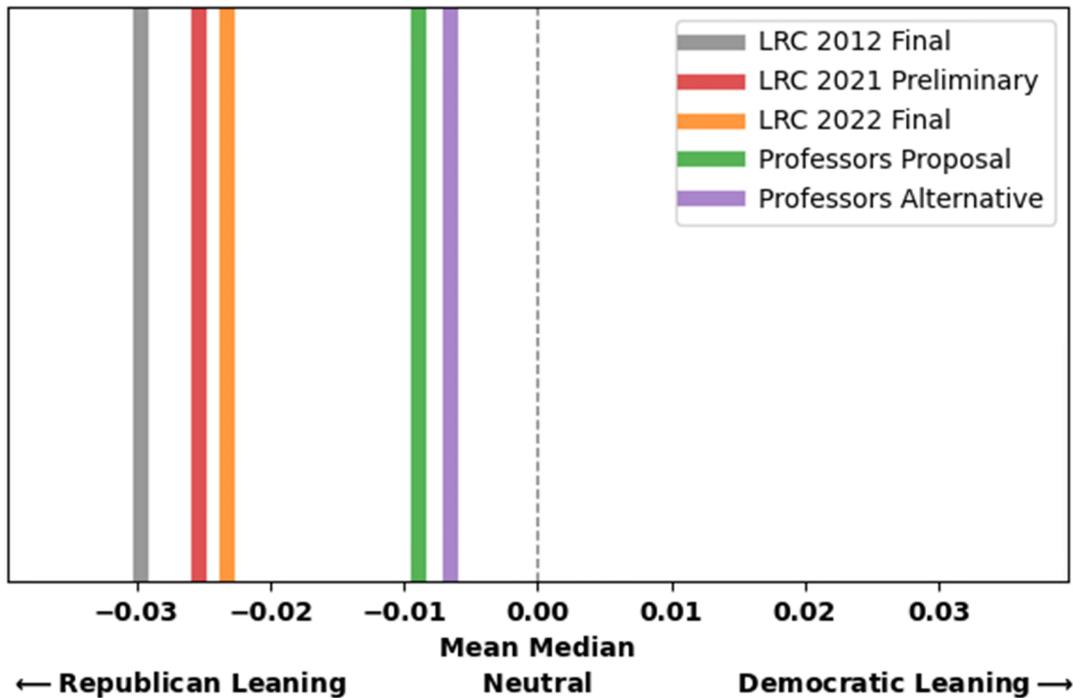
equally will have mean-median scores close to zero and will have similar numbers of elections favoring each party. The LRC Final Senate Plan flunks this metric and thus does not comply with the Free and Equal Elections Clause: 16 of the 17 elections had a mean-median score favoring Republicans, and the average mean-median score was  $-2.33\%$ , also favoring Republicans. This partisan skew could have been avoided: As shown in the table below, both the Professors' plans have average mean-median scores much closer to zero, and the number of elections favoring each party is split much more evenly between the two parties. As with Figures 2, 3, and 4 (above), all three maps favor Republicans, but the magnitude of the skew is dramatically higher for the LRC Final Senate Plan than the Professors' plans.

	<b>Professors' Proposal</b>	<b>Professors' Alternative</b>	<b>LRC 2022 Final</b>
Number of Elections (out of 17) in Which the Mean-Median Score Favors Republicans	10	9	16
Number of Elections (out of 17) in Which the Mean-Median Score Favors Democrats	7	8	1
Most Republican-Favoring Mean-Median Score Among the 17 Elections	$-3.81\%$ R	$-4.36\%$ R	$-4.86\%$ R
Most Democratic-Favoring Mean-Median Score Among the 17 Elections	$1.94\%$ D	$2.06\%$ D	$0.68\%$ D
<b>Mean-Median Score Averaged Across 17 Elections</b>	<b><math>-0.89\%</math> R</b>	<b><math>-0.65\%</math> R</b>	<b><math>-2.33\%</math> R</b>

Figure 5, below, compares the average mean-median scores for the current LRC plan from 2012, the 2021 LRC Preliminary Senate Plan, the 2022 LRC Final Senate Plan, and the two plans from the Professors. Figure 5 shows that although

the LRC Final Senate Plan represents an improvement on this metric over the current plan and the Preliminary Senate Plan, it is still more skewed in favor of Republicans than it should be. Indeed, changes to just 19 districts, as in the Professors' Alternative Plan, reduce the map's Republican bias by 72% according to this metric:

**Figure 5**



**4. The LRC Final Senate Plan’s Efficiency-Gap Score Demonstrates an Unlawful Republican Bias.**

The *efficiency-gap score*, also credited by this Court in *League of Women Voters*, is “a formula that measures the number of ‘wasted’ votes for one party against the number of ‘wasted’ votes for another party,” where “[t]he larger the number, the greater the partisan bias.” *LWVI*, 178 A.3d at 777. A vote is considered “wasted” if it was cast for the losing candidate in a district or for the winning candidate but

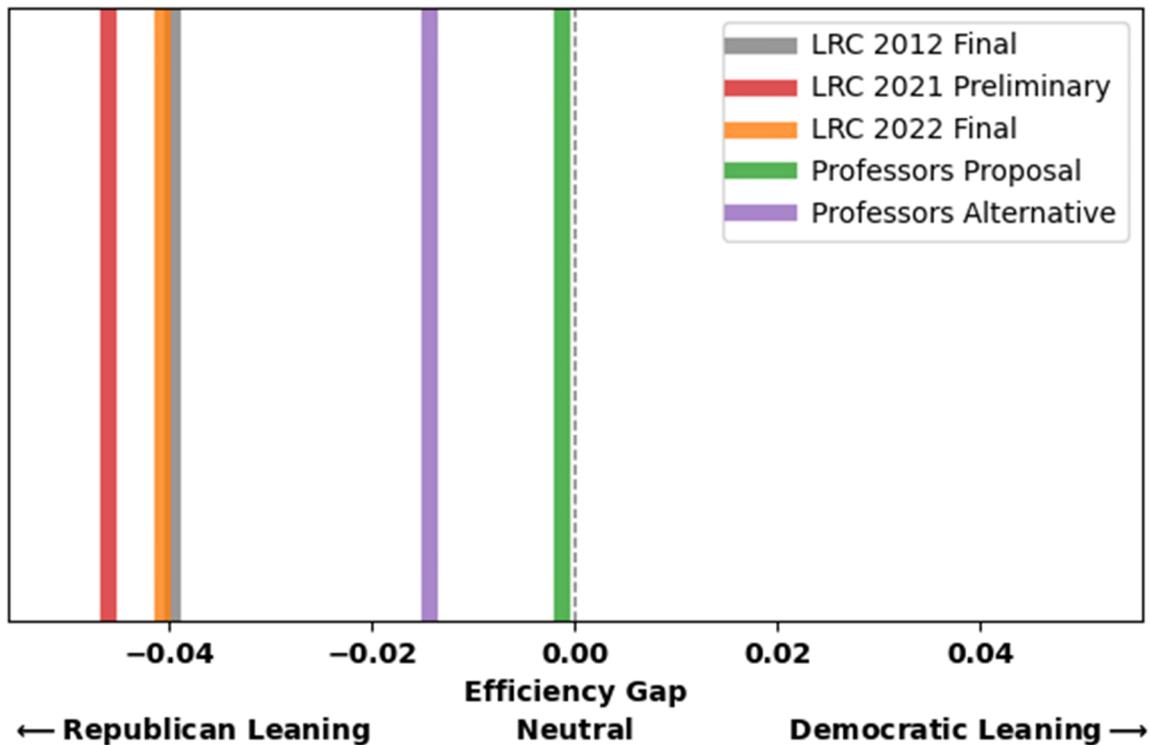
beyond the number needed to win the district, because the most efficient distribution of votes is to carry as many districts as possible by as narrow a margin as possible, while having the opposing party win its smaller number of districts by large, wasteful majorities. An efficiency-gap score that is close to zero suggests neither party’s voters are unfairly favored. By the same token, if the efficiency-gap score favors each party in about half the statewide elections analyzed, that balance suggests that neither party’s votes are being wasted more often than the other party’s votes.

The LRC Final Senate Plan also fails on this metric, by creating a persistent, and avoidable, partisan skew. The Plan has an average efficiency-gap score of –4.07%, favoring Republicans, and 16 of the 17 elections had an efficiency-gap score favoring Republicans. In contrast, the Professors’ plans have efficiency-gaps scores that are much closer to zero, and the number of elections favoring each party is split much more evenly among the two parties.

	<b>Professors’ Proposal</b>	<b>Professors’ Alternative</b>	<b>LRC 2022 Final</b>
Number of Elections (out of 17) in Which the Efficiency-Gap Score Favors Republicans	8	10	16
Number of Elections (out of 17) in Which the Efficiency-Gap Score Favors Democrats	9	7	1
Most Republican-Favoring Efficiency-Gap Score Among the 17 Elections	–13.51% R	–11.30% R	–11.13% R
Most Democratic-Favoring Efficiency-Gap Score Among the 17 Elections	9.50% D	6.72% D	1.24% D
<b>Efficiency-Gap Score Averaged Across 17 Elections</b>	<b>–0.14% R</b>	<b>–1.44% R</b>	<b>–4.07% R</b>

Figure 6, below, compares the average efficiency-gap scores for the current LRC plan from 2012, the 2021 LRC Preliminary Senate Plan, the 2022 LRC Final Senate Plan, and the two plans from the Professors. As with the mean-median score, Figure 6 shows that the LRC Final Senate Plan represents an improvement on this metric over the Preliminary Senate Plan, but it nonetheless is still significantly skewed in favor of Republicans.

**Figure 6**



**5. The Level of Partisan Bias in the LRC Final Senate Plan Is Unjustified and Unwarranted and Thus Violates the Free and Equal Elections Clause.**

In sum, across the full range of measurements for partisan fairness, the LRC Final Senate Plan fails. On each and every metric, it demonstrates a substantial pro-

Republican bias. Under the LRC Final Senate Plan, Republican voters can translate their votes into seats much more easily than Democratic voters can. Thus, the LRC Final Senate Plan is contrary to law as it does not comply with the constitutional guarantee that “all voters have an equal opportunity to translate their votes into representation.” *LWV I*, 178 A.3d at 814.<sup>19</sup>

Furthermore, this level of pro-Republican bias is not justified by the Commonwealth’s political geography or the need to satisfy any other Pennsylvania redistricting criteria. Indeed, the Professors’ Proposal and the Professors’ Alternative themselves show that one can draw a *substantially* fairer map that complies with the Free and Equal Election Clause while sacrificing nothing on the neutral criteria. The Professors’ plans are superior on both fronts. (*See* Attachment A.) The Professors’ least-change Alternative Plan also shows that one can draw a *substantially* fairer map that fully complies with the Free and Equal Elections Clause without changing the way the LRC Final Senate Plan treats incumbents seeking

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<sup>19</sup> The findings presented here are consistent with those available from PlanScore, which show that either of the two Professors’ plans is superior to the LRC Final Senate Plan on *every* partisan-fairness metric. *See* Nordenberg Rpt. at 44 n.25 (“PlanScore is a project of Campaign Legal Center, a nonpartisan organization working to advance democracy through law. The PlanScore website (<https://planscore.campaignlegal.org/>) allows policymakers, advocates, and the public to evaluate district plans according to peer-reviewed measures of partisan fairness.”).

reelection. Under the Professors' Alternative Plan, no additional Senators seeking reelection are paired with one another.<sup>20</sup>

Pennsylvania voters are entitled to a plan that complies with both Article II, Section 16's "floor" criteria *and* the guarantees of the Free and Equal Elections Clause.

**B. The LRC Final Senate Plan Also Fails to Provide Equal Opportunity for Minority Voters to Translate Their Votes into Representation.**

The LRC Final Senate Plan also denies minority-group members an equal opportunity "to translate their votes into representation," in violation of the Pennsylvania Constitution. *LWV I*, 178 A.3d at 804 (citing PA. CONST. art. I, § 5); *see also id.* at 817 n.72 (mandating compliance with Section 2 of the Voting Rights Act, 52 U.S.C. § 10301, which prohibits districting plans that deny or abridge voting rights on account of race or membership in a language minority group). The Commonwealth's recent adoption of the Racial and Ethnic Equality Clause renders this violation all the more troubling. *See* PA. CONST. art. I, § 29 ("Equality of rights under the law shall not be denied or abridged in the Commonwealth of Pennsylvania because of the race or ethnicity of the individual.").

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<sup>20</sup> *See supra* note 5 (explaining the Alternative Plan's treatment of the Montgomery County township where Senator Bob Mensch, who was already retiring, resides).

A lawful redistricting plan should provide effective opportunities for minority citizens to nominate and elect their preferred candidates in a number of reasonably compact districts roughly proportional to the minority group's share of the state's citizen voting-age population, or CVAP. *See LULAC v. Perry*, 548 U.S. 399, 426, 436–38 (2006); *Johnson v. De Grandy*, 512 U.S. 997, 1000 (1994); *see also Mellow v. Mitchell*, 607 A.2d 204, 206–07 (Pa. 1992) (discussing the need for a second Black opportunity district in a 21-district congressional plan “in light of Pennsylvania’s 9% African-American population” under the 1990 Census).

Today, about 20% of the Commonwealth’s CVAP belongs to a racial or language minority group, with Black and Latino adult citizens constituting about 11% and 6%, respectively.<sup>21</sup> In a 50-district Senate plan, 20% would equal 10 districts. So, under the rough-proportionality principle, this means Pennsylvania ideally should have about 10 Senate districts where minority voters have a realistic opportunity to nominate and then elect their preferred candidates.

The LRC Final Senate Plan, however, has only six districts where minority voters will be able to reliably translate their votes into representation (Districts 2, 3, 4, 7, 8, and 14), plus a seventh district in the Pittsburgh area (District 43) that is

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<sup>21</sup> U.S. Census Bureau, *American Community Survey: S2901 Citizen Voting-Age Population by Selected Characteristics*, <https://data.census.gov/cedsci/table?q=citizen&g=0400000US42&d=ACS%201-Year%20Estimates%20Subject%20Tables&tid=ACSSST1Y2019.S2901> (last visited Mar. 5, 2022).

perhaps marginally effective in allowing Black voters to elect their preferred Senator. By contrast, both of the Professors' plans include an additional district in the Philadelphia area where minority voters will routinely be empowered to elect their preferred candidates, and the Alternative Plan also significantly strengthens Black electoral opportunity in Pittsburgh.

In the Alternative Plan, Senate District 1 is an additional district that would afford minority voters an opportunity to elect their preferred candidates. Comparing Senate District 1 in the Alternative Plan with Senate District 1 in the LRC Final Senate Plan demonstrates the superiority of the former plan. In both maps, the district is based in South Philadelphia. And in both versions of the district, Democratic candidates (who Black voters in Pennsylvania strongly prefer over Republican candidates) are virtually assured victory in the general elections. But in the LRC Final Senate Plan, the district has less than 9% Black voting-age population, while in the Alternative Plan that figure more than quadruples. Not surprisingly, this results in stronger electoral opportunities for Black voters. For example, in the 2018 Democratic primary for Lieutenant Governor, Black voters in this area preferred the incumbent Lieutenant Governor Mike Stack over his four opponents. But Lieutenant Governor Stack finished third in District 1 under the LRC Final Senate Plan while handily carrying District 1 in the Alternative Plan. And the Alternative Plan adds

this additional minority opportunity district in Senate District 1 without sacrificing the electoral effectiveness of minority voters in Senate Districts 2, 3, 4, 7, 8, and 14.

Likewise, in Pittsburgh, the Alternative Plan transforms Senate District 43 into one that will be solidly effective for Black voters. There is a significant difference between the versions of District 43 in the LRC Final Senate Plan and in the Alternative Plan. Both versions of the district are consistently Democratic in the general elections, which again aligns with Black voters' preferences. But in the LRC Final Senate Plan, District 43's voting-age population is less than 24% Black, in contrast to 29% in the Alternative Plan. And again, this impacts actual election results: For example, in the 2012 Democratic primary for Attorney General, Black voters in this area preferred Kathleen Kane over then-Congressman Patrick Murphy almost two to one. Ms. Kane lost in the LRC's version of District 43, but carried the Alternative Plan's version of that district, consistent with its increased Black population.

Overall, the Professors' plans demonstrate that the LRC Final Senate Plan does not satisfy the Free and Equal Elections Clause's mandate to provide all voters, including minority voters, an equal opportunity to translate their votes into representation. While even the Professors' plans do not achieve the ideal of providing effective opportunities for minority-group members in ten Senate districts, they come much closer to that "roughly proportional" level than does the LRC Final

Senate Plan. The Court should ensure that the LRC Final Senate Plan does not operate in any way to deny or abridge minority citizens' voting rights. *See* PA. CONST. art. I, § 29.

**IV. The Court Should Order the LRC Final Senate Plan or One of the Professors' Plans to Take Effect in 2022 as an Interim Measure While the LRC Develops a New, Lawful Plan.**

Upon finding that the LRC Final Senate Plan is contrary to law for violating both Article II, Section 16, and Article I, Section 5, this Court must remand the plan to the LRC with directions to conform the plan to law. *See* PA. CONST. art. II, § 17(d). However, with the primary election fast approaching, this Court also must decide what plan should be used for the 2022 elections. In 2012, after finding the LRC's plan contrary to law, this Court ordered the use of the 2001 plan for the upcoming 2012 election. *See Holt I*, 38 A.3d at 761. The Court stated that this outcome "arose by operation of law" because "where a Final Plan is challenged on appeal, and this Court finds the plan contrary to law and remands, the proffered plan does not have force of law, and the prior plan obviously remains in effect." *Id.* at 721.

The Math/Science Professors respectfully submit that this was not a correct statement of the law. Article II, Section 17(e) does not require use of the prior decade's plan; and Article I, Section 5 forbids it under the present circumstances. Accordingly, the Math/Science Professors submit that the Court should order that either (1) the LRC Final Senate Plan; or (2) one of the Math/Science Professors'

Senate plans should be used as the “interim” plan for the 2022 elections while the LRC develops a lawful plan for the 2024 to 2030 elections.<sup>22</sup> This not only would be consistent with earlier precedent in Pennsylvania, but also would keep Pennsylvania from being a national outlier in allowing a severely malapportioned and unfair plan to be used for an election when there is an alternative that easily can be ordered into effect by this Court on an interim basis and thereby given the “force of law.” PA. CONST. art. II, § 17(d).

**A. Article I, Section 17(e) Does Not Require Using the LRC’s 2012 Final Senate Plan in the 2022 Elections.**

The Court’s holding in *Holt I* that the 2001 Legislative Reapportionment Plan should remain in effect for the 2012 elections was based on two grounds. First, the Court looked to its decision in *Albert v. 2001 Legislative Reapportionment Commission*, 790 A.2d 989, 991 (Pa. 2002), which expressly held that the 2001 Plan should “be used in all forthcoming elections to the General Assembly until the next constitutionally mandated reapportionment shall be approved.” *Holt I*, 38 A.3d at 721. Second, the Court looked to Article II, Section 17(e) and read it as requiring the prior plan to “remain[] in effect” by “operation of law.” *Id.*

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<sup>22</sup> The Math/Science Professors’ Petition does not raise specific challenges to the LRC Final House Plan. Accordingly, they believe the LRC Final House Plan should govern the 2022 House elections. However, if the Court determines it cannot use the LRC Final House Plan as an interim remedy for the 2022 elections, the Math/Science Professors respectfully submit that the Court should order into effect, on an interim basis, the Professors’ House Proposal that they submitted to the LRC on January 18, 2022 (Attachment E).

Here, nothing in *Holt II* stated that the 2012 Plan must remain in effect until a new plan is approved. Accordingly, there is nothing from this Court’s most recent legislative redistricting decision that requires the use of the 2012 Plan in the 2022 elections. And nothing in Article II, Section 17(e) requires that the Court leave in place the prior decade’s severely malapportioned plan once the LRC has conducted a reapportionment. Accordingly, there is likewise no constitutional imperative to use the 2012 Plan.

By its plain text, Section 17(e) states only that once an LRC plan is approved, that plan “shall have the force of law and the districts therein provided shall be used thereafter in elections to the General Assembly *until the next reapportionment as required under this section 17.*” PA. CONST. art. II, § 17(e) (emphasis added). But here, the “reapportionment as required under this section 17” has already occurred, and thus any obligation under the Constitution to use the 2012 districts in future elections is no longer applicable. Using the adjusted 2020 Census data, the LRC has properly determined that the ideal population for each Senate district is 260,054 and has accordingly reapportioned the Commonwealth’s population from the 2012 Senate Plan to the 2022 Senate Plan so that no district in the 2022 Plan deviates from the ideal population by more than 5% (for a maximum deviation, top to bottom, of no more than 10%), which is the presumptive outer bound of constitutionality under federal law.

Section 17(e) is meant only to ensure that legislative redistricting in Pennsylvania is always tied to the issuance of decennial Census data. *See In re 1991 Pennsylvania Legislative Reapportionment Comm'n*, 609 A.2d 132, 140 (Pa. 1992) (stating that in Section 17(e) the “Constitution clearly establishes a termination date for the reapportionment plan” and noting that “after a Federal Decennial Census” the “prior reapportionment plan is no longer effective”). Thus, once the LRC has used the new decade’s Census data to issue a “final” plan, the “reapportionment as required under this Section 17” has been completed. PA. CONST. art II, § 17(e). But that reapportionment still is subject to challenge under other, substantive constitutional provisions, such as Article II, Section 16 and the Free and Equal Elections Clause. The fact that a reapportionment that has concluded under Section 17 violates other constitutional provisions does not speak to whether the “reapportionment as required under *this section 17*” actually has taken place. The framers could have required using the prior decade’s plan in all future elections until there is a “reapportionment as required under *this Constitution*.” Had they done so, the LRC’s issuance of a final reapportionment plan that violated Section 16 or the Free and Equal Elections Clause would not have been the death knell of the prior decade’s plan. But the framers did not do so. Clearly, then, they were carving out Section 16 violations and other substantive violations by honing in expressly on “this section 17.” Only a failure to complete Section 17’s *procedures* (by using the new

Census data to reapportion Pennsylvania’s population into new legislative districts) could keep an old plan in effect after a new decennial federal Census.

To read Section 17(e) any other way would create perverse incentives for challenging the LRC’s redistricting each decade. Parties who would benefit from keeping the prior decade’s lines in place will file multiple challenges to the LRC’s new redistricting plan, while parties that would be harmed by keeping the prior decade’s lines in place will forgo raising even the strongest challenges. That cannot be what the Constitution’s framers intended.

**B. Article I, Section 5 Prohibits Using the LRC’s 2012 Final Senate Plan in the 2022 Elections.**

In all events, the Free and Equal Elections Clause prohibits the use of the 2012 Plan for the 2022 elections because Pennsylvania’s population growth and demographic shifts over the past decade have rendered the 2012 plan grossly malapportioned and using it in 2022 would result in unlawful vote dilution.<sup>23</sup> *See*

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<sup>23</sup> When the *Holt* Court ordered use of the 2001 plan for the 2012 elections, two federal lawsuits were filed challenging this as, *inter alia*, a violation of the Fourteenth Amendment’s equal-protection guarantee of “one person, one vote.” *See Garcia v. 2011 Legislative Reapportionment Comm’n*, 938 F. Supp. 2d 542, 546 (E.D. Pa. 2013), *aff’d* 559 Fed. App’x 128 (3d Cir. 2014); *Pileggi v. Aichele*, 843 F. Supp. 2d 584, 593 (E.D. Pa. 2012). The courts found in one case that the plaintiffs lacked standing to bring their vote-dilution claim, *Garcia v. 2011 Legislative Reapportionment Comm’n*, 559 Fed. App’x 128, 134 (3d Cir. 2014), and in the other that the plaintiffs were not entitled to a temporary restraining order against the use of the 2001 plan in 2012, *Pileggi*, 843 F. Supp. 2d at 594. The courts did *not* hold that it is acceptable under the Federal Constitution to use a grossly malapportioned plan to conduct elections when a viable alternative exists. While the Math/Science Professors present their arguments against using the malapportioned 2012

Respondent LRC’s Answer Opposing Application of Petitioner Benninghoff for Emergency Relief Directed to the 2022 Elections, Case No. 11 MM 2022, at 1–2 (agreeing that the 2012 Plan is currently unconstitutional under both Article I, Section 5 and Article II, Section 16). This Court has long held that “any legislative scheme which has the effect of impermissibly diluting the potency of an individual’s vote for candidates for elective office relative to that of other voters will violate the guarantee of ‘free and equal’ elections afforded by Article I, Section 5.” *LWV I*, 178 A.3d at 809 (construing *Patterson v. Barlow*, 60 Pa. 54, 75 (Pa. 1869)). As shown in the table below, using the 2012 Senate plan for the 2022 elections would result in extreme dilution of the potency of certain individuals’ votes for Senate candidates in the 2022 elections depending on where they live. Using the 2020 Census data, the 2012 Senate plan currently has a maximum population deviation of 28%, or 72,922 persons, meaning that there is a gaping variation in the value of each voter’s ballot depending on the district where the voter resides. This level of population deviation is far greater than that present in the LRC Final Senate Plan or either of the Professors’ Plans.

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plan in 2022 under the Pennsylvania Constitution, the Federal Constitution’s “one person, one vote” principles similarly apply.

<b>Metric</b>	<b>2012 LRC Senate Plan</b>	<b>2022 LRC Final Senate Plan</b>	<b>Professors' Proposal</b>	<b>Professors' Alternative</b>
Least-Populated District Size	230,305	248,858	248,936	249,017
Most-Populated District Size	303,227	269,942	271,220	269,942
Difference Between Least- and Most-Populated Districts	72,922	21,084	22,284	20,925
<b>Percentage Difference Between Least- and Most-Populated Districts</b>	<b>28.0%</b>	<b>8.1%</b>	<b>8.6%</b>	<b>8.0%</b>

The Court cannot allow the use of a plan that would disenfranchise voters who live in Senate districts that the 2020 Census shows are now wildly overpopulated. For example, Senate District 1 in Philadelphia is 16.6% overpopulated, and Senate District 37 in Allegheny County is 11.5% overpopulated. Votes cast by those districts' residents would be considerably diluted compared to votes cast in underpopulated, rural areas like Senate District 23, which is 9.5% underpopulated, or Senate District 50, which is 11.4% underpopulated.

This population disparity also has significant partisan implications. As displayed above in Figures 1, 5, and 6, recent electoral data demonstrates that the 2012 Plan has become severely skewed in favor of Republican voters. Using the 2012 Plan for the 2022 elections clearly would violate the “mandate[] that all voters

have an equal opportunity to translate their votes into representation.” *LWV I*, 178 A.3d at 804.

Moreover, the Pennsylvania Constitution expressly requires that each of the Commonwealth’s 50 senatorial districts “shall be ... as nearly equal in population *as practicable*.” PA. CONST. art. II, § 16. Although it may not be practicable (or even permissible under Section 17(e)) to redraw senatorial districts mid-decade to reflect the most recent population shifts, once the new federal decennial Census data are released and reveal massive population shifts across the entire Commonwealth, it surely becomes not only practicable but also constitutionally mandated to replace badly malapportioned districts with new, equally populated districts.

Rather than use the manifestly unlawful 2012 Plan for the 2022 elections, the Court should order into effect, solely on an interim basis, either the LRC Final Senate Plan or one of the Professors’ plans. Although it may seem counterintuitive to suggest using the LRC Final Senate Plan as an interim plan, this would not be the first time this Court ordered into effect—as an interim plan for a single election—a plan that it found was contrary to law. In *Butcher v. Bloom*, 203 A.2d 556 (Pa. 1964), for example, the Court found that the General Assembly’s recent legislative reapportionment was invalid, but nonetheless ordered that the plan be used for the fast-approaching 1964 election. *See id.* at 569. The Court simply cautioned that “[u]nder no circumstances, however, may the 1966 election of members of the

Pennsylvania Legislature be conducted pursuant to a constitutionally invalid plan.”  
*Id.*

Pennsylvania appears to be a national outlier in resorting to the use of a grossly malapportioned plan for its elections when a properly reapportioned alternative is available.<sup>24</sup> When an election is fast approaching and there is no valid redistricting plan in place, it is common for a court to act in equity and order into effect the reapportionment plan that will best protect the rights of voters in the interim. For example, in *Perry v. Perez*, 565 U.S. 388 (2012), the U.S. Supreme Court noted that when “an intervening event—most commonly, as here, a Census—renders the current plan unusable, a court must undertake the ‘unwelcome obligation’ of creating an interim plan.” *Id.* at 392.

Here, however, the Court need not “creat[e] an interim plan” because it has viable alternatives available to it. The Court should either—analogueous to what it did in *Butcher*—order that, even though the LRC’s Final Plan is contrary to law, it nonetheless shall be used in the 2022 elections on an interim basis, or order that one of the Professors’ plans be used as an interim plan. Under no circumstances,

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<sup>24</sup> The Math/Science Professors could not identify any other state that followed this practice. See generally All About Redistricting, *Maps Across the 2010 Cycle*, <https://redistricting.ils.edu/resources/maps-across-the-cycle-2010-state-upper/> (last visited Mar. 5, 2022).

however, should the Court resort to the “untenable” situation of using the 2012 Plan for the 2022 elections. *Holt I*, 38 A.3d at 765 (Orie Melvin, J., dissenting).

### **CONCLUSION**

For the foregoing reasons, the Math/Science Professors respectfully request that this Court (1) conclude that the LRC 2022 Final Plan is contrary to law because the LRC Final Senate Plan violates Article II, Section 16, and Article I, Section 5; (2) order that the LRC 2012 Final Plan is malapportioned and unconstitutional and no longer has the force of law and therefore may not be used in any future elections; (3) order that the LRC 2022 Final Plan, or the LRC 2022 Final House Plan along with one of the two Senate plans proposed by the Math/Science Professors, has the force of law and governs the 2022 elections as an interim measure; (4) remand the matter to the LRC to conform the LRC Final Senate Plan to law for the 2024 to 2030 elections, using the Professors’ Proposal and/or the Professors’ Alternative Plan as a guide; and (5) grant such additional or further relief that is justified under the circumstances.<sup>25</sup>

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<sup>25</sup> Knowing the time-sensitivity of this matter, the Math/Science Petitioners and their counsel stand prepared to assist the Court this weekend or next week by providing a reply brief and/or participating in oral argument, should the Court find that helpful.

Dated: March 7, 2022

Respectfully submitted,

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## CERTIFICATION OF WORD COUNT

Per Pa. R.A.P. 2135(a)(1), I hereby certify that this Brief contains 11,114 words, exclusive of the supplementary matter as defined by Pa. R.A.P. 2135(b).

Dated: March 7, 2022

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## CERTIFICATE OF COMPLIANCE

I certify that this filing complies with the provisions of the *Case Records Public Access Policy of the Unified Judicial System of Pennsylvania* that require filing confidential information and documents differently than non-confidential information and documents.

Submitted by: Kim M. Watterson  
Signature: /s/ Kim M. Watterson  
Name: Kim M. Watterson  
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## **PROOF OF SERVICE**

On March 7, 2022, I caused a copy of the foregoing to be served by the methods indicated upon the following:

**BY CERTIFIED MAIL, RETURN-RECEIPT REQUESTED**

2021 Legislative Reapportionment Commission  
Attn. G. Reynolds Clark, Executive Director  
209 Irvis Office Building  
Harrisburg, PA 17120

**BY CERTIFIED MAIL, RETURN-RECEIPT REQUESTED**

The Honorable Josh Shapiro  
Office of Attorney General of Pennsylvania  
c/o Torts Litigation Unit  
15th Floor, Strawberry Square  
Harrisburg, Pennsylvania 17120

**BY CERTIFIED MAIL, RETURN-RECEIPT REQUESTED, AND E-MAIL**

2021 Legislative Reapportionment Commission  
Attn. Robert L. Byer, Esq., Chief Counsel  
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# Attachment A

Comparison of the LRC Final Senate Plan  
to the Math/Science Professors' Two Plans

Redistricting Principle	Metric	LRC 2022 Final Plan	Professors' Proposal	Professors' Alternative
Population Equality	Maximum Population Deviation	21,084 (8.11%)	22,284 (8.57%)	20,925 (8.05%)
Contiguity	Non-Contiguous Districts	1	0	1
Compactness	<i>Mean Polsby-Popper Score</i>	0.32	0.35	0.34
	<i>Mean Reock Score</i>	0.36	0.40	0.38
	<i>Mean Convex Hull Score</i>	0.75	0.76	0.77
	Cut Edges	10,678	9,608	10,622
Respect for Political Subdivisions	Split Counties	23	20	23
	Split Municipalities	12 (incl. 8 boroughs on county lines)	8 (incl. 4 boroughs on county lines)	11 (incl. 7 boroughs on county lines)
	Split Wards	8	1	0
	Total Splits	43	29	34
Partisan Fairness	Antimajoritarian Outcomes	4 (all R)	2 (1 R; 1 D)	4 (2 R; 2 D)
	Discrepancy Between Seats Awarded to Each Party in Elections Decided by <4%	3.17 seats (favoring Republicans)	0.75 seats (favoring Republicans)	0.25 seats (favoring Democrats)
	Average Mean-Median Score	-2.33% R	-0.89% R	-0.65% R
	Average Efficiency-Gap Score	-4.07% R	-0.14% R	-1.44% R
Minority Electoral Opportunity	<i>Distinct Minority Opportunity Districts</i>	6 or 7	8	8

**LEGEND:**

*Italics* = larger number is the goal; regular text = smaller number is the goal (or smaller absolute value for mean-median and efficiency-gap scores).

= best performance (or tied for best performance)

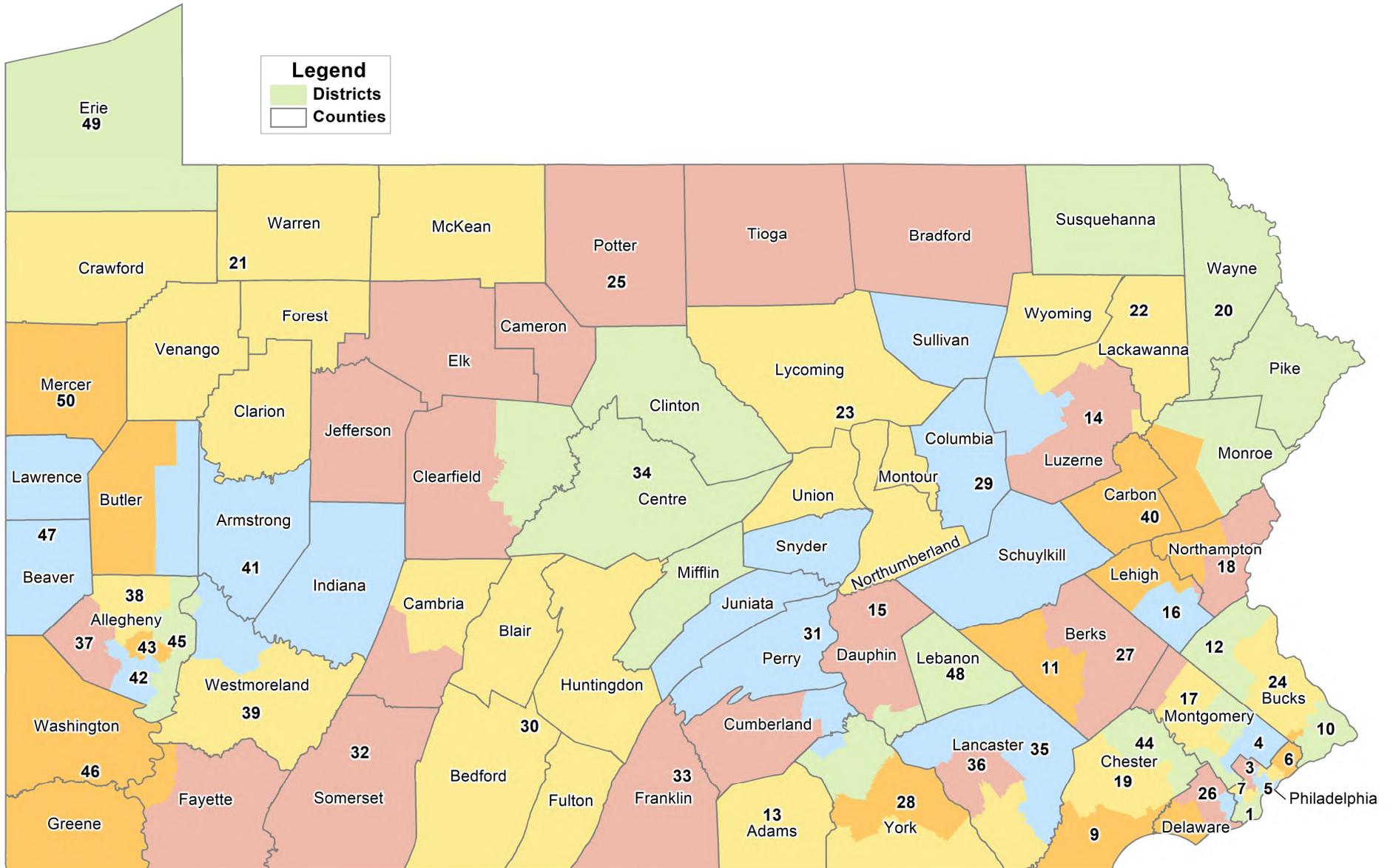
= worst performance

# Attachment B

# Proposed Pennsylvania Senate Map

Submitted to the Legislative Reapportionment Commission by the Math/Science Professors

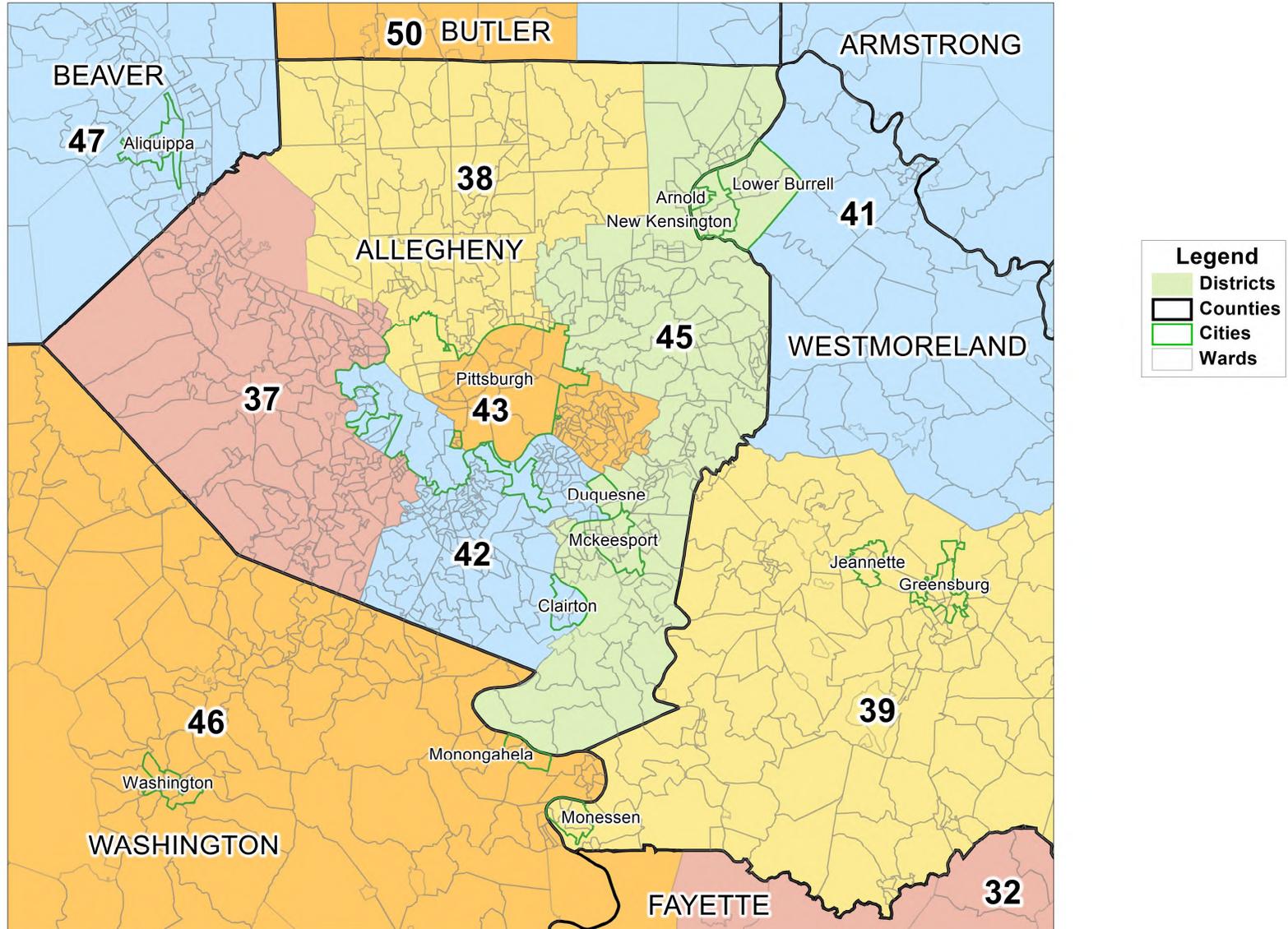
January 18, 2022



# Proposed Pennsylvania Senate Map: Southwest Region

Submitted to the Legislative Reapportionment Commission by the Math/Science Professors

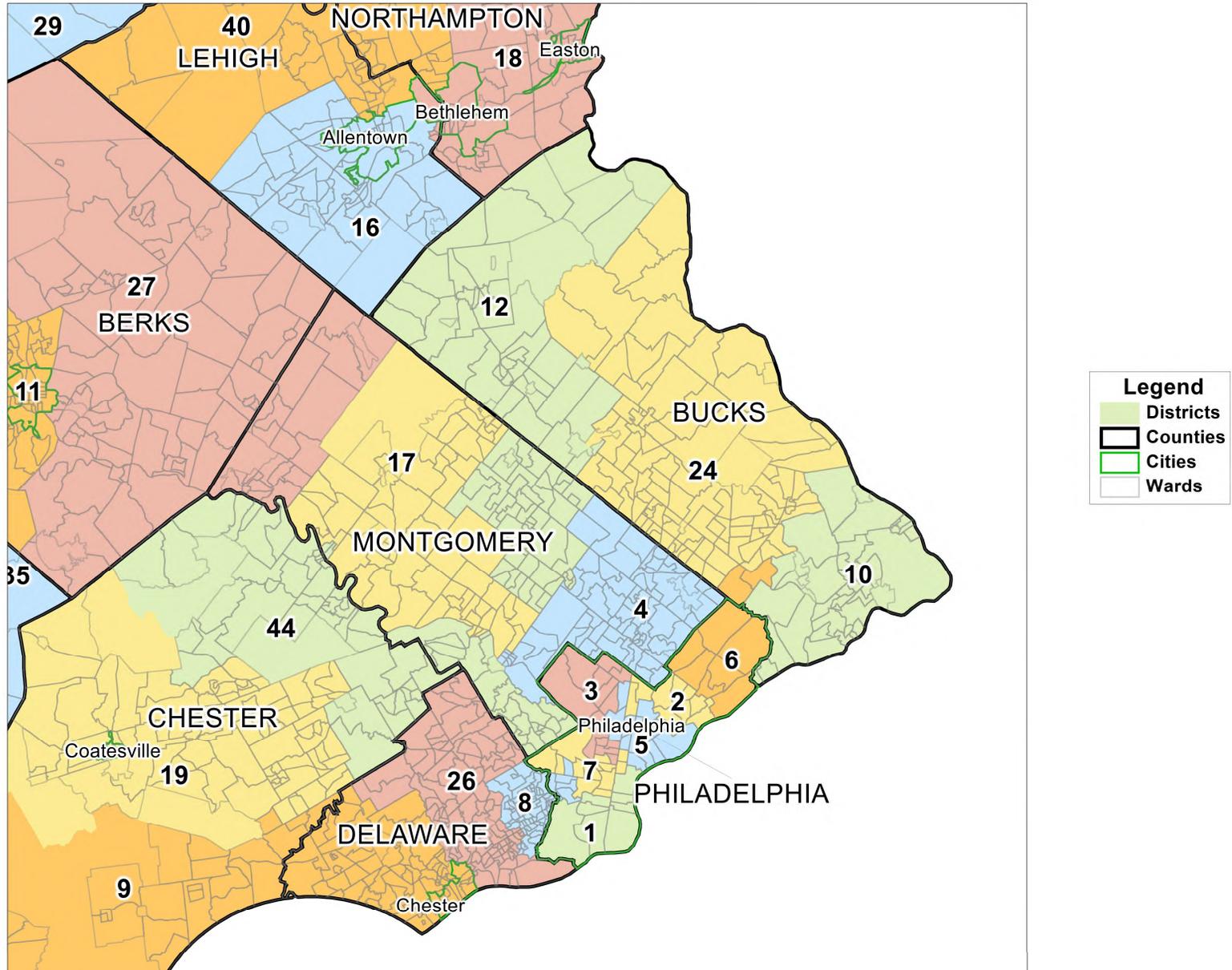
January 18, 2022



# Proposed Pennsylvania Senate Map: Southeast Region

Submitted to the Legislative Reapportionment Commission by the Math/Science Professors

January 18, 2022



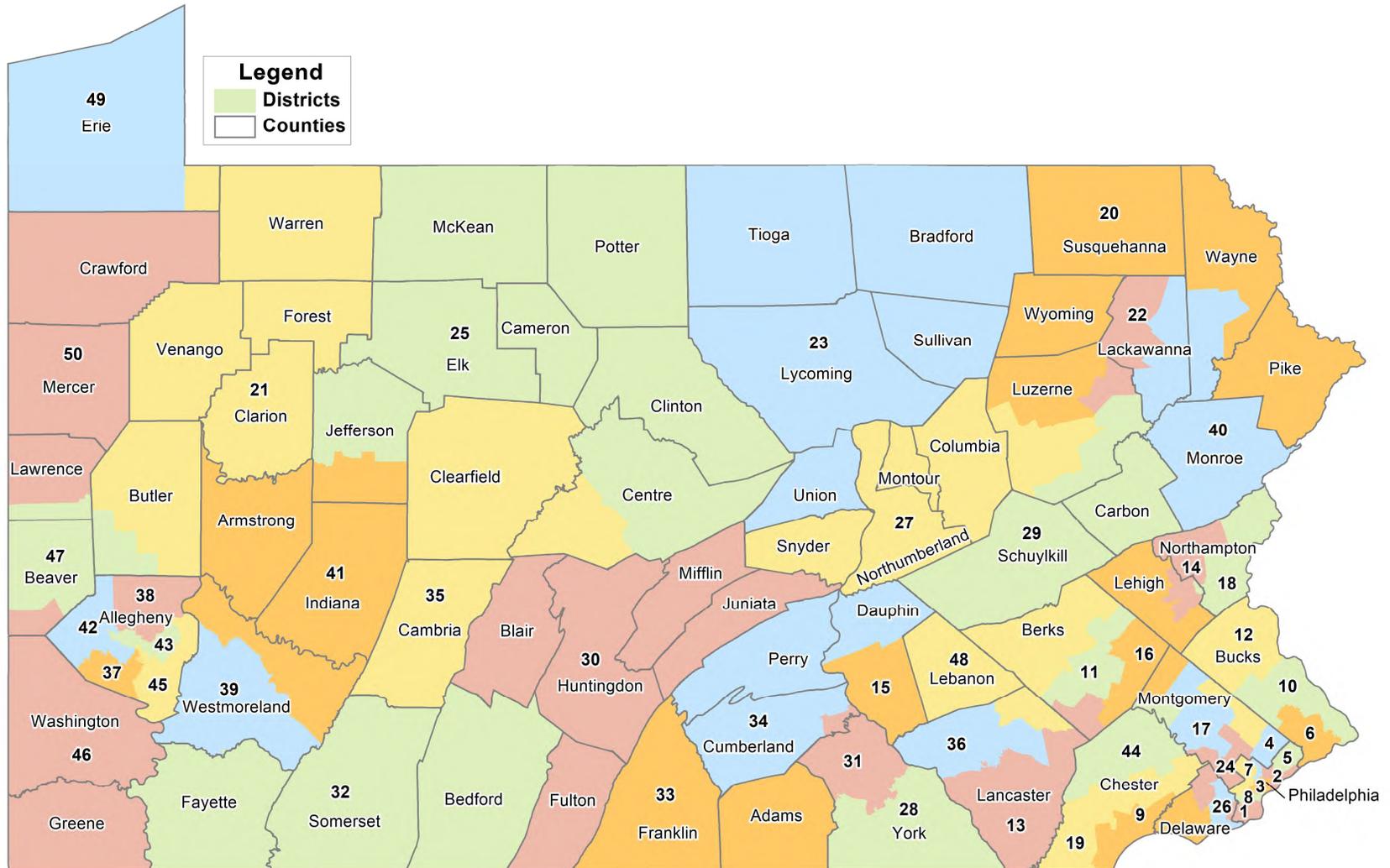


# Attachment C

# Professors' Alternative to LRC Final Senate Map

Submitted by the Math/Science Professors

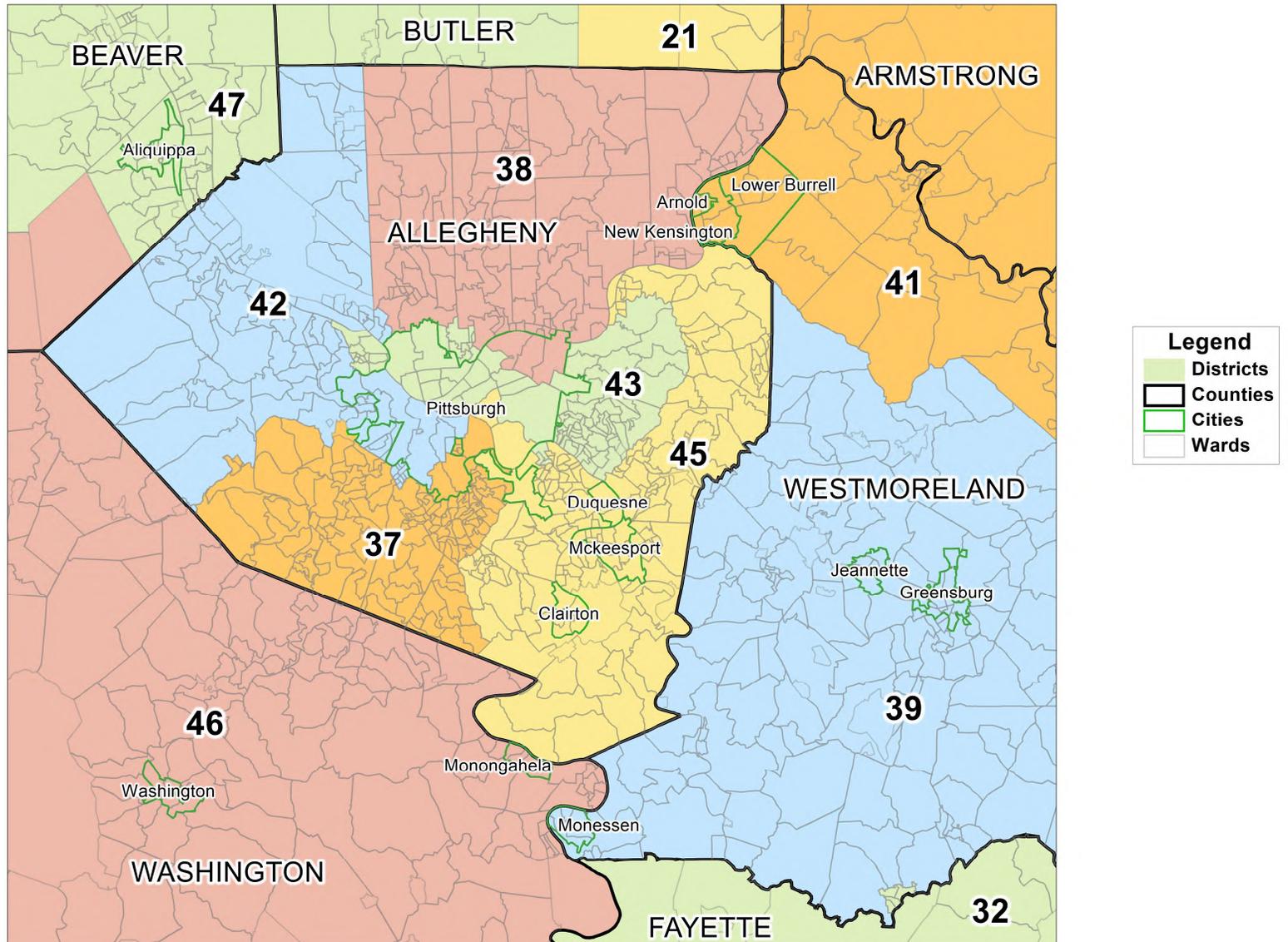
March 7, 2022



# Professors' Alternative to LRC Final Senate Map: Southwest Region

Submitted by the Math/Science Professors

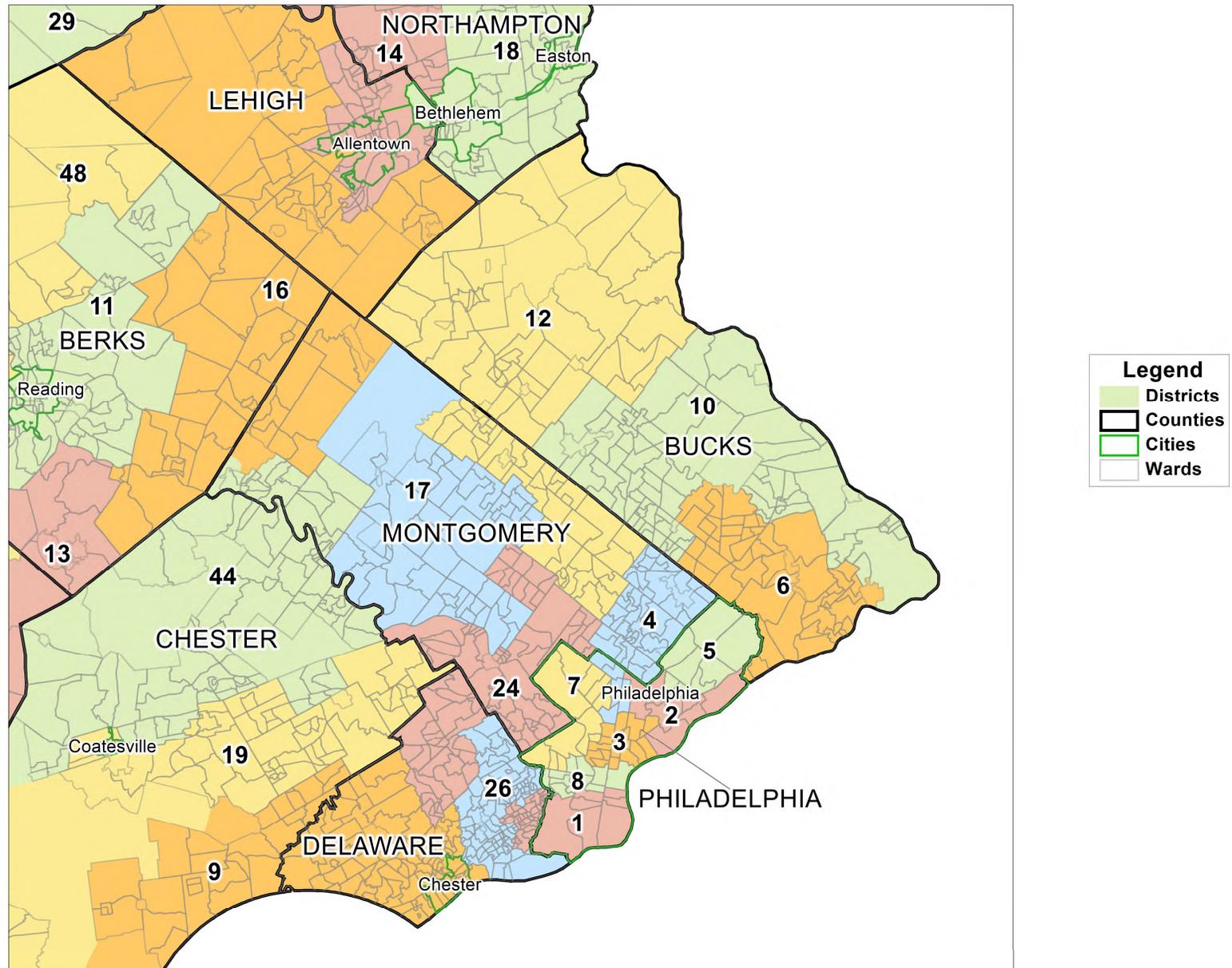
March 7, 2022



# Professors' Alternative to LRC Final Senate Map: Southeast Region

Submitted by the Math/Science Professors

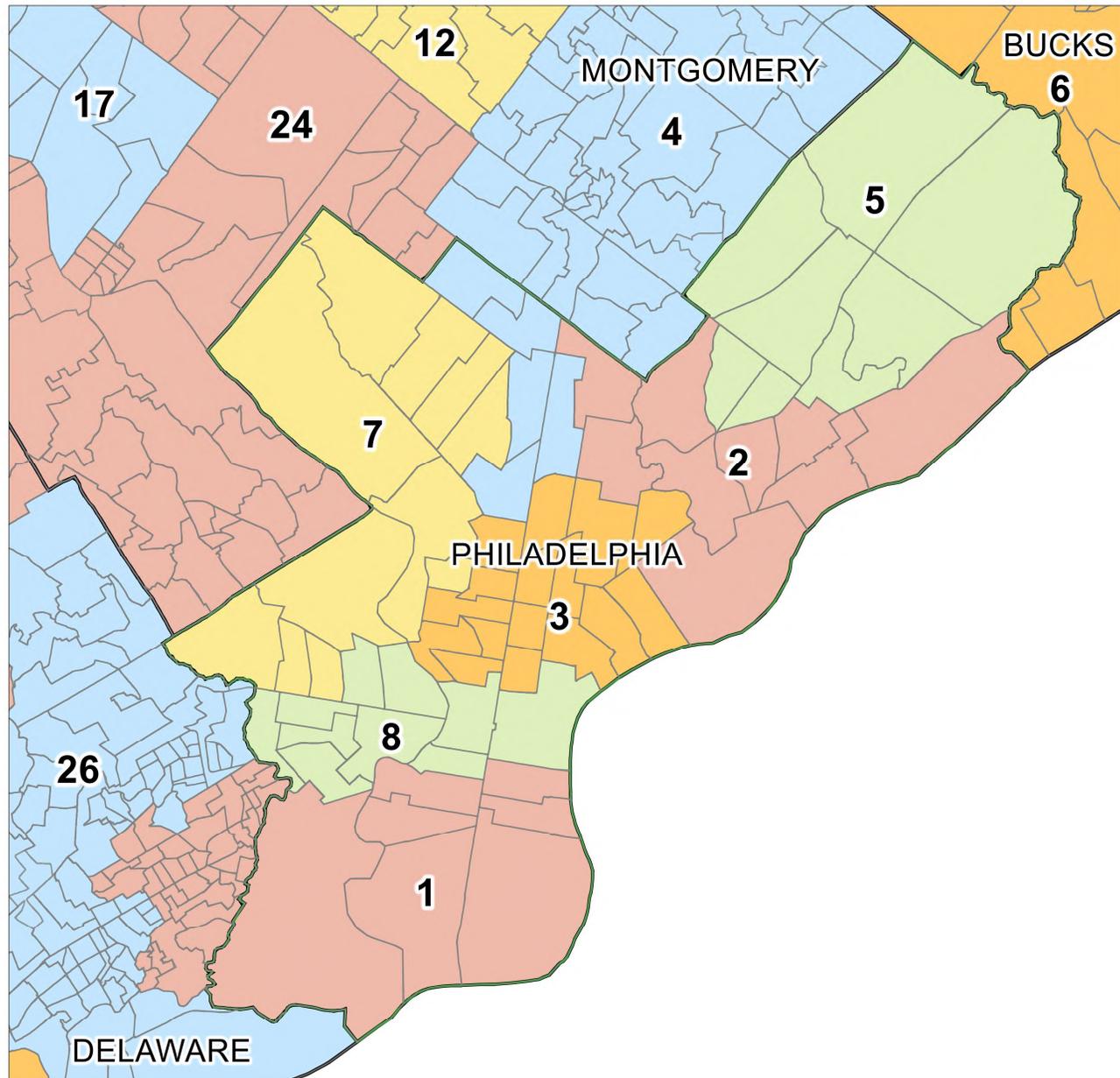
March 7, 2022



# Professors' Alternative to LRC Final Senate Map: Philadelphia

Submitted by the Math/Science Professors

March 7, 2022



# Attachment D

**EXCEPTIONS TO THE PENNSYLVANIA SENATE REAPPORTIONMENT  
PLAN PRELIMINARILY APPROVED BY THE  
LEGISLATIVE REAPPORTIONMENT COMMISSION**

**January 18, 2022**

**Filed by the Math/Science Professors**

**INTRODUCTION**

The undersigned “Math/Science Professors” are some of Pennsylvania’s leading professors, practitioners, and research scientists in mathematics, statistics, and geography. They are also Pennsylvania voters, and they advocate the use of high-performance computers and cutting-edge algorithmic techniques to thwart gerrymandering, streamline the mapmaking process, and promote fair and effective representation for all Pennsylvanians. As the Pennsylvania Supreme Court expressed just four years ago, technology can “aid in the expeditious development of districting maps, the boundaries of which are drawn to scrupulously adhere to neutral criteria.” *League of Women Voters of Pa. v. Commonwealth*, 178 A.3d 737, 817–18 (2018) [*“League of Women Voters I”*]. The Math/Science Professors file these Exceptions to the Legislative Reapportionment Commission’s (LRC) preliminary Senate plan to demonstrate how computational redistricting can be used to ensure that redistricting plans are scrupulously adhering to neutral criteria to the greatest degree possible when reapportioning the population among the Commonwealth’s 50 Senate seats.

As set forth below, the Math/Science Professors take a number of exceptions to the Senate reapportionment plan that the LRC preliminarily approved on December 16, 2021 (hereinafter the “Preliminary Plan”). Specifically, the Preliminary Plan:

- contains more population inequality than necessary;
- splits more counties, cities, townships, and wards than necessary, and more voting districts than can be justified;
- is less compact than is achievable and appropriate;
- unfairly favors Republican voters at the expense of Democratic voters; and
- contains fewer minority opportunity districts than are appropriate.

The Math/Science Professors appreciate that redistricting is a challenging task. It “involves balancing the satisfaction of various criteria, from the mandatory (contiguity) to the discretionary (splitting some cities and counties but not others), and from the quantifiable (equipopulous districts) to the more ineffable (preserving communities of interest).”<sup>1</sup> At some point, each criterion conflicts with others, so improving on one criterion creates “downstream consequences” on the map’s ability to satisfy other criteria.<sup>2</sup>

Here, however, it is quite possible to create a map that outperforms the Preliminary Plan on not just one or two of the relevant metrics or criteria, but *all* of them. Concurrently with these Exceptions, the Math/Science Professors are submitting an alternative proposed Senate reapportionment plan (the “Professors’ Plan”) that illustrates, by comparison, the specific ways in which the Preliminary Plan is lacking.<sup>3</sup> The Professors’ Plan outperforms or ties the Preliminary Plan on *each and every one* of 25 metrics. A summary chart is provided below, with explanations of each of the metrics in the following section.

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<sup>1</sup> Emily Rong Zhang, *Bolstering Faith with Facts: Supporting Independent Redistricting Commissions with Redistricting Algorithms*, 109 CAL. L. REV. 987, 1013 (2021); *see also Holt v. 2011 Legislative Reapportionment Comm’n*, 38 A.3d 711, 759 (Pa. 2012).

<sup>2</sup> Zhang, *supra*, at 1013.

<sup>3</sup> The Math/Science Professors are providing the LRC with a block-equivalency file, along with statewide regional and color maps of their proposed plan.

Comparison of the Senate Plan Preliminarily Approved by the Legislative Reapportionment Commission to the Plan Proposed by the Math/Science Professors

Redistricting Principle	Metric	Commission's Preliminary Plan	Professors' Plan
Population Equality	Maximum Population Deviation	24,928 (9.59%)	22,284 (8.57%)
Contiguity	Non-Contiguous Districts	0	0
Compactness	<i>Mean Polsby-Popper Score</i>	0.33	0.35
	<i>Mean Reock Score</i>	0.37	0.40
	<i>Mean Convex Hull Score</i>	0.75	0.76
	Cut Edges	10,301	9,608
Respect for Political Subdivisions*	Split Counties	22	20
	County Pieces (67 min.)	109	107
	Split Cities	5 (incl. 1 on county lines)	2
	City Pieces (57 min.)	67	65
	Split Towns	0	0
	Town Pieces (1 min.)	1	1
	Split Boroughs	7 (on county lines)	4 (on county lines)
	Borough Pieces (955 min.)	955	955
	Split Townships	2	2
	Township Pieces (1,547 min.)	1,549	1,549
	Split Wards	17	1
	Ward Pieces (4,310 min.)	4,327	4,311
	Split Voting Districts	10	0
	Voting District Pieces (9,178 min.)	9,188	9,178
Minority Electoral Opportunity	<i>Opportunity Dists. for Black Voters</i>	6	7
	<i>Opportunity Dists. for Latino Voters</i>	2	2
	<i>Distinct Minority Opportunity Dists.</i>	7	8
Partisan Fairness	Antimajoritarian Outcomes	5 (all favoring Republicans)	2 (1 favoring Republicans; 1 favoring Democrats)
	Median District Measure	2.63	0.47

**LEGEND:**

*Italics* = larger number is the goal; regular text = smaller number is the goal.

= better performance

= tied performance

= worse performance

\* If a political subdivision is wholly within one district, it has one *piece*; if it is divided between two districts, it has two *pieces*; and so on. Dividing a municipality by drawing a district boundary along a county boundary does not create an additional piece.

## STANDARDS GOVERNING REDISTRICTING

As used in these Exceptions, a *legal requirement* is a redistricting criterion mandated by state or federal law. A *metric* is a precise, quantifiable measure of how well a district, or an entire map, satisfies a legal requirement.

The Pennsylvania Constitution requires that legislative districts be “composed of compact and contiguous territory as nearly equal in population as practicable,” and that “[u]nless absolutely necessary no county, city, incorporated town, borough, township or ward shall be divided” in redistricting. PA. CONST. art. II, § 16. These “multiple imperatives in redistricting . . . must be balanced.” *Holt v. 2011 Legislative Reapportionment Comm’n*, 38 A.3d 711, 759 (Pa. 2012) [hereinafter “*Holt I*”]. The Free and Equal Elections Clause in the Pennsylvania Constitution, PA. CONST. art. I, § 5, also prohibits partisan gerrymandering and “any legislative scheme which has the effect of impermissibly diluting the potency of an individual’s vote for candidates for elective office relative to that of other voters,” *League of Women Voters I*, 178 A.3d at 816, 818. Finally, under federal law, legislative districts also must comply with the U.S. Constitution’s Equal Protection Clause, U.S. CONST. amend. XIV, and the Voting Rights Act, 52 U.S.C. § 10301.

Below, the Math/Science Professors identify their exceptions to the Preliminary Plan based on each legal requirement, explaining the metrics used to conduct this assessment.

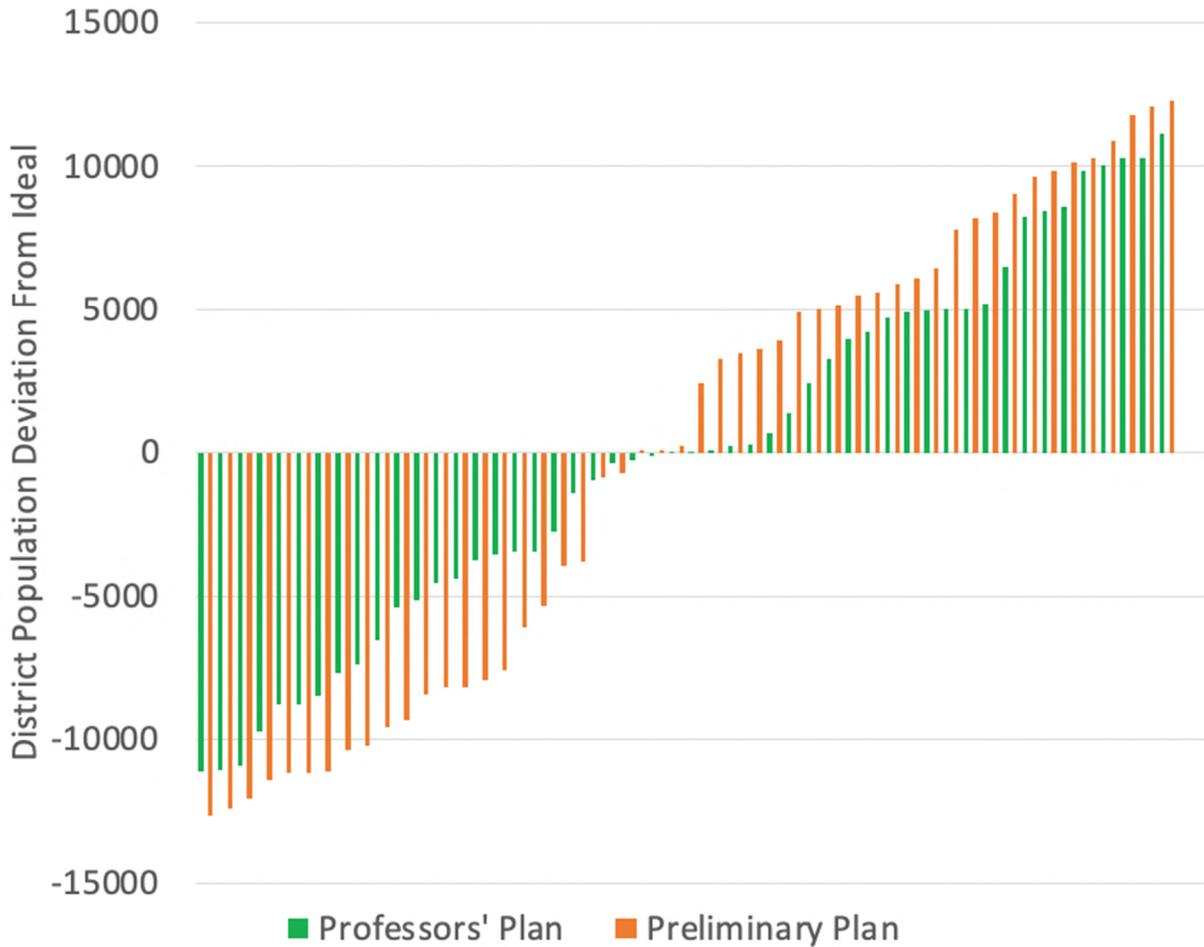
## EXCEPTIONS

### I. Legal Requirement: Population Equality

The Preliminary Plan contains greater population deviation than required to achieve the other redistricting principles and thus fails to satisfy the legal requirement of population equality. Pennsylvania's total population, as reflected in the 2020 Census data, is 13,002,700, meaning the ideal population for each of the Commonwealth's 50 Senate districts is 260,054. The highest-populated district in the Preliminary Plan contains 272,319 persons, while the lowest-populated district contains 247,391 persons. The difference between the two, also called maximum population deviation, is 24,928 persons, or 9.59% of the ideal district population.

By contrast, as shown in the below figures, the Professors' Plan reduces the maximum population deviation to 22,284 persons, a decrease of 2,644 persons and more than a whole percentage point (8.57% compared to the Preliminary Plan's 9.59%). And, as further explained below, the Professors' Plan is able to reduce the maximum population deviation by more than a whole percentage point while also improving compliance with all other legal requirements, thus demonstrating that the 9.59% deviation in the Preliminary Plan is neither necessary nor appropriate to ensure compliance with other legal requirements. The below graph shows the variation from the ideal population across the 50 Senate districts in the Preliminary Plan compared to the 50 districts in the Professors' Plan, with the distance between the bottom lines on the left and the top lines on the right corresponding to the maximum population deviation in both plans:

## Population Deviation Comparison



## II. Legal Requirement: Only “Absolutely Necessary” Political-Subdivision Splits

### A. Counties

The Preliminary Plan splits more counties than is “absolutely necessary” to achieve other legal requirements. *See* PA. CONST. art. II, § 16. There is no question that some county splits are “absolutely necessary” because 15 counties on their own contain greater population than is permitted for a single Senate district.<sup>4</sup> But the Preliminary Plan splits a

<sup>4</sup> These counties are Allegheny, Berks, Bucks, Chester, Dauphin, Delaware, Erie, Lancaster, Lehigh, Luzerne, Montgomery, Northampton, Philadelphia, Westmoreland, and York.

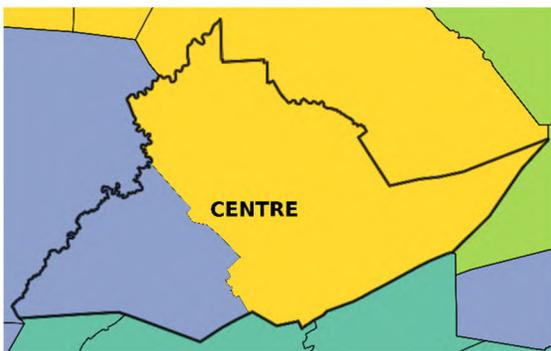
total of 22 counties—two more than in the Professors’ Plan. For example, Beaver, Centre, Jefferson, Lackawanna, Lawrence, and Pike Counties are each split into two pieces in the Preliminary Plan even though the size of their respective populations does not necessitate splitting them. The splits in the Preliminary Plan compared to the intact counties in the Professors’ Plan are shown below:



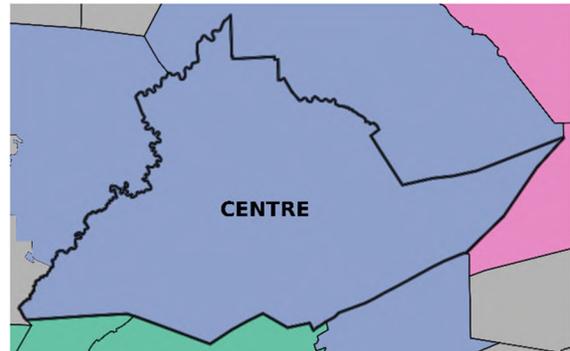
Preliminary Plan



Professors' Plan



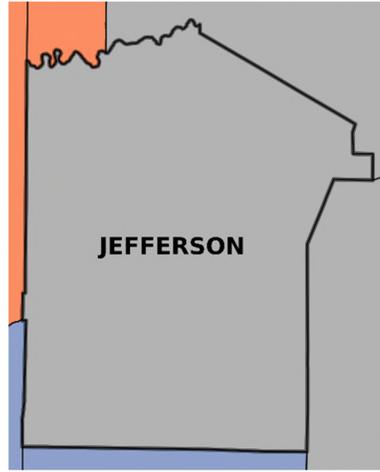
Preliminary Plan



Professors' Plan



Preliminary Plan



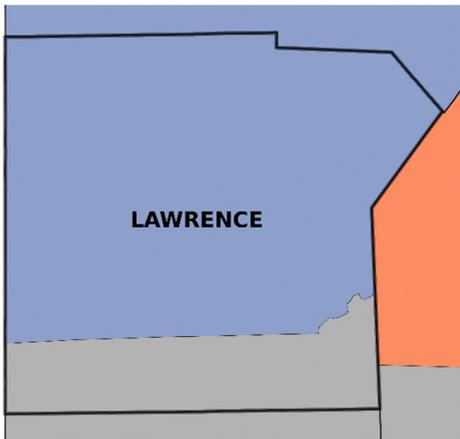
Professors' Plan



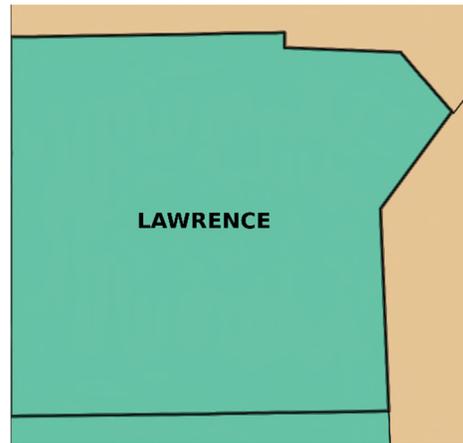
Preliminary Plan



Professors' Plan



Preliminary Plan



Professors' Plan

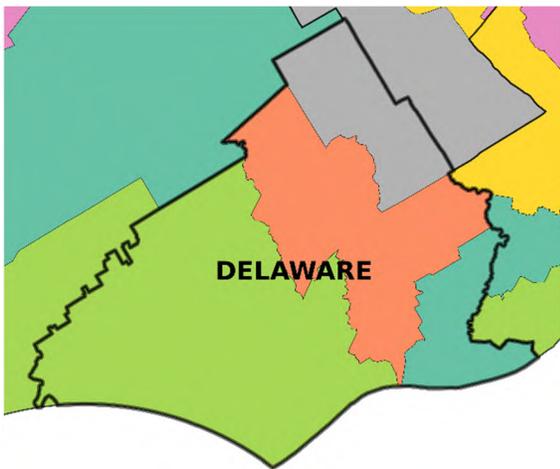


Preliminary Plan

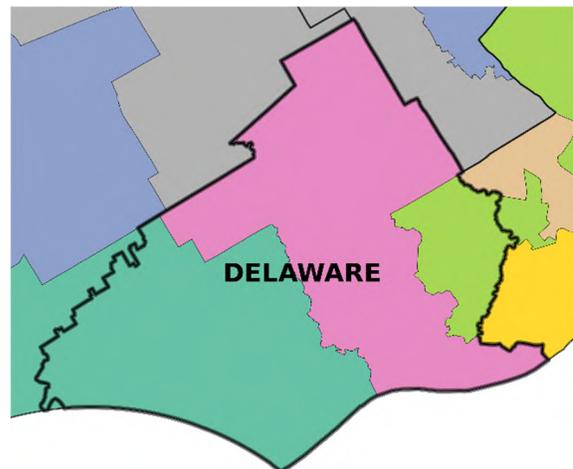


Professors' Plan

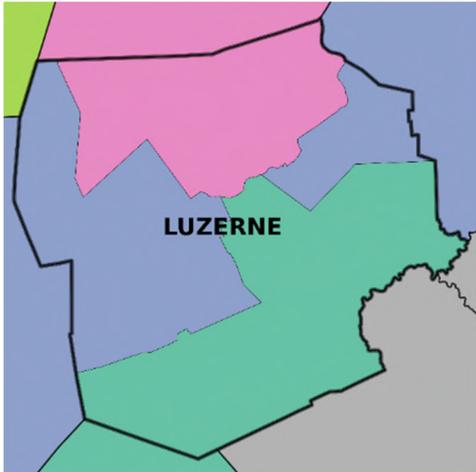
Certain counties are also divided into more pieces than is warranted. The population of Delaware and Luzerne Counties requires that each be split into three districts, which is what the Professors' Plan does. Yet Delaware and Luzerne Counties are split into four districts each in the Preliminary Plan:



Preliminary Plan



Professors' Plan

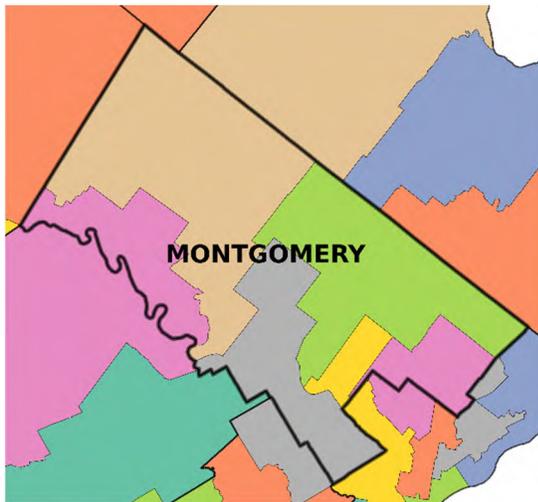


Preliminary Plan

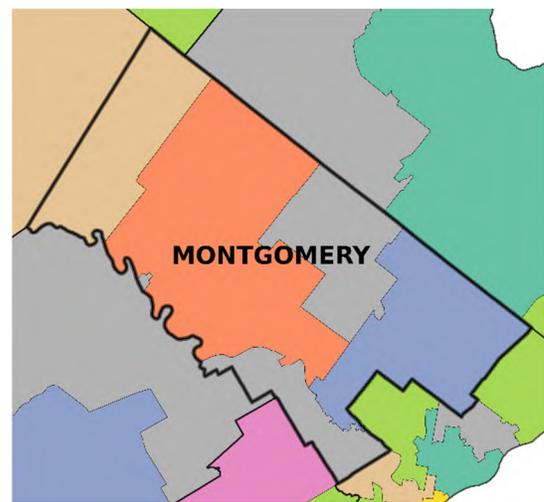


Professors' Plan

The Preliminary Plan also divides Montgomery County into six pieces, one more than in the Professors' Plan and two more than required for population purposes, as shown below:



Preliminary Plan

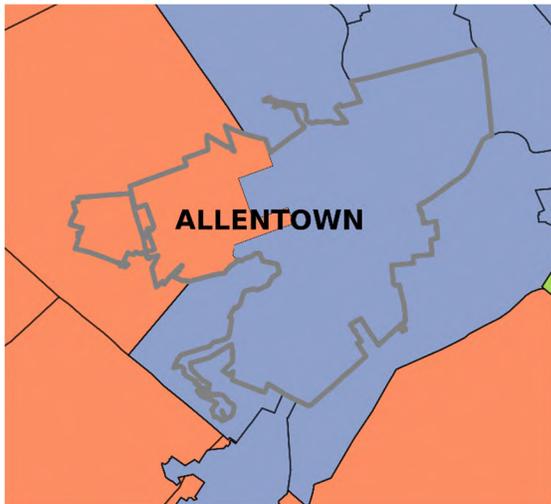


Professors' Plan

## **B. Cities**

The Preliminary Plan also splits more cities than “absolutely necessary” to achieve other legal requirements. *See* PA. CONST. art. II, § 16. Philadelphia and Pittsburgh are the only two cities that must be split because their respective populations exceed the size of a single Senate district. The Preliminary Plan divides each of these two cities into an appropriate number of pieces, just as the Professors' Plan does.

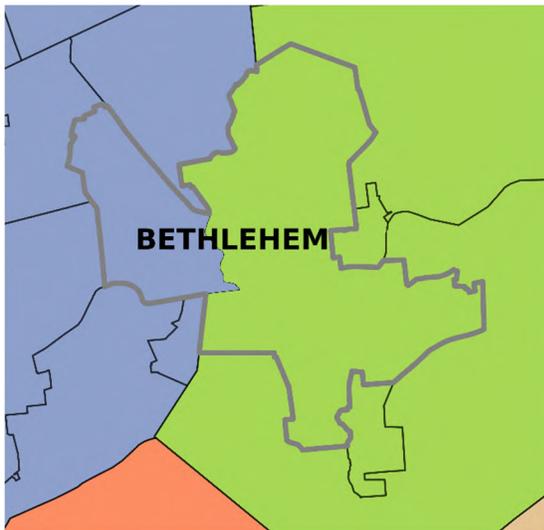
But the Preliminary Plan *also* divides Allentown, Bethlehem, and Lancaster, as shown below. None of these cities is so large as to require being split into two districts. The Professors' Plan keeps each of these three cities fully intact within a single Senate district, while also achieving comparable or better metrics on all other legal requirements, thus demonstrating that these splits are not necessary.



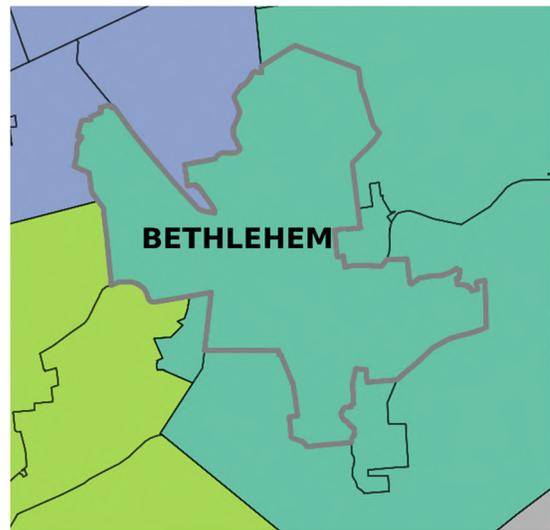
Preliminary Plan



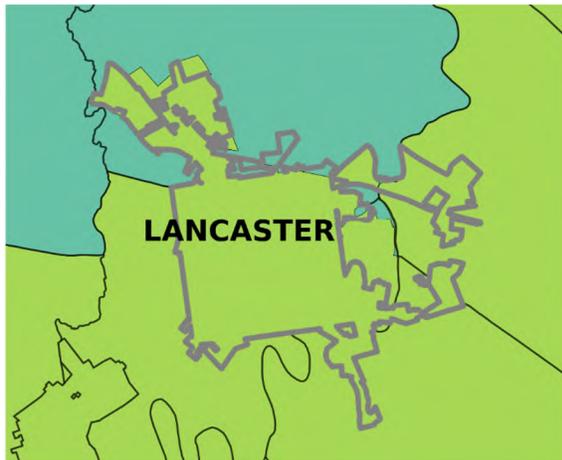
Professors' Plan



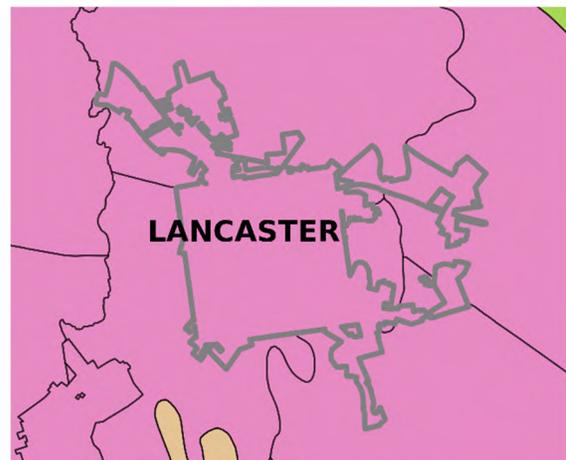
Preliminary Plan



Professors' Plan



Preliminary Plan



Professors' Plan

### C. Boroughs

Similarly, the Preliminary Plan splits seven boroughs compared to the Professors' Plan's four split boroughs, demonstrating that this number of borough splits is not "absolutely necessary." *See* PA. CONST. art. II, § 16. Although every split of a borough in both proposals is along county lines, the Professors' Plan shows that all redistricting requirements can be achieved with no more than four boroughs divided into different districts, county lines or not. The two plans have identical splits along county lines for the boroughs of Adamstown, McDonald, and Trafford. However, the boroughs of Ashland, Falls Creek, Shippensburg, and Tunnel Hill are each split in the Preliminary Plan but not in the Professors' Plan. The Professors' Plan thus demonstrates that the number of borough splits in the Preliminary Plan is not necessary to achieve other legal requirements.

### D. Wards

The Preliminary Plan divides 17 wards, while the Professors' Plan splits just a *single* ward in the entire Commonwealth. In Philadelphia alone, the Preliminary Plan splits *seven* wards, while the Professors' Plan splits zero. The Preliminary Plan also splits three wards

in Allentown; again, none are divided in the Professors' Plan. The Professors' Plan also does not split wards in Lancaster, Lancaster Township, and Manheim Township, while the Preliminary Plan does. The Professors' Plan thus demonstrates that these ward splits are not necessary to achieve other redistricting legal requirements. *See* PA. CONST. art. II, § 16.

#### **E. Voting Districts (Precincts)**

The Pennsylvania Constitution does not require the preservation of the boundaries of voting districts (precincts). Still, redistricters sometimes seek to avoid splitting voting districts because doing so can simplify election administration and continuity and help decrease voter confusion about polling places, among other things. The Professors' Plan outperforms the Preliminary Plan on the number of voting district splits: The Preliminary Plan splits 10 voting districts, while the Professors' Plan does not split *any*.

### **III. Legal Requirement: Compactness**

The Preliminary Plan also is less compact than it should be, even given the sometimes-irregular geography of the Commonwealth. The Math/Science Professors focus here on four compactness metrics that are commonly used in redistricting: Polsby-Popper, Reock, Convex Hull, and Cut Edges.

For the first three metrics, the Math/Science Professors focus on the mean, or average, compactness score across the 50 districts, because using the mean score weighs each district equally. Polsby-Popper measures a ratio of perimeter squared to area. Reock measures the ratio of the district's area to that of the smallest possible bounding circle. The Convex Hull metric measures the proportion of the area of the smallest convex shape that contains the district. All these metrics are scaled to values between 0 and 1, with higher

values representing more compact plans. Each is also maximized by the circle (which gets a perfect score of 1), but the Polsby-Popper measure tends to prefer districts with smooth-looking boundaries, the Reock measure tends to prefer districts that are less elongated, and the Convex Hull measure tends to prefer districts that do not contain significant indentations or tendrils.

Cut Edges is a compactness measure that applies not to a single district but rather to a redistricting plan as a whole. The Cut Edges metric evaluates the perimeters of all the districts and refers to the number of adjacent units, like Census blocks, that are not placed in the same district. One could say the Cut Edges metric measures the plan’s “scissors” complexity—how much work would have to be done to separate the districts from each other?

As shown in the below table, by all four measures, the Preliminary Plan is less compact overall than the Professors’ Plan. This is true even though the Professors’ Plan has lower population deviation and fewer political-subdivision splits:

<b>Metric</b>	<b>Preliminary Plan</b>	<b>Professors’ Plan</b>
Mean Polsby-Popper Score <i>(higher is more compact)</i>	0.33	0.35
Mean Reock Score <i>(higher is more compact)</i>	0.37	0.40
Mean Convex Hull Score <i>(higher is more compact)</i>	0.75	0.76
Cut Edges <i>(lower is more compact)</i>	10,301	9,608

#### **IV. Legal Requirement: Partisan Fairness**

Pennsylvania’s Constitution also requires redistricting plans that are free from partisan gerrymandering and that do not unfairly dilute the power of voters affiliated with a particular political party. *See League of Women Voters I*, 178 A.3d at 809. The Preliminary Plan dilutes the votes of Democratic voters, as demonstrated by the metrics discussed below, both of which draw upon actual election results from 18 statewide general elections between 2012 and 2020.<sup>5</sup>

##### **A. Antimajoritarian Outcomes**

Partisan fairness operates in part on the premise that the party with a majority of the votes should be the party that usually wins the majority of the seats. The first partisan-fairness metric used in these Exceptions, referred to here as “Antimajoritarian Outcomes,” therefore measures the number of times, across 18 statewide general elections between 2012 and 2020, that one political party’s candidate won the statewide vote, but the other major political party’s candidate carried a majority of Senate districts in the redistricting plan. For example, the Republican candidate won the U.S. Senate seat in 2016. For that election, a “majoritarian” outcome under the redistricting plan would be one in which the Republican candidate likewise carried at least half of the districts (here, 25 or more), and an “antimajoritarian” outcome would be one in which the successful Republican candidate

---

<sup>5</sup> Democrats won 13 of the 18 statewide elections (President of the United States, United States Senate, Attorney General, Auditor General, and State Treasurer in 2012; Governor in 2014; Attorney General, Auditor General, and State Treasurer in 2016; United States Senate and Governor in 2018; and President of the United States and Attorney General in 2020). Republicans won the other 5 statewide elections (President of the United States and United States Senate in 2016; Supreme Court Justice in 2017; and Auditor General and State Treasurer in 2020).

*lost* in 26 or more districts. If maps are fairly drawn, then this type of antimajoritarian outcome should be rare.

On this metric, the Preliminary Plan significantly favors Republicans. Using the 18 statewide general elections discussed above, the Preliminary Plan generates five antimajoritarian outcomes. Remarkably, in each of these five instances,<sup>6</sup> the Republican candidate won the majority of the districts in the Preliminary Plan, while the Democratic candidate won the statewide vote. Thus, the Preliminary Plan's districts disproportionately favor Republican voters.

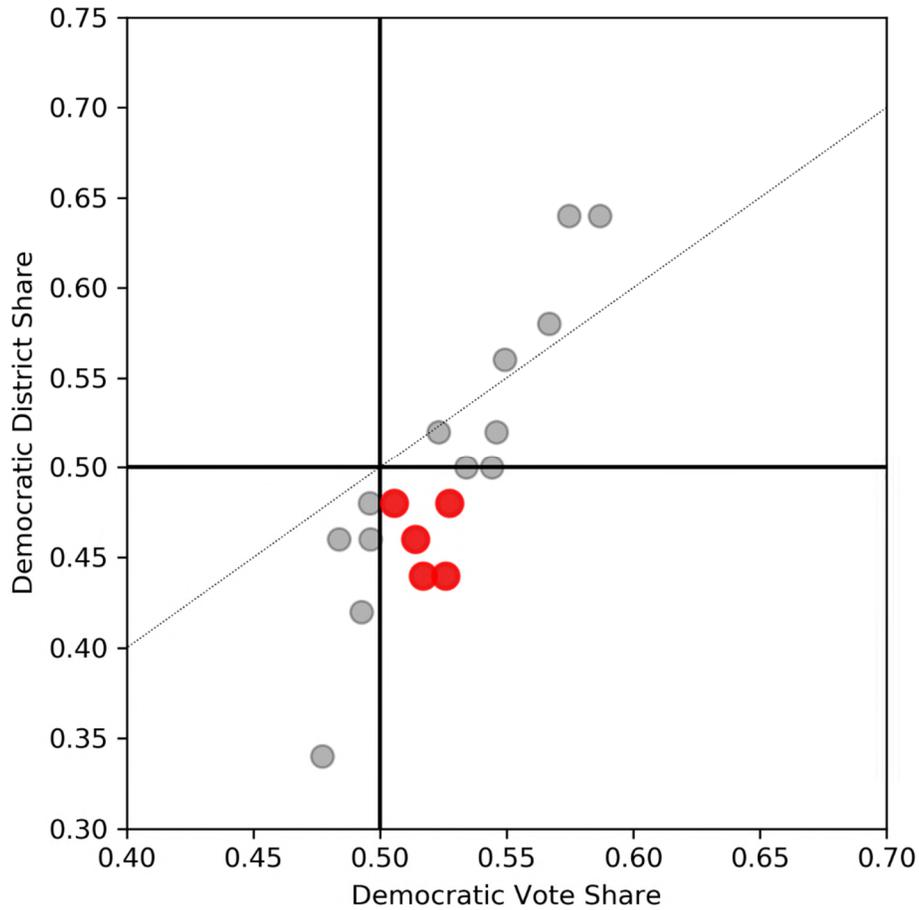
By comparison, the Professors' Plan resulted in just two antimajoritarian outcomes. And, significantly, these two antimajoritarian outcomes were evenly split between the political parties. In the 2020 election for State Treasurer, the result favored Democrats, but in the 2012 election for Auditor General, the result favored Republicans. Based on this metric, the Professors' Plan is fairer to voters of both political parties and, unlike the Preliminary Plan, does not dilute the votes of Democratic voters.

The Antimajoritarian Outcomes metric applied to the Preliminary Plan can be graphically illustrated as follows:

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<sup>6</sup> These are: the 2012 and 2020 elections for President of the United States, the 2016 election for Attorney General, and the 2012 and 2016 for Auditor General.

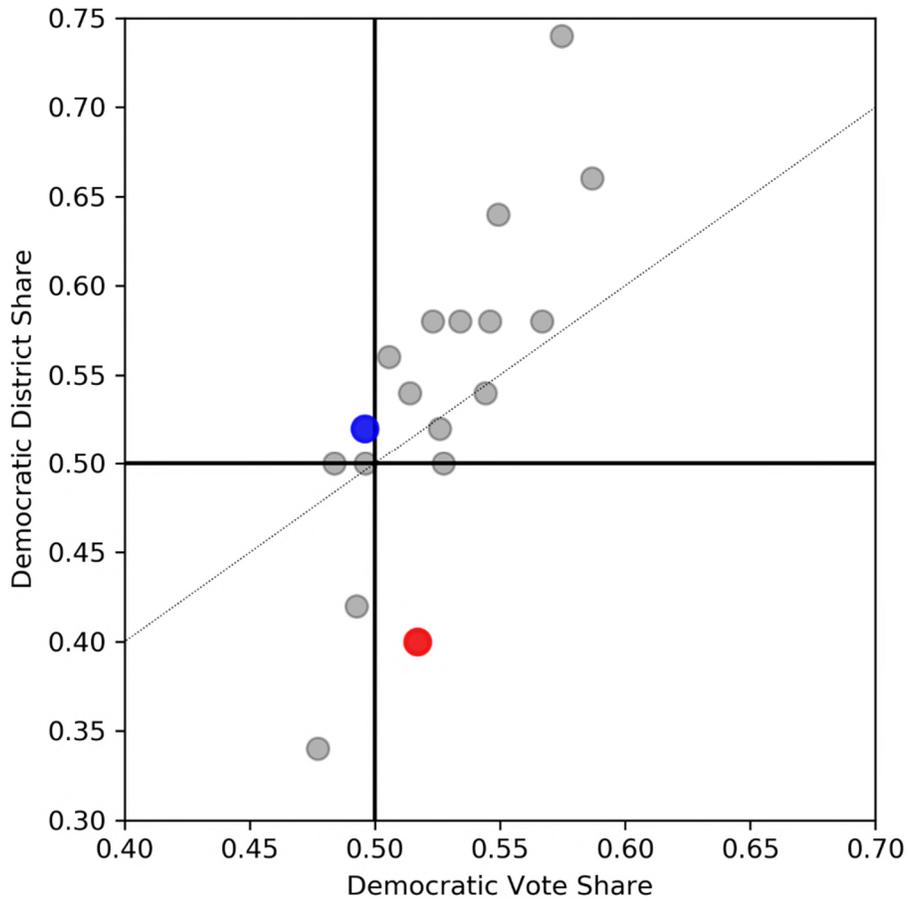
### Preliminary Plan: Antimajoritarian Outcomes Metric



In this scatterplot, the percent share of the statewide major-party vote received by the Democratic candidate is plotted on the horizontal or “x” axis. The percent share of the districts in the Preliminary Plan carried by the Democratic candidate is plotted on the vertical or “y” axis. Each dot represents one of the 18 elections. The gray dots reflect majoritarian outcomes, where the statewide vote share roughly aligns with the statewide district share. The red dots reflect antimajoritarian outcomes that favored Republicans—where the statewide Democratic vote share exceeded 50%, yet the Democratic candidate prevailed in less than 50% of the districts.

By comparison, here is the scatterplot for the Professors’ Plan, reflecting just two antimajoritarian outcomes across 18 elections, one favoring Republicans (the red dot) and one favoring Democrats (the blue dot):

**Professors’ Plan: Antimajoritarian Outcomes Metric**

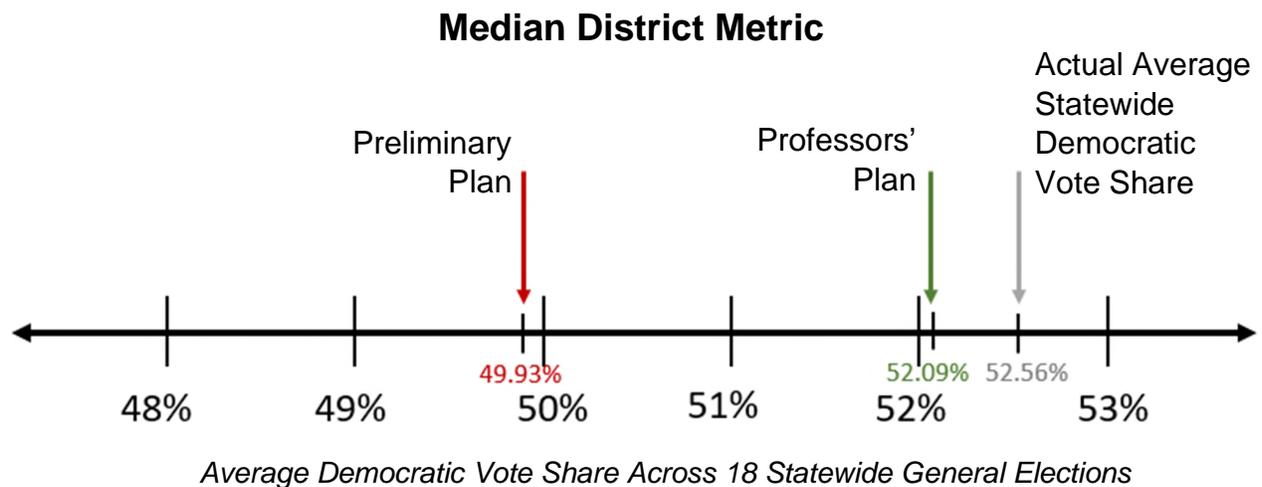


**B. Median District Measure.**

The second partisan fairness metric is what these Exceptions call the “Median District Measure.” Under this metric, one calculates the average *statewide* Democratic vote share across the 18 general elections. One then calculates the average Democratic vote share, across the same 18 general elections, in each *district*. Next, one calculates the median of these district averages (the average of the 25<sup>th</sup> and 26<sup>th</sup> most Democratic, or

Republican, districts). Finally, one identifies the gap between that median district average and the statewide average. The closer the result is to zero, the closer the plan is to the ideal, where about half the districts are more Republican than the state as a whole and half the districts are more Democratic than the state as a whole. The median district in a fair apportionment plan ought to perform similarly to the state as a whole in terms of the proportion of the vote that goes to either party's candidates.

On this metric, too, the Professors' Plan again outperforms the Preliminary Plan, suggesting that the Professors' Plan is fairer to voters of both political parties than the Preliminary Plan. The Preliminary Plan has a Median District Measure of 2.63, while the Professors' Plan has a Median District Measure of 0.47. Both plans favor Republicans, according to this metric. But the magnitude of the pro-Republican skew is almost five times larger in the Preliminary Plan than in the Professors' Plan. This again suggests that the Professors' Plan is a significantly fairer plan. These results can be illustrated graphically as follows:



The Professors' Plan thus better complies with the neutral legal requirements that apply to redistricting while *also* treating Democratic and Republican voters fairly, evenhandedly, and symmetrically. As the Pennsylvania Supreme Court acknowledged in *League of Women Voters I*, poor performance on neutral redistricting criteria is strong evidence that a redistricting plan was designed for “partisan advantage.” 178 A.3d at 818-21 (concluding, after reviewing evidence of the plan’s performance, that it could “not plausibly [have been] directed at drawing equally populous, compact, and contiguous districts”). The strong performance of the Professors’ Plan across all criteria demonstrates that complying with all the neutral legal requirements also can yield partisan fairness.

**V. Legal Requirement: Minority Opportunity.**

Any map the LRC adopts must comply with the Fourteenth Amendment to the U.S. Constitution, which bars both the excessive and unjustified use of race and racial data and the intentional dilution of minority voting strength. *See Shaw v. Reno*, 509 U.S. 630, 639–57 (1993); *Rogers v. Lodge*, 458 U.S. 613, 616–28 (1982). Further, the map must comply with Section 2 of the Voting Rights Act (“VRA”), which prohibits the denial or abridgment of the right to vote on account of race, color, or membership in a language minority group. *Holt I*, 38 A.3d at 738 n.25; *see* 52 U.S.C. § 10301.

The VRA prohibits both intentional and unintentional vote dilution. *Thornburg v. Gingles*, 478 U.S. 30, 43–44 (1986). It provides that, irrespective of discriminatory intent, members of a racial or language-minority group must not “have less opportunity than other members of the electorate” to “nominat[e]” and “elect representatives of their choice,” based on “the totality of circumstances.” 52 U.S.C. § 10301(b). To guard against potential

violations of Section 2 of the VRA, a redistricting plan should provide effective opportunities for minority-group members to nominate and elect their preferred candidates in a number of districts that is “roughly proportional” to the minority group’s share of the state’s citizen voting-age population, or “CVAP.” *League of United Latin Am. Citizens v. Perry (LULAC)*, 548 U.S. 399, 436–38 (2006); see *Johnson v. De Grandy*, 512 U.S. 997, 1000 (1994). A district in which a minority group constitutes less than 50% of the voting-age population but can still nominate and elect minority-preferred candidates “can ... [and] should” count as a minority-effective district when assessing compliance with the Voting Rights Act. *Bartlett v. Strickland*, 556 U.S. 1, 24 (2009) (plurality opinion). Indeed, mandating majority-minority districts with no showing that such districts are necessary to secure minority electoral opportunity can run afoul of the Equal Protection Clause. See *Cooper v. Harris*, 137 S. Ct. 1455, 1469–72 (2017) (holding that the VRA did not require the state to “ramp up” the Black percentage in an effective “crossover” district, where Black voters had scored consistent victories despite lacking an arithmetic majority of the voting-age population).

The 2020 Census shows that 12.7% of the Commonwealth’s population identifies as Black, alone or in combination with other races, and 8.1% of the population identifies as Latino.<sup>7</sup> To determine which districts in the Preliminary Plan and the Professors’ Plan qualify as districts in which Black or Latino voters have an opportunity to nominate and

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<sup>7</sup> U.S. Census America Counts Staff, *Pennsylvania Population Hit 13 Million in 2020* (Aug. 25, 2021), <https://www.census.gov/library/stories/state-by-state/pennsylvania-population-change-between-census-decade.html>.

elect their candidates of choice, the Math/Science Professors' experts applied the model presented in *Computational Redistricting and the Voting Rights Act*, a peer-reviewed article that appeared in the *Election Law Journal* in 2021.<sup>8</sup> The model assesses minority electoral opportunity in a given district by evaluating whether minority-preferred candidates have consistently carried the district in recent statewide primary and general elections.

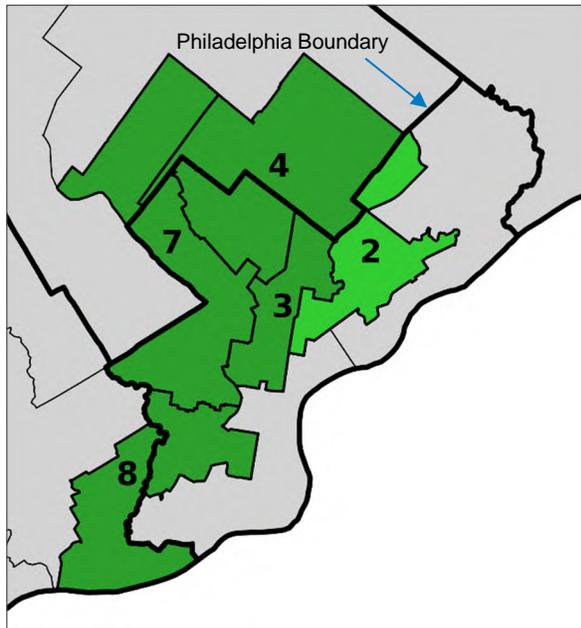
Using this model, the Math/Science Professors' experts determined that the Professors' Plan has seven districts in which Black voters have an opportunity to nominate and elect their candidates of choice (Black-opportunity districts) and two districts in which Latino voters have an opportunity to elect their candidates of choice (Latino-opportunity districts), while the Preliminary Plan has only six Black-opportunity and two Latino-opportunity Senate districts. Because in each map one district provides both Black voters *and* Latino voters with realistic opportunities to nominate and elect their preferred candidates, the total number of distinct minority opportunity Senate districts is eight in the Professors' Plan and only seven in the Preliminary Plan.

Thus, the Professors' Plan has an additional Black-opportunity Senate district compared to the Preliminary Plan. That additional district is located in the Philadelphia area, as shown in the following figure, with the Preliminary Plan on the left and the

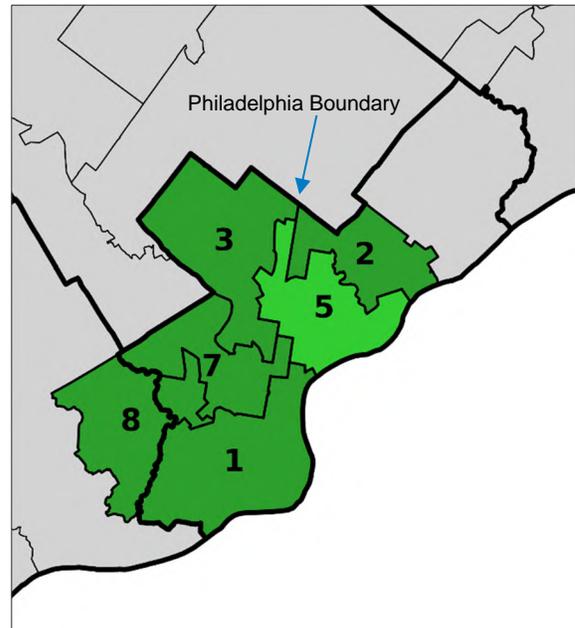
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<sup>8</sup> Amariah Becker, Moon Duchin, Dara Gold & Sam Hirsch, *Computational Redistricting and the Voting Rights Act*, 20 ELECTION L.J. 4 (Dec. 2021), <https://www.liebertpub.com/doi/10.1089/elj.2020.0704>

Professors' Plan on the right (the shapes of the districts in the Professors' Plan follow ward boundaries):



Preliminary Plan



Professors' Plan

The Professors' Plan has six Black opportunity districts in this region, while the Preliminary Plan has only five. The Preliminary Plan thus does not afford the same level of opportunity for minority voters to elect their candidates of choice as does the Professors' Plan.

### CONCLUSION

For the foregoing reasons, the undersigned Math/Science Professors object to the Preliminary Plan and ask the LRC to consider these Exceptions, as well as the Senate plan they are submitting with these Exceptions. The Math/Science Professors ask the LRC either to adopt that plan in full, or to revise the LRC's Preliminary Plan to better comply with the applicable legal requirements.

Dated: January 18, 2022

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# Attachment E

**EXCEPTIONS TO THE PENNSYLVANIA HOUSE REAPPORTIONMENT  
PLAN PRELIMINARILY APPROVED BY THE  
LEGISLATIVE REAPPORTIONMENT COMMISSION**

**January 18, 2022**

**Filed by the Math/Science Professors**

**INTRODUCTION**

The undersigned “Math/Science Professors” are some of Pennsylvania’s leading professors, practitioners, and research scientists in mathematics, statistics, and geography. They are also Pennsylvania voters, and they advocate the use of high-performance computers and cutting-edge algorithmic techniques to thwart gerrymandering, streamline the mapmaking process, and promote fair and effective representation for all Pennsylvanians. As the Pennsylvania Supreme Court itself expressed just four years ago, technology can “aid in the expeditious development of districting maps, the boundaries of which are drawn to scrupulously adhere to neutral criteria.” *League of Women Voters of Pa. v. Commonwealth*, 178 A.3d 737, 817–18 (2018) [*“League of Women Voters I”*]. The Math/Science Professors file these Exceptions to the Legislative Reapportionment Commission’s (LRC) preliminary House plan to demonstrate how computational redistricting can be used to ensure that redistricting plans are scrupulously adhering to neutral criteria to the greatest degree possible when reapportioning the population among the Commonwealth’s 203 House seats.

As set forth below, the Math/Science Professors take a number of exceptions to the House reapportionment plan that received the LRC’s preliminary approval on December 16, 2021 (hereinafter the “Preliminary Plan”). Specifically, the Preliminary Plan:

- contains more population inequality than necessary;
- contains *nine* non-contiguous districts, flouting the requirement of contiguity;
- splits more counties, boroughs, townships, and wards than necessary;
- is less compact than is achievable and appropriate; and
- is less fair to voters from both political parties than the Professors’ Plan.

The Math/Science Professors appreciate that redistricting is a challenging task. It “involves balancing the satisfaction of various criteria, from the mandatory (contiguity) to the discretionary (splitting some cities and counties but not others), and from the quantifiable (equipopulous districts) to the more ineffable (preserving communities of interest).”<sup>1</sup> At some point, each criterion conflicts with others, so improving on one criterion creates “downstream consequences” on the map’s ability to satisfy other criteria.<sup>2</sup>

Here, however, it is quite possible to create a map that outperforms the Preliminary Plan on not just one or two of the relevant metrics or criteria, but *all* or nearly all of them. Concurrently with these Exceptions, the Math/Science Professors are submitting an alternative proposed House reapportionment plan (the “Professors’ Plan”) that illustrates, by comparison, the specific ways in which the Preliminary Plan is lacking.<sup>3</sup> The Professors’ Plan outperforms or ties the Preliminary Plan on virtually *all* 25 metrics. A summary chart is provided below, with explanations of each of the metrics in the following section.

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<sup>1</sup> Emily Rong Zhang, *Bolstering Faith with Facts: Supporting Independent Redistricting Commissions with Redistricting Algorithms*, 109 CAL. L. REV. 987, 1013 (2021); *see also Holt v. 2011 Legislative Reapportionment Comm’n*, 38 A.3d 711, 759 (Pa. 2012).

<sup>2</sup> Zhang, *supra*, at 1013.

<sup>3</sup> The Math/Science Professors are providing the LRC with a block-equivalency file, along with statewide and regional color maps of their proposed plan.

Comparison of the House Plan Preliminarily Approved by the Legislative Reapportionment Commission to the Plan Proposed by the Math/Science Professors

Redistricting Principle	Metric	Commission's Preliminary Plan	Professors' Plan
Population Equality	Maximum Population Deviation	5,950 (9.29%)	5,725 (8.94%)
Contiguity	Non-Contiguous Districts	9	0
Compactness	<i>Mean Polsby-Popper Score</i>	0.34	0.35
	<i>Mean Reock Score</i>	0.38	0.39
	<i>Mean Convex Hull Score</i>	0.76	0.76
	Cut Edges	24,040	23,441
Respect for Political Subdivisions*	Split Counties	45	43
	County Pieces (67 min.)	251	289
	Split Cities	10 (incl. 1 on county lines)	12
	City Pieces (57 min.)	101	114
	Split Towns	0	0
	Town Pieces (1 min.)	1	1
	Split Boroughs	19 (incl. 10 on county lines)	9 (incl. 2 on county lines)
	Borough Pieces (955 min.)	964	963
	Split Townships	45	39
	Township Pieces (1,547 min.)	1,596	1,592
	Split Wards	91	48
	Ward Pieces (4,310 min.)	4,408	4,360
	Split Voting Districts	0	0
	Voting District Pieces (9,178 min.)	9,178	9,178
Minority Electoral Opportunity	<i>Opportunity Dists. for Black Voters</i>	23	23
	<i>Opportunity Dists. for Latino Voters</i>	8	8
	<i>Distinct Minority Opportunity Dists.</i>	29	29
Partisan Fairness	Antimajoritarian Outcomes	5 (4 favoring Republicans; 1 favoring Democrats)	3 (2 favoring Republicans; 1 favoring Democrats)
	Median District Measure	0.96	0.40

**LEGEND:**

*Italics* = larger number is the goal; regular text = smaller number is the goal.

= better performance

= tied performance

= worse performance

\* If a political subdivision is wholly within one district, it has one *piece*; if it is divided between two districts, it has two *pieces*; and so on. Dividing a municipality by drawing a district boundary along a county boundary does not create an additional piece.

## STANDARDS GOVERNING REDISTRICTING

As used in these Exceptions, a *legal requirement* is a redistricting criterion mandated by state or federal law. A *metric* is a precise, quantifiable measure of how well a district, or an entire map, satisfies a legal requirement.

The Pennsylvania Constitution requires that legislative districts be “composed of compact and contiguous territory as nearly equal in population as practicable,” and that “[u]nless absolutely necessary no county, city, incorporated town, borough, township or ward shall be divided” in redistricting. PA. CONST. art. II, § 16. These “multiple imperatives in redistricting . . . must be balanced.” *Holt v. 2011 Legislative Reapportionment Comm’n*, 38 A.3d 711, 759 (Pa. 2012) [hereinafter “*Holt I*”]. The Free and Equal Elections Clause in the Pennsylvania Constitution, PA. CONST. art. I, § 5, also prohibits partisan gerrymandering and “any legislative scheme which has the effect of impermissibly diluting the potency of an individual’s vote for candidates for elective office relative to that of other voters,” *League of Women Voters I*, 178 A.3d at 816, 818. Finally, under federal law, legislative districts also must comply with the U.S. Constitution’s Equal Protection Clause, U.S. CONST. amend. XIV, and the Voting Rights Act, 52 U.S.C. § 10301.

Below, the Math/Science Professors identify their exceptions to the Preliminary Plan based on each legal requirement, explaining the metrics used to conduct this assessment.

## **EXCEPTIONS**

### **I. Legal Requirement: Population Equality**

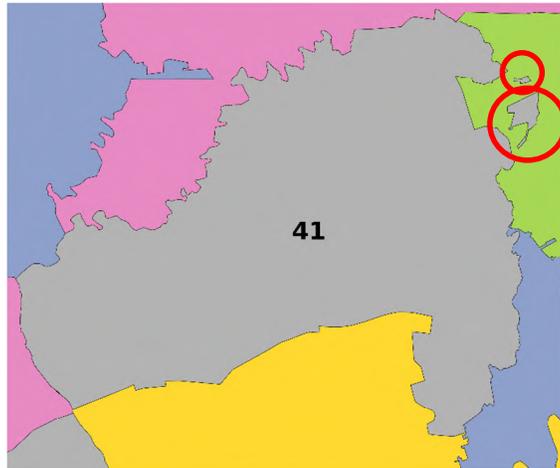
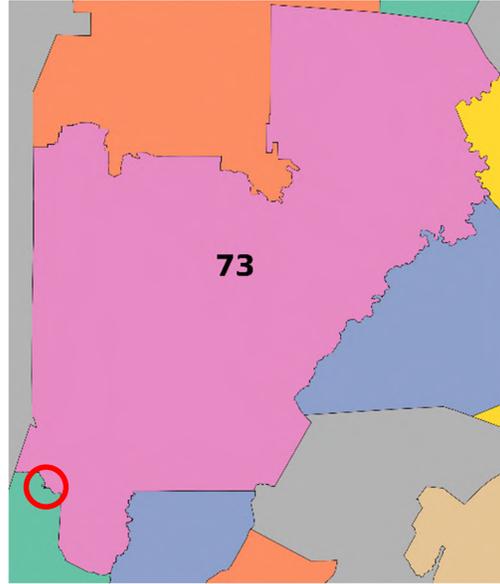
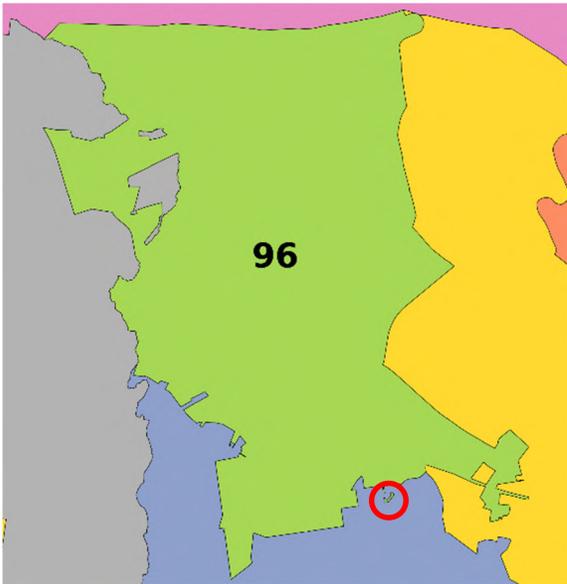
The Preliminary Plan contains greater population deviation than required to achieve the other redistricting principles and thus fails to satisfy the legal requirement of population equality. Pennsylvania's total population, as reflected in the 2020 Census data, is 13,002,700, meaning the ideal population for each of the Commonwealth's 203 House districts is 64,052 or 64,053 persons. The highest-populated district in the Preliminary Plan contains 67,046 persons, while the lowest-populated district contains 61,096 persons. The difference between the two, also called maximum population deviation, is 5,950 persons, or 9.29% of the ideal district population.

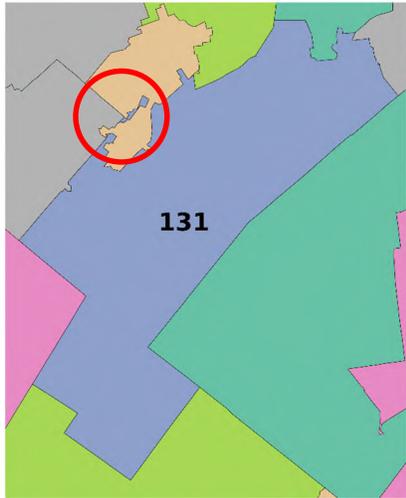
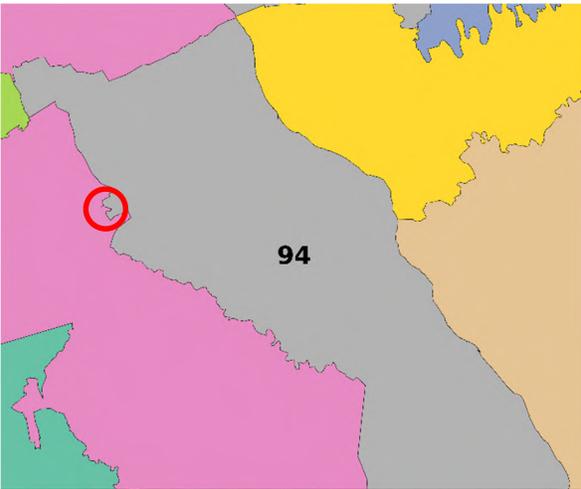
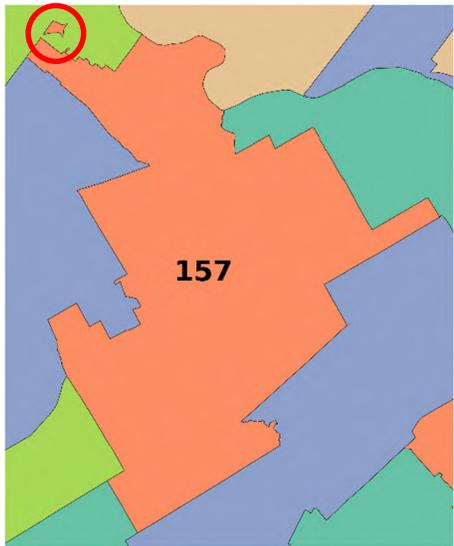
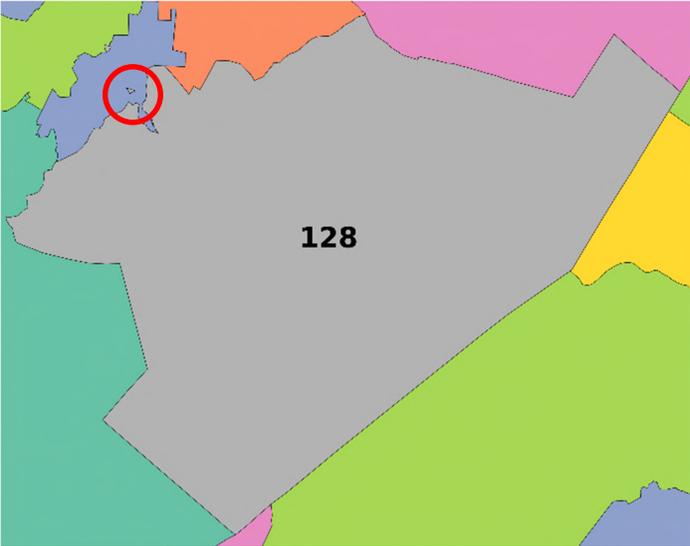
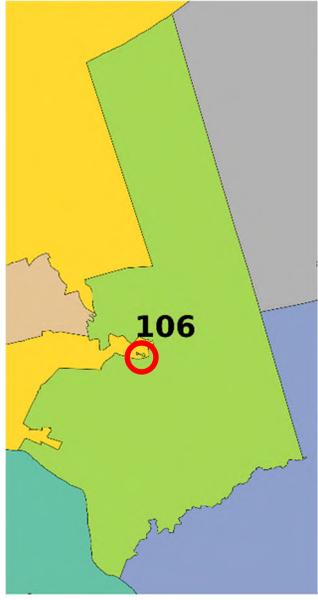
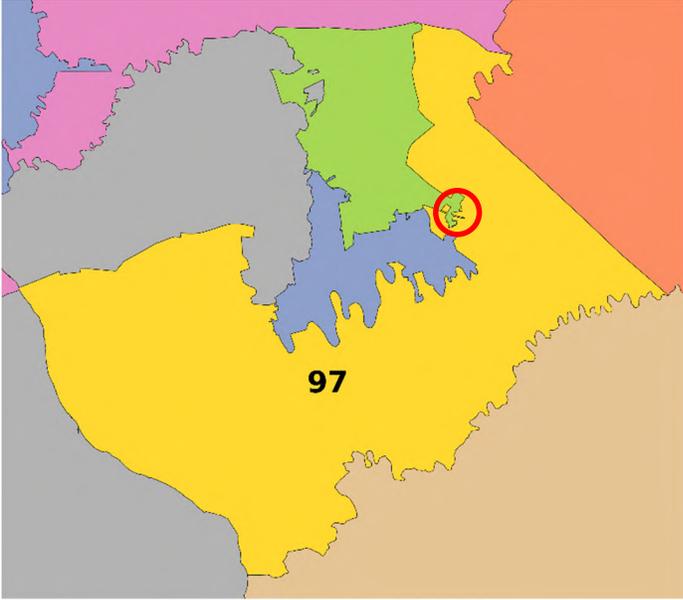
By contrast, the Professors' Plan reduces the maximum population deviation to 5,725, or 8.94%. And, as further explained below, the Professors' Plan is able to reduce the maximum population deviation while also improving compliance with all other legal requirements, thus demonstrating that the 9.29% deviation in the Preliminary Plan is neither necessary nor appropriate to ensure compliance with other legal requirements.

### **II. Legal Requirement: Contiguous Districts**

The Preliminary Plan contains nine non-contiguous districts. The Professors' Plan contains none. Whether the Preliminary Plan's non-contiguous districts were inadvertent errors in Census block assignment, intentional choices, or a reflection of an effort to keep discontinuous municipalities whole, the Professors' Plan shows that no non-contiguous districts are necessary, let alone nine of them. The non-contiguous districts are House

districts 41, 73, 94, 96, 97, 106, 128, 131, and 157. Here are each of these districts in the Preliminary Plan, with the non-contiguous piece or pieces circled in red:





### III. Legal Requirement: Only “Absolutely Necessary” Political Subdivision Splits

#### A. Counties

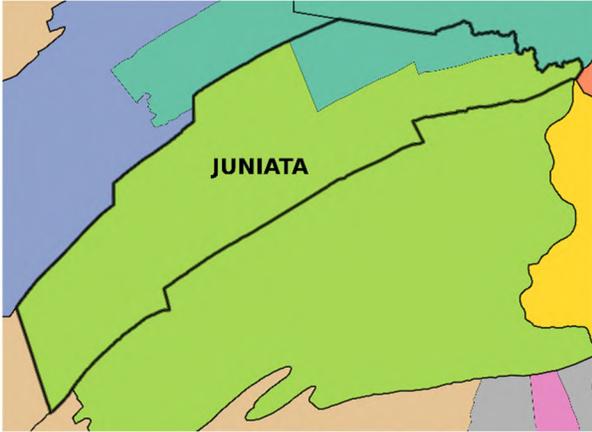
The Preliminary Plan splits more counties than is “absolutely necessary” to achieve other legal requirements. *See* PA. CONST. art. II, § 16. There is no question that some county splits are “absolutely necessary” because at least 35 counties substantially exceed, on their own, the ideal size of a single House district. But the Preliminary Plan splits a total of 45 counties—two more than in the Professors’ Plan. For example, Huntingdon, Juniata, Mifflin, and Union Counties are each split into two pieces in the Preliminary Plan even though the size of their respective populations does not necessitate a split. The splits in the Preliminary Plan compared to the intact counties in the Professors’ Plan are shown below:



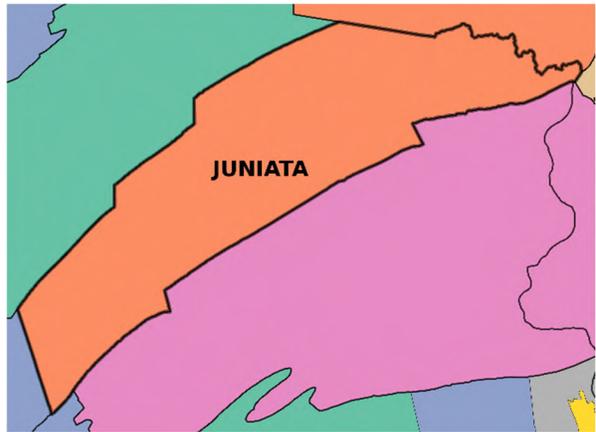
Preliminary Plan



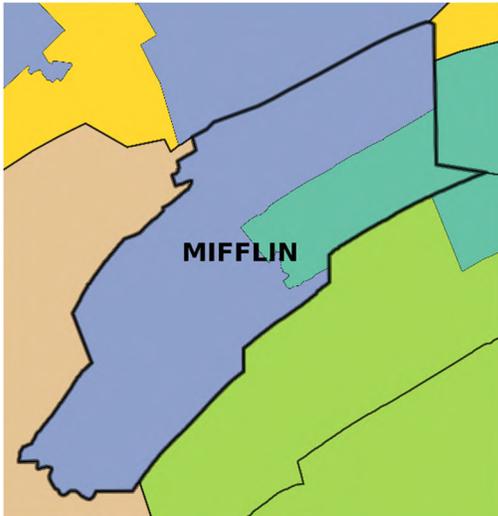
Professors' Plan



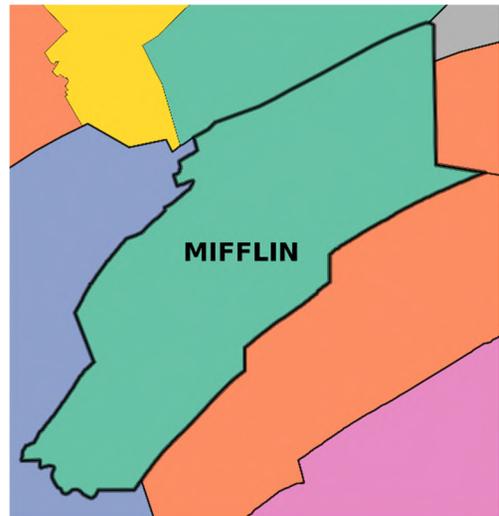
Preliminary Plan



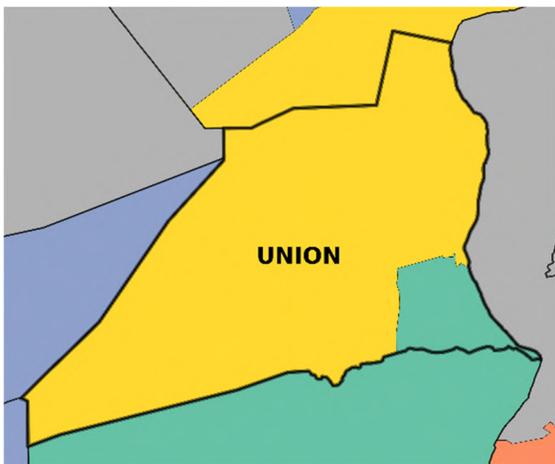
Professors' Plan



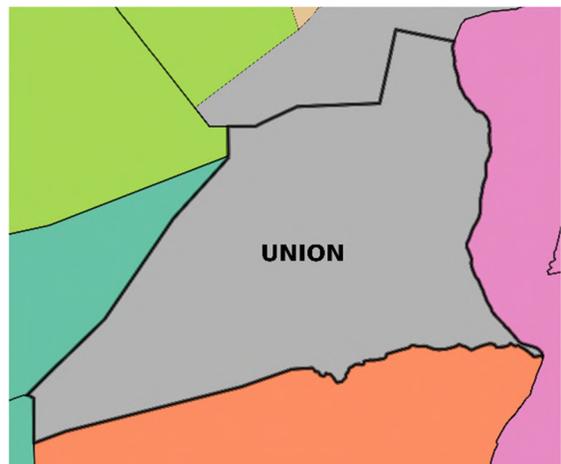
Preliminary Plan



Professors' Plan



Preliminary Plan



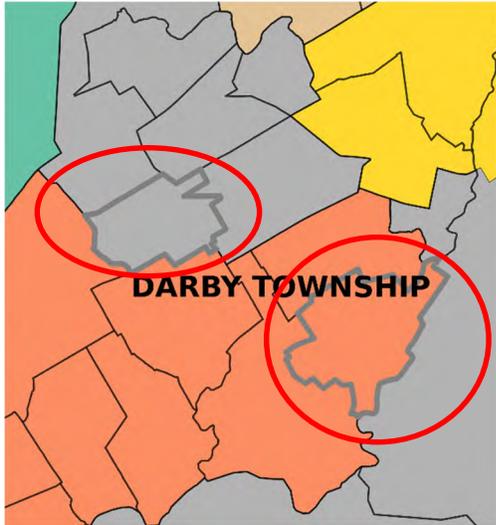
Professors' Plan

## **B. Boroughs**

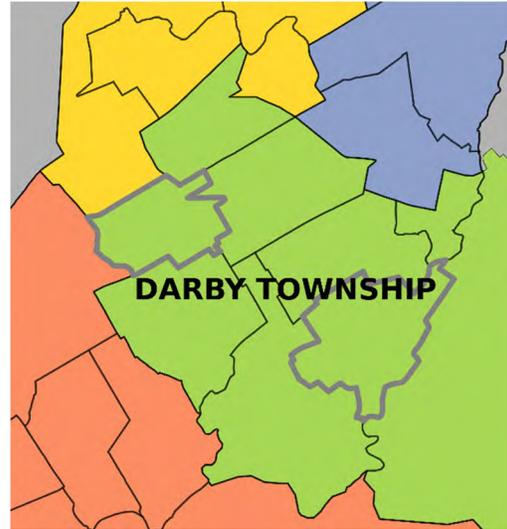
The Preliminary Plan also splits more boroughs than “absolutely necessary” to achieve other legal requirements. *See* PA. CONST. art. II, § 16. The Preliminary Plan splits 19 boroughs, including ten along county lines. The Professors’ Plan splits 9 boroughs, two of which are along county lines. The Professors’ Plan shows that all redistricting requirements can be achieved with no more than nine boroughs divided into different districts, whether along county lines or not. The two plans both have splits in Ashland, Emlenton, Murrysville, and State College, but the Preliminary Plan splits the following boroughs not split in the Professors’ Plan: Aspinwall, Bethel Park, Ellwood City, Falls Creek, McDonald, Mechanicsburg, Moosic, Plum, Seven Springs, Shippensburg, Telford, Trafford, Tunnel Hill, West Mifflin, and West Pittson. The Professors’ Plan thus demonstrates that the number of borough splits found in the Preliminary Plan is not necessary to achieve other redistricting requirements.

## **C. Townships**

Similarly, the Preliminary Plan splits 45 townships compared to the Professors’ Plan’s 39 split townships. Certain townships appear to have been split into separate districts in part because the township itself contains discontinuous pieces. However, the Professors’ Plan shows that it is possible to keep these discontinuous pieces in the same district, unifying the township. For example, below on the left is Darby Township in the Preliminary Plan, with the red circles identifying the discontinuous pieces. On the right is Darby Township in the Professors’ Plan, reflecting that its total population of 9,254 can easily fit within a single House district:

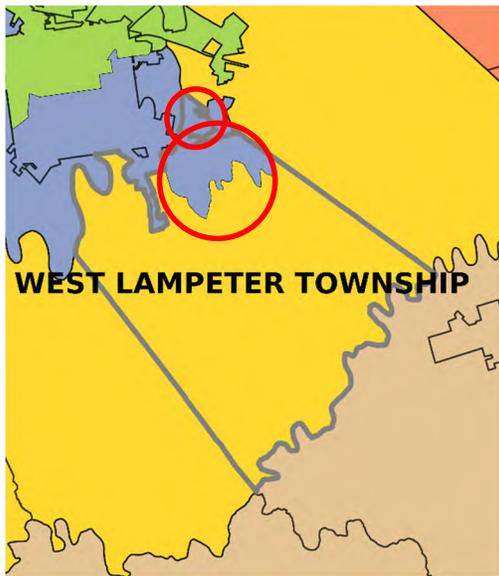


Preliminary Plan

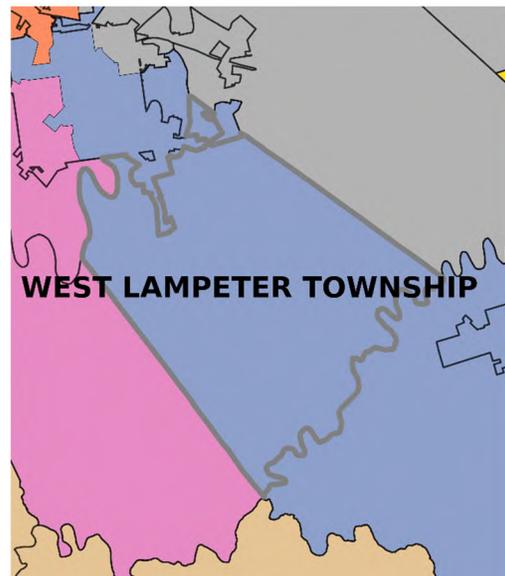


Professors' Plan

As another example, West Lampeter Township is also divided into two districts in the Preliminary Plan, including a discontiguous piece (the pieces not kept with the rest of the township are circled in red), but it is possible to keep the entire township and its population of 17,389 persons intact in one district:



Preliminary Plan



Professors' Plan

#### **D. Wards**

The Preliminary Plan divides 91 wards—**43 more** than the 48 wards that are divided in the Professors’ Plan. This level of ward splits in the Preliminary Plan is not “absolutely necessary,” *see* PA. CONST. art. II, § 16; indeed, the Professors’ Plan demonstrates it is possible to draw a constitutional, fair map that adheres to all legal requirements and splits far fewer wards.

#### **IV. Legal Requirement: Compactness**

The Preliminary Plan also is less compact than it should be, even given the sometimes-irregular geography of the Commonwealth. The Math/Science Professors focus here on four compactness metrics that are commonly used in redistricting: Polsby-Popper, Reock, Convex Hull, and Cut Edges.

For the first three metrics, the Math/Science Professors focus on the mean, or average, compactness score across the 203 districts, because using the mean score weighs each district equally. Polsby-Popper measures a ratio of perimeter squared to area. Reock measures the ratio of the district’s area to that of the smallest possible bounding circle. The Convex Hull metric measures the proportion of the area of the smallest convex shape that contains the district. All these metrics are scaled to values between 0 and 1, with higher values representing more compact plans. Each is also maximized by the circle (which gets a perfect score of 1), but the Polsby-Popper measure tends to prefer districts with smooth-looking boundaries, the Reock measure tends to prefer districts that are less elongated, and the Convex Hull measure tends to prefer districts that do not contain significant indentations or tendrils.

Cut Edges is a compactness measure that applies not to a single district but rather to a redistricting plan as a whole. The Cut Edges metric evaluates the perimeters of all the districts and refers to the number of adjacent units, like Census blocks, that are not placed in the same district. One could say the Cut Edges metric measures the plan’s “scissors” complexity—how much work would have to be done to separate the districts from each other?

As shown in the below table, by all four measures, the Professors’ Plan achieves comparable or greater compactness than in the Preliminary Plan while also achieving fully contiguous districts, lower population deviation, and fewer political-subdivision splits. The Preliminary Plan is therefore not as compact as a House reapportionment plan can and ought to be:

<b>Metric</b>	<b>Preliminary Plan</b>	<b>Professors’ Plan</b>
Mean Polsby-Popper Score <i>(higher is more compact)</i>	0.34	0.35
Mean Reock Score <i>(higher is more compact)</i>	0.38	0.39
Mean Convex Hull Score <i>(higher is more compact)</i>	0.76	0.76
Cut Edges <i>(lower is more compact)</i>	24,040	23,441

**V. Legal Requirement: Partisan Fairness**

Pennsylvania’s Constitution also requires redistricting plans that are free from partisan gerrymandering and that do not unfairly dilute the power of voters affiliated with a particular political party. *See League of Women Voters I*, 178 A.3d at 809. The

Preliminary Plan dilutes the votes of Democratic voters, as demonstrated by the metrics discussed below, both of which draw upon actual election results from 18 statewide general elections between 2012 and 2020.<sup>4</sup>

**A. Antimajoritarian Outcomes**

Partisan fairness operates in part on the premise that the party with a majority of the votes should be the party that usually wins the majority of the seats. The first partisan-fairness metric used in these Exceptions, referred to here as “Antimajoritarian Outcomes,” therefore measures the number of times, across 18 statewide general elections between 2012 and 2020, that one political party’s candidate won the statewide vote, but the other major political party’s candidate carried a majority of House districts in the redistricting plan. For example, the Republican candidate won the U.S. Senate seat in 2016. For that election, a “majoritarian” outcome under the redistricting plan would be one in which the Republican candidate likewise carried at least half of the districts (here, 102 or more), and an “antimajoritarian” outcome would be one in which the successful Republican candidate *lost* in 102 or more districts. If maps are fairly drawn, then this type of antimajoritarian outcome should be rare.

On this metric, the Preliminary Plan favors Republicans. Using the 18 statewide general elections discussed above, the Preliminary Plan generates five antimajoritarian

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<sup>4</sup> Democrats won 13 of the 18 statewide elections (President of the United States, United States Senate, Attorney General, Auditor General, and State Treasurer in 2012; Governor in 2014; Attorney General, Auditor General, and State Treasurer in 2016; United States Senate and Governor in 2018; and President of the United States and Attorney General in 2020). Republicans won the other 5 statewide elections (President of the United States and United States Senate in 2016; Supreme Court Justice in 2017; and Auditor General and State Treasurer in 2020).

outcomes, which translates to 27.8% of the 18 elections. In four of these five instances,<sup>5</sup> the Republican candidate won the majority of the districts in the Preliminary Plan, while the Democratic candidate won the statewide vote. In the remaining instance, involving the 2020 election for State Treasurer, the result was the opposite: The Democratic candidate won the majority of the districts in the Preliminary Plan, yet the Republican candidate won the election. Taken together, this metric suggests that that the Preliminary Plan disproportionately favors Republican voters.

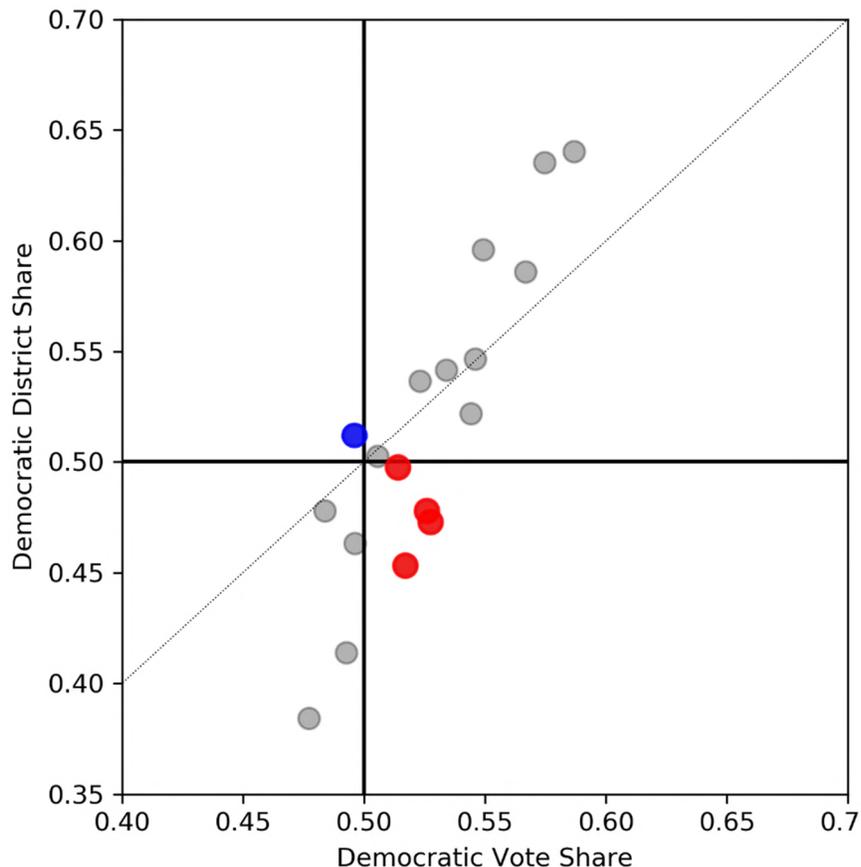
By comparison, the Professors' Plan resulted in just three antimajoritarian outcomes. And these three antimajoritarian outcomes were split more evenly between the political parties: two to one (in the Professors' Plan), instead of four to one (in the Preliminary Plan). In two contests (the 2012 elections for President of the United States and for Auditor General), the result under the Professors' Plan favored Republicans. In one (the 2020 election for State Treasurer), the result under the Professors' Plan favored Democrats. Based on this metric, the Professors' Plan is fairer to voters of both political parties than the Preliminary Plan is and, unlike the Preliminary Plan, does not dilute the votes of Democratic voters.

The Antimajoritarian Outcomes metric applied to the Preliminary Plan can be graphically illustrated as follows:

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<sup>5</sup> These are the 2012 elections for President of the United States and Auditor General and the 2016 elections for Attorney General and Auditor General.

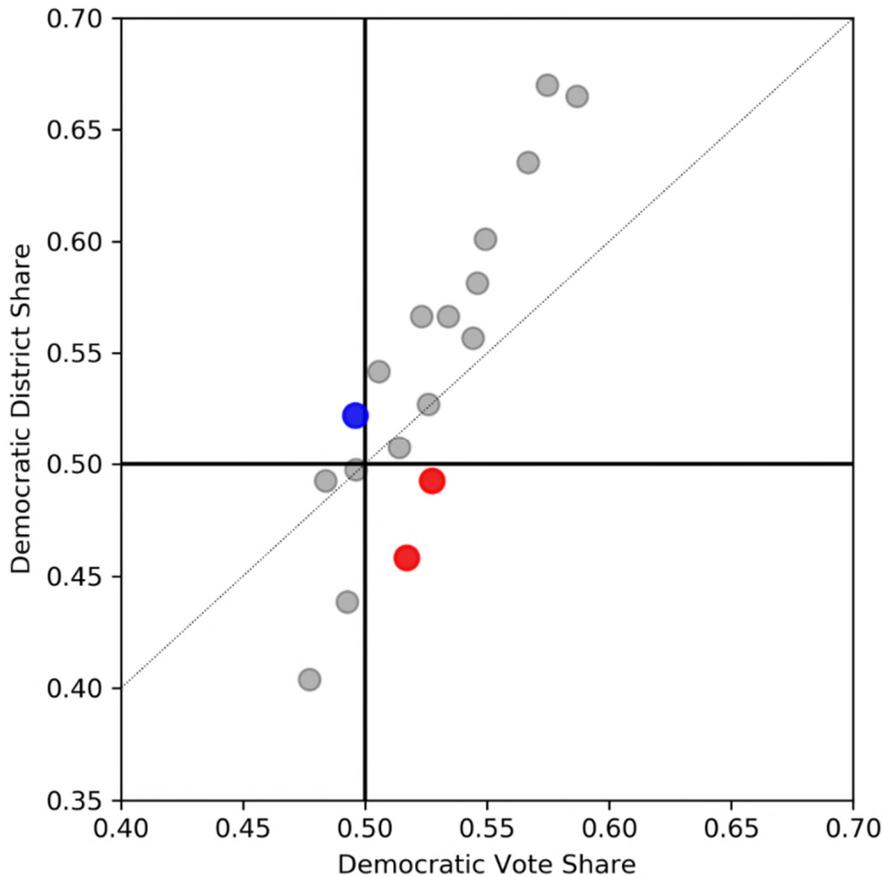
### Preliminary Plan: Antimajoritarian Outcomes Metric



In this scatterplot, the percent share of the statewide major-party vote received by the Democratic candidate is plotted on the horizontal or “x” axis. The percent share of the districts in the Preliminary Plan carried by the Democratic candidate is plotted on the vertical or “y” axis. Each dot represents one of the 18 elections. The gray dots reflect majoritarian outcomes, where the statewide vote share roughly aligns with the statewide district share. The red dots reflect antimajoritarian outcomes that favored Republicans—where the statewide Democratic vote share exceeded 50%, yet the Democratic candidate prevailed in less than 50% of the districts. The blue dot reflects the sole antimajoritarian outcome in the Preliminary Plan that went the other way, favoring Democrats.

By contrast, here is the scatterplot for the Professors’ Plan, reflecting just three antimajoritarian outcomes across 18 elections, two favoring Republicans (the red dots) and one favoring Democrats (the blue dot):

**Professors’ Plan: Antimajoritarian Outcomes Metric**

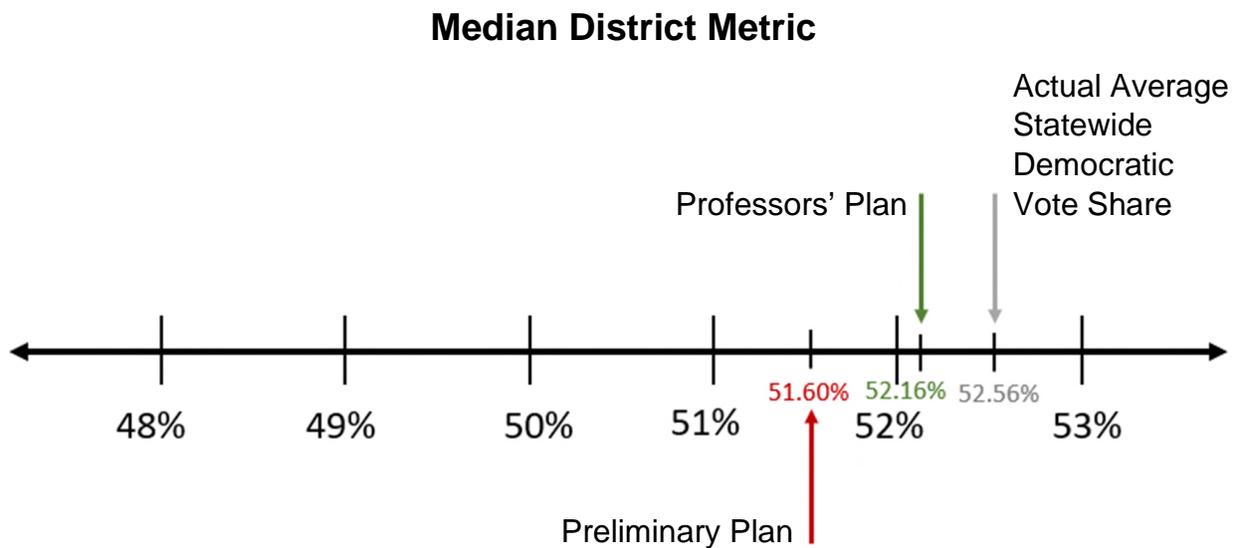


**B. Median District Measure**

The second partisan fairness metric is what these Exceptions call the “Median District Measure.” Under this metric, one calculates the average *statewide* Democratic vote share across the 18 general elections. One then calculates the average Democratic vote share, across the same 18 general elections, in each *district*. Next, one identifies the median of these district averages (the district average for the 102<sup>nd</sup> most Republican, or most Democratic, district). Finally, one identifies the gap between that median district

average and the statewide average. The closer the result is to zero, the closer the plan is to the ideal, where about half the districts are more Republican than the state as a whole and half the districts are more Democratic than the state as a whole. The median district in a fair apportionment plan ought to perform similarly to the state as a whole in terms of the proportion of the vote that goes to either party's candidates.

On this metric, too, the Professors' Plan again outperforms the Preliminary Plan, suggesting that the Professors' Plan is fairer to voters of both political parties than the Preliminary Plan. The Preliminary Plan has a Median District Measure of 0.96, while the Professors' Plan has a superior Median District Measure of 0.40. Both plans favor Republicans under this metric, but the magnitude of the pro-Republican skew is more than twice as large in the Preliminary Plan as in the Professors' Plan. This again suggests that the Professors' Plan is a fairer plan. These results can be illustrated graphically as follows:



*Average Democratic Vote Share Across 18 Statewide General Elections*

The Professors' Plan thus better complies with all the neutral legal requirements that apply to redistricting while *also* treating Democratic and Republican voters fairly, evenhandedly, and symmetrically. As the Pennsylvania Supreme Court acknowledged in *League of Women Voters I*, poor performance on neutral redistricting criteria is strong evidence that a redistricting plan was designed for “partisan advantage.” 178 A.3d at 818–21 (concluding, after reviewing evidence of the plan’s performance, that it could “not plausibly [have been] directed at drawing equally populous, compact, and contiguous districts”). The strong performance of the Professors’ Plan across all criteria demonstrates that complying with all the neutral legal requirements also can yield partisan fairness.

#### **VI. Legal Requirement: Minority Opportunity.**

Any map the LRC adopts must comply with the Fourteenth Amendment to the U.S. Constitution, which bars both the excessive and unjustified use of race and racial data and the intentional dilution of minority voting strength. *See Shaw v. Reno*, 509 U.S. 630, 639–57 (1993); *Rogers v. Lodge*, 458 U.S. 613, 616–28 (1982). Further, the map must comply with Section 2 of the Voting Rights Act (“VRA”), which prohibits the denial or abridgment of the right to vote on account of race, color, or membership in a language minority group. *Holt I*, 38 A.3d at 738 n.25; *see* 52 U.S.C. § 10301.

The VRA prohibits both intentional and unintentional vote dilution. *Thornburg v. Gingles*, 478 U.S. 30, 43–44 (1986). It provides that, irrespective of discriminatory intent, members of a racial or language-minority group must not “have less opportunity than other members of the electorate” to “nominat[e]” and “elect representatives of their choice,” based on “the totality of circumstances.” 52 U.S.C. § 10301(b). To guard against potential

violations of Section 2 of the VRA, a redistricting plan should provide effective opportunities for minority-group members to nominate and elect their preferred candidates in a number of districts that is “roughly proportional” to the minority group’s share of the state’s citizen voting-age population, or “CVAP.” *League of United Latin Am. Citizens v. Perry (LULAC)*, 548 U.S. 399, 436–38 (2006); *see Johnson v. De Grandy*, 512 U.S. 997, 1000 (1994). A district in which a minority group constitutes less than 50% of the voting-age population but can still nominate and elect minority-preferred candidates “can ... [and] should” count as a minority-effective district when assessing compliance with the Voting Rights Act. *Bartlett v. Strickland*, 556 U.S. 1, 24 (2009) (plurality opinion). Indeed, mandating majority-minority districts with no showing that such districts are necessary to secure minority electoral opportunity can run afoul of the Equal Protection Clause. *See Cooper v. Harris*, 137 S. Ct. 1455, 1469–72 (2017) (holding that the VRA did not require the state to “ramp up” the Black percentage in an effective “crossover” district, where Black voters had scored consistent victories despite lacking an arithmetic majority of the voting-age population).

The 2020 Census shows that 12.7% of the Commonwealth’s population identifies as Black, alone or in combination with other races, and 8.1% of the population identifies as Latino.<sup>6</sup> To determine which districts in the Preliminary Plan and the Professors’ Plan qualify as Black or Latino opportunity districts, the Math/Science Professors’ experts

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<sup>6</sup> U.S. Census America Counts Staff, *Pennsylvania Population Hit 13 Million in 2020* (Aug. 25, 2021), <https://www.census.gov/library/stories/state-by-state/pennsylvania-population-change-between-census-decade.html>.

applied the model presented in *Computational Redistricting and the Voting Rights Act*, a peer-reviewed article that appeared in the *Election Law Journal* in 2021.<sup>7</sup> The model assesses minority electoral opportunity in a given district by evaluating whether minority-preferred candidates have consistently carried the district in recent statewide primary and general elections. Using this model, the Math/Science Professors' experts determined that both the Preliminary Plan and the Professors' Plan have 23 Black-opportunity and 8 Latino-opportunity House districts. Because in each map two districts provide both Black voters *and* Latino voters with realistic opportunities to nominate and elect their preferred candidates, the total number of distinct minority opportunity House districts is 29 in both plans.

The Preliminary Plan and the Professors' Plan are thus comparable under this minority-opportunity metric. But it should be noted that the Preliminary Plan achieves 29 distinct minority opportunity districts while *also* achieving comparable or better performance on all the other legal requirements. Put another way, a House reapportionment plan can have 29 distinct minority opportunity districts without sacrificing compliance with any other legal requirement. As such, there is no reason to accept any apportionment plan that has fewer than 29 such districts.

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<sup>7</sup> Amariah Becker, Moon Duchin, Dara Gold & Sam Hirsch, *Computational Redistricting and the Voting Rights Act*, 20 ELECTION L.J. 4 (Dec. 2021), <https://www.liebertpub.com/doi/10.1089/elj.2020.0704>

## CONCLUSION

For the foregoing reasons, the undersigned Math/Science Professors object to the Preliminary Plan and ask the LRC to consider these Exceptions, as well as the House plan they are submitting with these Exceptions. The Math/Science Professors ask the LRC either to adopt that plan in full, or to revise the LRC's Preliminary Plan to better comply with the applicable legal requirements.

Dated: January 18, 2022

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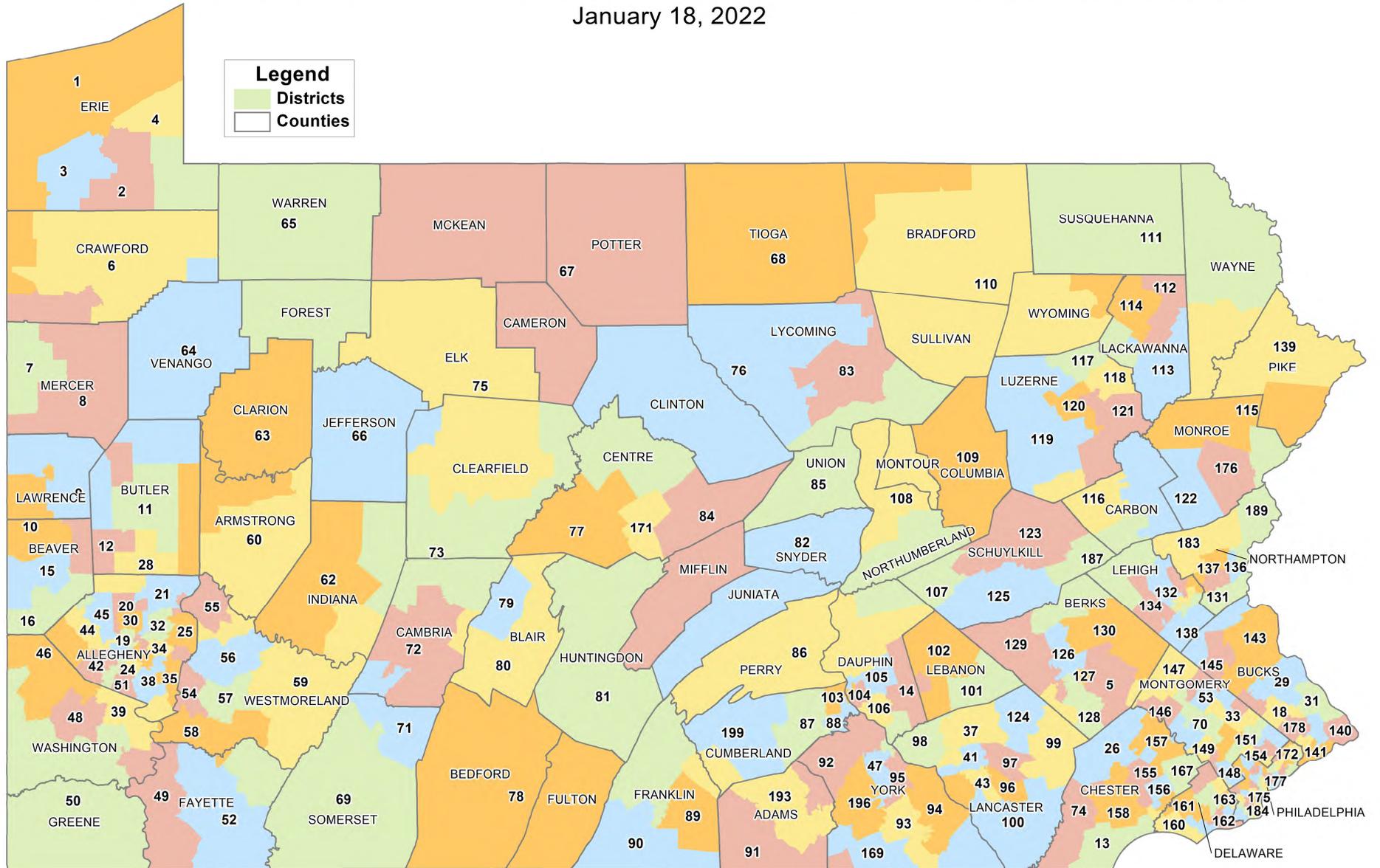
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# Proposed Pennsylvania House Map

Submitted to the Legislative Reapportionment Commission by the Math/Science Professors

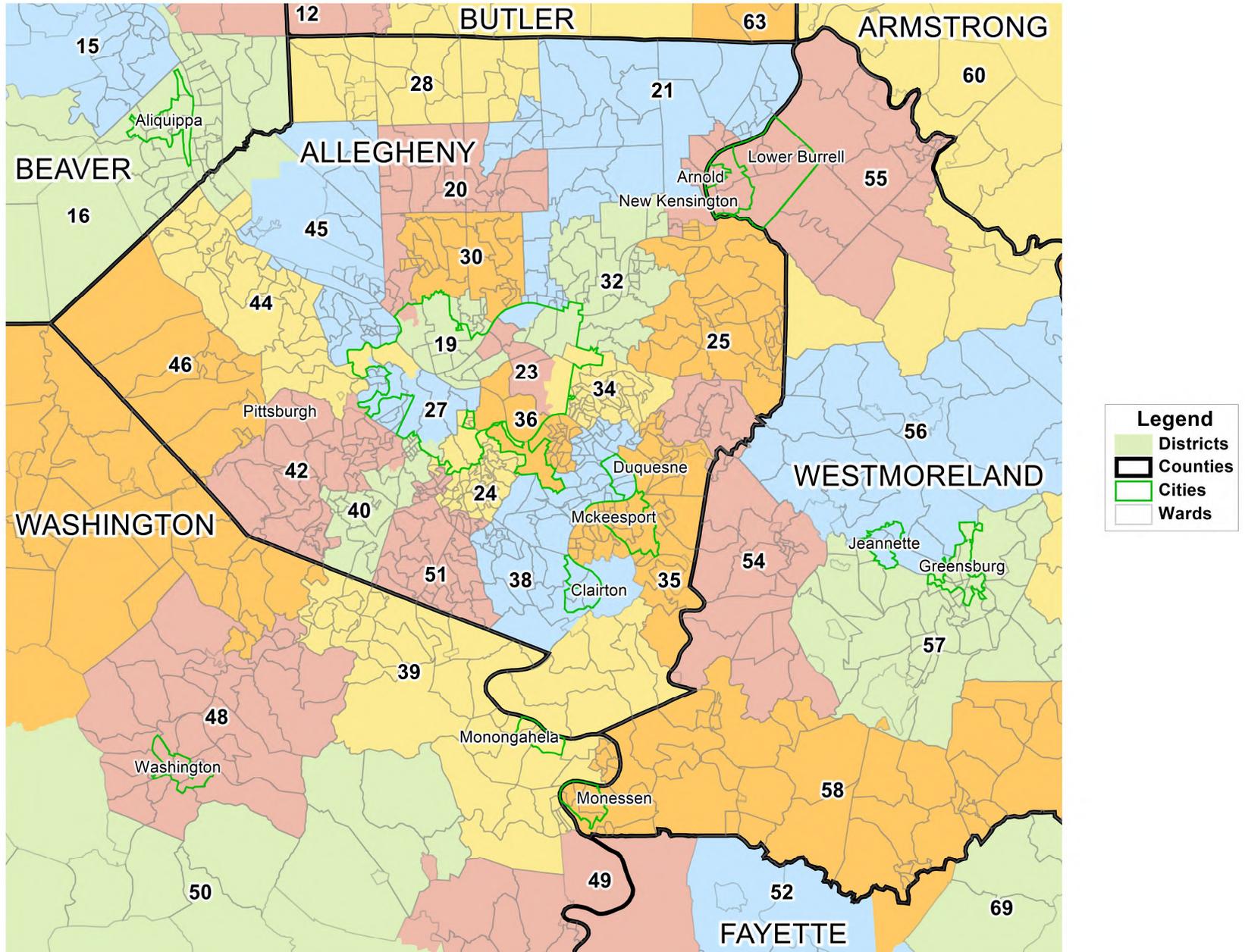
January 18, 2022



# Proposed Pennsylvania House Map: Southwest Region

Submitted to the Legislative Reapportionment Commission by the Math/Science Professors

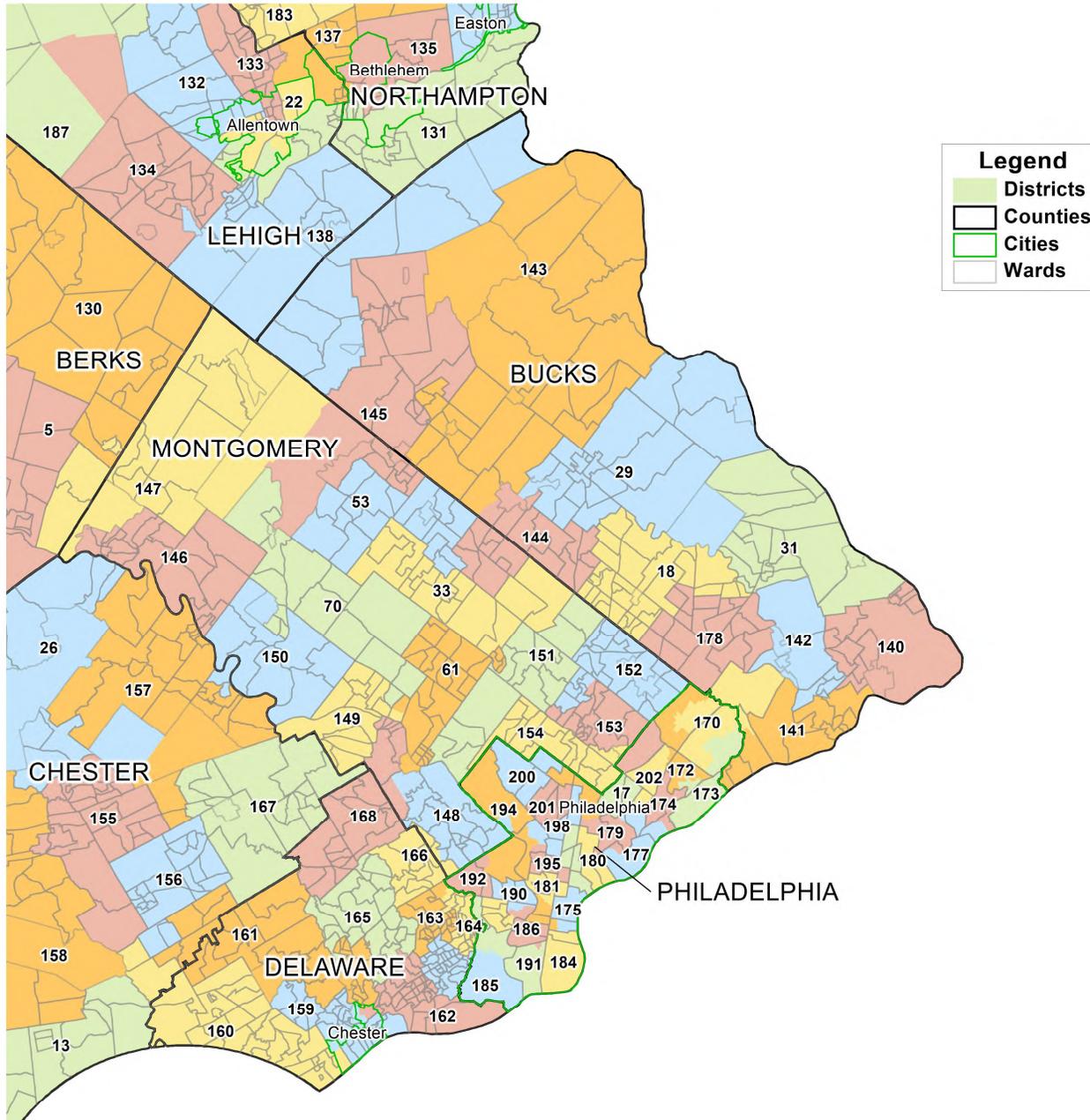
January 18, 2022



# Proposed Pennsylvania House Map: Southeast Region

Submitted to the Legislative Reapportionment Commission by the Math/Science Professors

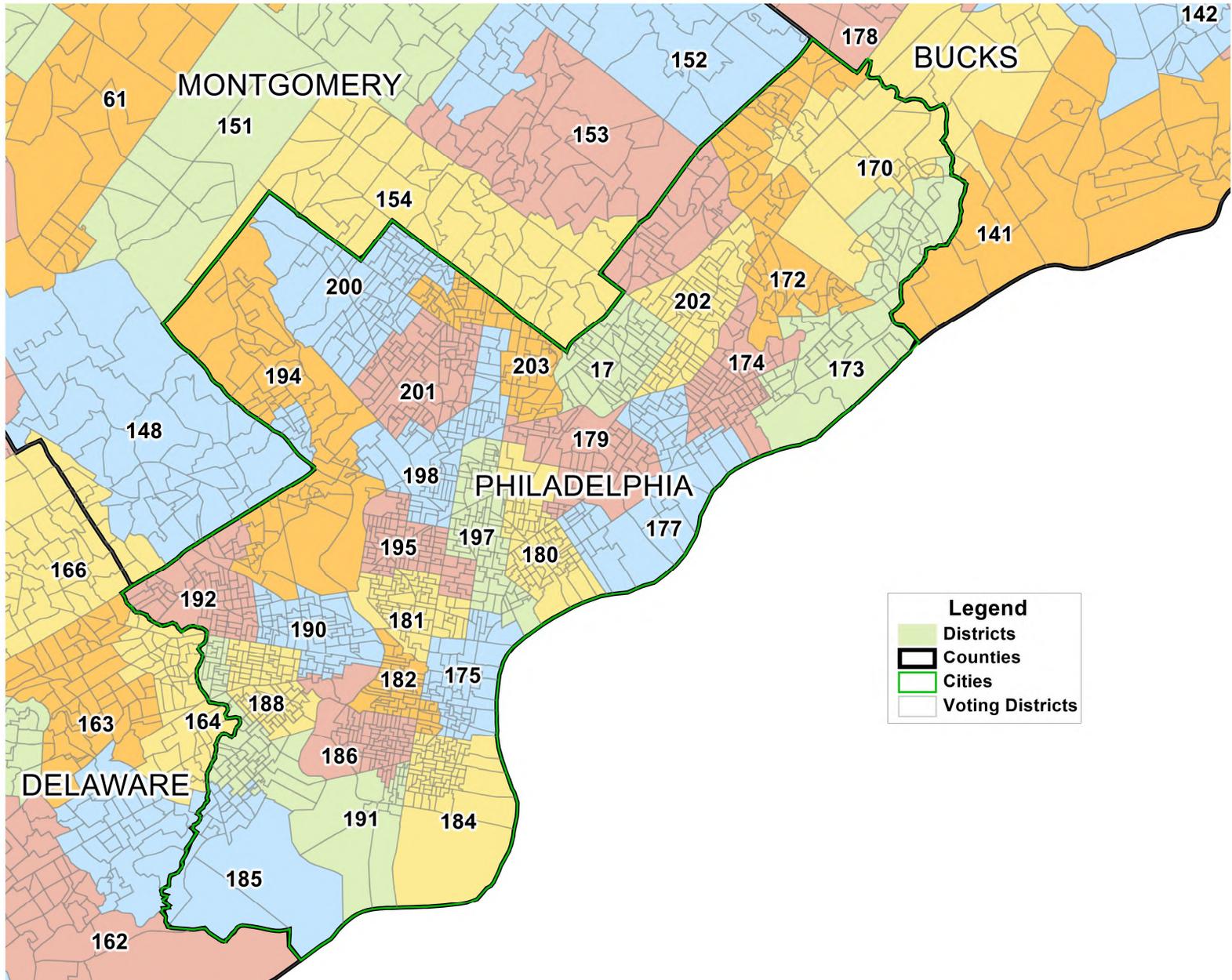
January 18, 2022



# Proposed Pennsylvania House Map: Philadelphia

Submitted to the Legislative Reapportionment Commission by the Math/Science Professors

January 18, 2022



# Attachment F

Pennsylvania ▾

1 250,243 -9,811

View Only

County Precinct

City Block

Tools ▾

Map

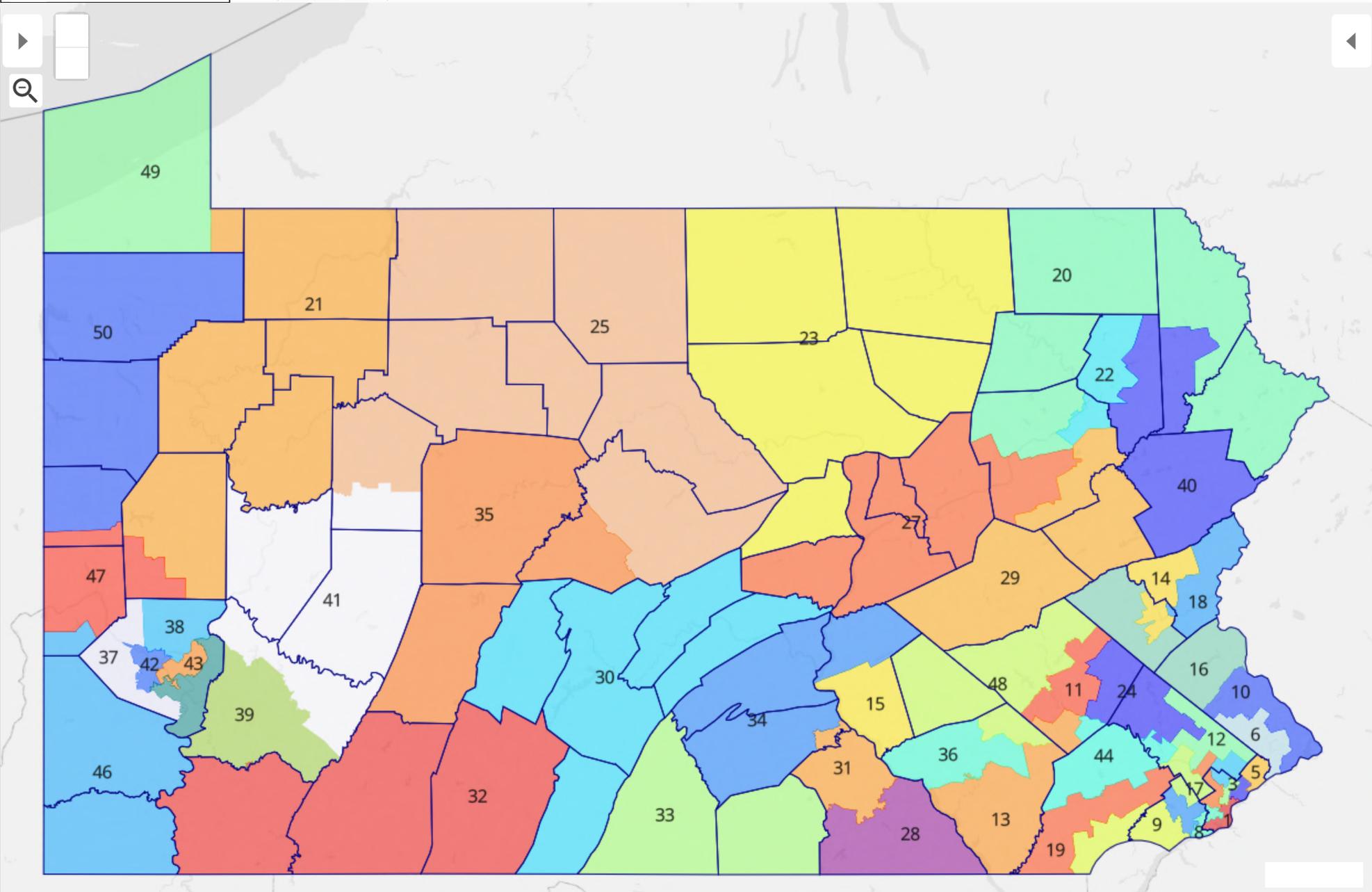
Statistics

Analyze

Compare

Advanced

⚙️



**The Statewide population = 13,002,700**

**The Average population per district = 260,054**

<b>DISTRICT</b>	<b>POPULATION</b>	<b>DEVIATION</b>
1	250,243	-9,811 (3.77%)
2	260,277	+223 (0.09%)
3	263,993	+3,939 (1.51%)
4	268,248	+8,194 (3.15%)
5	267,205	+7,151 (2.75%)
6	269,699	+9,645 (3.71%)
7	263,697	+3,643 (1.40%)
8	256,726	-3,328 (1.28%)
9	252,137	-7,917 (3.04%)
10	269,925	+9,871 (3.80%)
11	263,931	+3,877 (1.49%)
12	263,688	+3,634 (1.40%)
13	262,878	+2,824 (1.09%)
14	267,292	+7,238 (2.78%)
15	260,164	+110 (0.04%)
16	265,055	+5,001 (1.92%)
17	258,156	-1,898 (0.73%)
18	263,814	+3,760 (1.45%)
19	253,763	-6,291 (2.42%)
20	269,942	+9,888 (3.80%)
21	258,167	-1,887 (0.73%)
22	251,084	-8,970 (3.45%)
23	263,353	+3,299 (1.27%)
24	262,737	+2,683 (1.03%)
25	265,569	+5,515 (2.12%)
26	255,232	-4,822 (1.85%)
27	260,244	+190 (0.07%)
28	262,475	+2,421 (0.93%)
29	264,845	+4,791 (1.84%)
30	249,843	-10,211 (3.93%)
31	259,208	-846 (0.33%)
32	252,099	-7,955 (3.06%)

33	260,301	+247 (0.09%)
34	266,501	+6,447 (2.48%)
35	260,141	+87 (0.03%)
36	269,182	+9,128 (3.51%)
37	248,858	-11,196 (4.31%)
38	251,647	-8,407 (3.23%)
39	261,704	+1,650 (0.63%)
40	256,698	-3,356 (1.29%)
41	254,701	-5,353 (2.06%)
42	250,536	-9,518 (3.66%)
43	251,870	-8,184 (3.15%)
44	264,849	+4,795 (1.84%)
45	249,661	-10,393 (4.00%)
46	250,466	-9,588 (3.69%)
47	256,105	-3,949 (1.52%)
48	269,151	+9,097 (3.50%)
49	261,100	+1,046 (0.40%)
50	263,540	+3,486 (1.34%)

LEGISLATIVE DATA PROCESSING CENTER  
COMPOSITE LISTING  
OF  
STATE SENATE DISTRICTS

<u>DISTRICT NUMBER</u>	<u>DESCRIPTION</u>
Dist. 01	<p>PHILADELPHIA County. Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 01, 02, 05, 08, 18, 25 [PART, Divisions 01, 04 and 07], 26 [PART, Divisions 01, 02, 03, 20 and 23], 30, 31, 39 and 40 [PART, Divisions 30, 38 and 40]). Total population: 250,243</p>
Dist. 02	<p>PHILADELPHIA County. Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 07, 19, 23, 25 [PART, Divisions 02, 03, 05, 06, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 and 24], 33, 35 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 12, 14, 15, 16, 17, 22, 23, 24, 26 and 32], 45, 53, 54, 55 and 62). Total population: 260,277</p>
Dist. 03	<p>PHILADELPHIA County. Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 11, 13, 14, 15, 16, 20, 29, 32, 35 [PART, Divisions 09, 10, 11, 13, 18, 19, 20, 21, 25, 27, 28, 29, 30 and 31], 37, 42, 43, 47, 49 and 61). Total population: 263,993</p>
Dist. 04	<p>MONTGOMERY and PHILADELPHIA Counties. Part of MONTGOMERY County consisting of the TOWNSHIPS of Abington, Cheltenham and Springfield and the BOROUGHS of Jenkintown and Rockledge and Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 09, 10, 12 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 09, 10, 12, 13, 14, 18, 19, 20 and 21], 17, 22, 50 and 59). Total population: 268,248</p>

STATE SENATE DISTRICTS

- Dist. 05 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 41, 56, 57, 58, 63, 64, 65 and 66).  
Total population: 267,205
- Dist. 06 BUCKS County.  
Part of BUCKS County consisting of the TOWNSHIPS of Bensalem, Lower Southampton, Middletown, Northampton, Upper Southampton, Warminster, Warrington, Warwick and Wrightstown and the BOROUGHS of Hulmeville, Ivyland, Langhorne, Langhorne Manor and Penndel.  
Total population: 269,699
- Dist. 07 MONTGOMERY and PHILADELPHIA Counties.  
Part of MONTGOMERY County consisting of the TOWNSHIP of Whitemarsh and the BOROUGH of Conshohocken and Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 04, 06, 12 [PART, Divisions 08, 11, 15, 16, 17, 22, 23 and 24], 21, 24, 27 [PART, Divisions 03, 06, 11, 13 and 18], 28, 34, 38, 44, 46 [PART, Divisions 07, 19, 22 and 23], 52 and 60 [PART, Divisions 01, 02, 03, 04, 05, 08, 09, 12, 13, 14, 15, 16 and 23])).  
Total population: 263,697

STATE SENATE DISTRICTS

Dist. 08      DELAWARE and PHILADELPHIA Counties.  
Part of DELAWARE County consisting of the TOWNSHIPS of Darby and Tinicum and the BOROUGHS of Collingdale, Colwyn, Darby, Folcroft, Norwood, Sharon Hill and Yeadon and Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 03, 26 [PART, Divisions 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21 and 22], 27 [PART, Divisions 01, 02, 04, 05, 07, 08, 09, 10, 12, 14, 15, 16, 17, 19, 20, 21, 22 and 23], 36, 40 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50 and 51], 46 [PART, Divisions 01, 02, 03, 04, 05, 06, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20 and 21], 48, 51 and 60 [PART, Divisions 06, 07, 10, 11, 17, 18, 19, 20, 21 and 22])).  
Total population: 256,726

Dist. 09      CHESTER and DELAWARE Counties.  
Part of CHESTER County consisting of the TOWNSHIPS of Birmingham, East Marlborough, Franklin, Kennett, London Britain, London Grove, New Garden, Pennsbury, Pocopson, Thornbury and Westtown and the BOROUGHS of Avondale, Kennett Square and West Grove and Part of DELAWARE County consisting of the CITY of Chester and the TOWNSHIPS of Aston, Bethel, Chadds Ford, Chester, Concord, Edgmont, Lower Chichester, Middletown, Nether Providence, Thornbury and Upper Chichester and the BOROUGHS of Brookhaven, Chester Heights, Eddystone, Marcus Hook, Parkside, Rose Valley, Trainer and Upland.  
Total population: 252,137

Dist. 10      BUCKS County.  
Part of BUCKS County consisting of the TOWNSHIPS of Bristol, Buckingham, Doylestown, Falls, Lower Makefield, New Britain, Newtown, Plumstead, Solebury and Upper Makefield and the BOROUGHS of Bristol, Chalfont, Doylestown, Morrisville, New Britain, New Hope, Newtown, Tullytown and Yardley.  
Total population: 269,925

STATE SENATE DISTRICTS

- Dist. 11    BERKS County.  
Part of BERKS County consisting of the CITY of Reading and the TOWNSHIPS of Alsace, Cumru, Exeter, Lower Alsace, Maxatawny, Muhlenberg, Oley, Richmond, Ruscombmanor and Spring and the BOROUGHS of Adamstown (Berks County Portion), Fleetwood, Kenhorst, Kutztown, Laureldale, Lyons, Mohnton, Mount Penn, Shillington, Sinking Spring, St. Lawrence, West Reading and Wyomissing.  
Total population: 263,931
- Dist. 12    MONTGOMERY County.  
Part of MONTGOMERY County consisting of the TOWNSHIPS of Franconia, Hatfield, Horsham, Lower Gwynedd, Lower Moreland, Montgomery, Plymouth, Salford, Upper Dublin, Upper Moreland, Whitpain and Worcester and the BOROUGHS of Ambler, Bryn Athyn, Hatboro, Hatfield, Lansdale, Souderton and Telford (Montgomery County Portion).  
Total population: 263,688
- Dist. 13    BERKS and LANCASTER Counties.  
Part of BERKS County consisting of the TOWNSHIPS of Brecknock, Caernarvon and Robeson and the BOROUGH of New Morgan and Part of LANCASTER County consisting of the CITY of Lancaster and the TOWNSHIPS of Bart, Caernarvon, Colerain, Conestoga, Drumore, East Drumore, East Earl, East Lampeter, Eden, Fulton, Lancaster, Leacock, Little Britain, Manor, Martic, Paradise, Pequea, Providence, Sadsbury, Salisbury, Strasburg, Upper Leacock and West Lampeter and the BOROUGHS of Christiana, Millersville, Quarryville, Strasburg and Terre Hill.  
Total population: 262,878

STATE SENATE DISTRICTS

- Dist. 14    LEHIGH and NORTHAMPTON Counties.  
Part of LEHIGH County consisting of the CITY of Allentown (PART, Wards 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 14, 15, 16, 17 and 19) and the TOWNSHIPS of Hanover, Salisbury, South Whitehall (PART, Districts 01, 02, 04, 05 and 07) and Whitehall and the BOROUGHS of Catasauqua, Coplay, Emmaus and Fountain Hill and Part of NORTHAMPTON County consisting of the TOWNSHIPS of Allen, Bushkill, East Allen, Hanover, Lehigh and Moore and the BOROUGHS of Bath, Chapman, North Catasauqua, Northampton and Walnutport.  
Total population: 267,292
- Dist. 15    DAUPHIN County.  
Part of DAUPHIN County consisting of the CITY of Harrisburg and the TOWNSHIPS of Conewago, Derry, East Hanover, Londonderry, Lower Paxton, Lower Swatara, Middle Paxton, South Hanover, Susquehanna, Swatara and West Hanover and the BOROUGHS of Dauphin, Highspire, Hummelstown, Middletown, Paxtang, Penbrook, Royalton and Steelton.  
Total population: 260,164
- Dist. 16    BUCKS and LEHIGH Counties.  
Part of BUCKS County consisting of the TOWNSHIPS of Bedminster, Bridgeton, Durham, East Rockhill, Haycock, Hilltown, Milford, Nockamixon, Richland, Springfield, Tinicum and West Rockhill and the BOROUGHS of Dublin, Perkasio, Quakertown, Richlandtown, Riegelsville, Sellersville, Silverdale, Telford (Bucks County Portion) and Trumbauersville and Part of LEHIGH County consisting of the CITY of Allentown (PART, Wards 13 and 18) and the TOWNSHIPS of Heidelberg, Lower Macungie, Lower Milford, Lowhill, Lynn, North Whitehall, South Whitehall (PART, Districts 03, 06 and 08), Upper Macungie, Upper Milford, Upper Saucon, Washington and Weisenberg and the BOROUGHS of Alburtis, Coopersburg, Macungie and Slatington.  
Total population: 265,055

STATE SENATE DISTRICTS

- Dist. 17     DELAWARE and MONTGOMERY Counties.  
Part of DELAWARE County consisting of the TOWNSHIPS of Haverford and Radnor and Part of MONTGOMERY County consisting of the TOWNSHIPS of East Norriton, Lower Merion, Upper Merion and West Norriton and the BOROUGHs of Bridgeport, Narberth, Norristown and West Conshohocken.  
Total population: 258,156
- Dist. 18     LEHIGH and NORTHAMPTON Counties.  
Part of LEHIGH County consisting of the CITY of Bethlehem (Lehigh County Portion) and Part of NORTHAMPTON County consisting of the CITIES of Bethlehem (Northampton County Portion) and Easton and the TOWNSHIPS of Bethlehem, Forks, Lower Mount Bethel, Lower Nazareth, Lower Saucon, Palmer, Plainfield, Upper Mount Bethel, Upper Nazareth, Washington and Williams and the BOROUGHs of Bangor, East Bangor, Freemansburg, Glendon, Hellertown, Nazareth, Pen Argyl, Portland, Roseto, Stockertown, Tatamy, West Easton, Wilson and Wind Gap.  
Total population: 263,814
- Dist. 19     CHESTER County.  
Part of CHESTER County consisting of the CITY of Coatesville and the TOWNSHIPS of East Bradford, East Caln, East Fallowfield, East Goshen, East Nottingham, Easttown, Elk, Highland, Londonderry, Lower Oxford, New London, Newlin, Penn, Tredyffrin, Upper Oxford, Valley, West Bradford, West Fallowfield, West Goshen, West Marlborough, West Nottingham, West Whiteland and Willistown and the BOROUGHs of Downingtown, Malvern, Modena, Oxford, South Coatesville and West Chester.  
Total population: 253,763

STATE SENATE DISTRICTS

Dist. 20 LUZERNE, PIKE, SUSQUEHANNA, WAYNE and WYOMING Counties.  
Part of LUZERNE County consisting of the CITY of Nanticoke and the TOWNSHIPS of Dallas, Exeter, Fairmount, Franklin, Hanover, Hunlock, Jackson, Kingston, Lake, Lehman, Newport, Plymouth, Ross and Union and the BOROUGHS of Ashley, Courtdale, Dallas, Edwardsville, Exeter, Forty Fort, Harveys Lake, Kingston, Larksville, Luzerne, Plymouth, Pringle, Sugar Notch, Swoyersville, Warrior Run and West Wyoming; All of PIKE County; All of SUSQUEHANNA County; Part of WAYNE County consisting of the TOWNSHIPS of Berlin, Buckingham, Clinton, Damascus, Dyberry, Lebanon, Manchester, Mount Pleasant, Oregon, Palmyra, Paupack, Preston and Scott and the BOROUGHS of Bethany, Hawley and Starrucca and All of WYOMING County.  
Total population: 269,942

Dist. 21 BUTLER, CLARION, ERIE, FOREST, VENANGO and WARREN Counties.  
Part of BUTLER County consisting of the CITY of Butler and the TOWNSHIPS of Allegheny, Brady, Buffalo, Butler, Center, Cherry, Clay, Clearfield, Clinton, Concord, Connoquenessing, Donegal, Fairview, Franklin, Jefferson, Marion, Mercer, Muddycreek, Oakland, Parker, Penn, Slippery Rock, Summit, Venango, Washington, Winfield and Worth and the BOROUGHS of Bruin, Cherry Valley, Chicora, Connoquenessing, East Butler, Eau Claire, Fairview, Harrisville, Karns City, Petrolia, Portersville, Prospect, Saxonburg, Slippery Rock, West Liberty and West Sunbury; All of CLARION County; Part of ERIE County consisting of the CITY of Corry and the TOWNSHIPS of Concord and Wayne and the BOROUGH of Elgin; All of FOREST County; All of VENANGO County and All of WARREN County.  
Total population: 258,167

STATE SENATE DISTRICTS

- Dist. 22    LACKAWANNA and LUZERNE Counties.  
Part of LACKAWANNA County consisting of the CITY of Scranton and the TOWNSHIPS of Benton, Glenburn, Greenfield, La Plume, Newton, North Abington, Ransom, Scott, South Abington, Waverly and West Abington and the BOROUGHs of Clarks Green, Clarks Summit, Dalton, Dickson City, Dunmore, Moosic, Old Forge, Taylor and Throop and Part of LUZERNE County consisting of the CITIES of Pittston and Wilkes-Barre and the TOWNSHIPS of Jenkins, Pittston, Plains and Wilkes-Barre and the BOROUGHs of Avoca, Dupont, Duryea, Hughestown, Laflin, Laurel Run, West Pittston, Wyoming and Yatesville.  
Total population: 251,084
- Dist. 23    BRADFORD, LYCOMING, SULLIVAN, TIOGA and UNION Counties.  
All of BRADFORD County; All of LYCOMING County; All of SULLIVAN County; All of TIOGA County and All of UNION County.  
Total population: 263,353
- Dist. 24    BERKS and MONTGOMERY Counties.  
Part of BERKS County consisting of the TOWNSHIPS of Amity, Colebrookdale, District, Douglass, Earl, Hereford, Longswamp, Pike, Rockland and Washington and the BOROUGHs of Bally, Bechtelsville, Boyertown and Topton and Part of MONTGOMERY County consisting of the TOWNSHIPS of Douglass, Limerick, Lower Frederick, Lower Pottsgrove, Lower Salford, Marlborough, New Hanover, Perkiomen, Skippack, Towamencin, Upper Frederick, Upper Gwynedd, Upper Hanover, Upper Pottsgrove, Upper Salford and West Pottsgrove and the BOROUGHs of Collegeville, East Greenville, Green Lane, North Wales, Pennsburg, Pottstown, Red Hill, Schwenksville and Trappe.  
Total population: 262,737

STATE SENATE DISTRICTS

- Dist. 25 CAMERON, CENTRE, CLINTON, ELK, JEFFERSON, MCKEAN and POTTER Counties.  
All of CAMERON County; Part of CENTRE County consisting of the TOWNSHIPS of Benner, Boggs, Burnside, College, Curtin, Gregg, Haines, Harris, Howard, Liberty, Marion, Miles, Penn, Potter, Snow Shoe, Spring, Union and Walker and the BOROUGHS of Bellefonte, Centre Hall, Howard, Milesburg, Millheim, Snow Shoe, State College and Unionville; All of CLINTON County; All of ELK County; Part of JEFFERSON County consisting of the TOWNSHIPS of Barnett, Beaver, Clover, Eldred, Heath, Knox, Pinecreek, Polk, Rose, Snyder, Union, Warsaw, Washington and Winslow and the BOROUGHS of Brockway, Brookville, Corsica, Falls Creek (Jefferson County Portion), Reynoldsville, Summerville and Sykesville; All of MCKEAN County and All of POTTER County.  
Total population: 265,569
- Dist. 26 DELAWARE County.  
Part of DELAWARE County consisting of the TOWNSHIPS of Marple, Newtown, Ridley, Springfield, Upper Darby and Upper Providence and the BOROUGHS of Aldan, Clifton Heights, East Lansdowne, Glenolden, Lansdowne, Media, Millbourne, Morton, Prospect Park, Ridley Park, Rutledge and Swarthmore.  
Total population: 255,232
- Dist. 27 COLUMBIA, LUZERNE, MONTOUR, NORTHUMBERLAND and SNYDER Counties.  
All of COLUMBIA County; Part of LUZERNE County consisting of the TOWNSHIPS of Black Creek, Butler, Conyngham, Dorrance, Fairview, Hollenback, Huntington, Nescopeck, Rice, Salem, Slocum, Sugarloaf and Wright and the BOROUGHS of Conyngham, Nescopeck, New Columbus, Nuangola and Shickshinny; All of MONTOUR County; All of NORTHUMBERLAND County and All of SNYDER County.  
Total population: 260,244

STATE SENATE DISTRICTS

- Dist. 28    YORK County.  
Part of YORK County consisting of the TOWNSHIPS of Chanceford, Codorus, East Hopewell, Fawn, Heidelberg, Hellam, Hopewell, Jackson, Lower Chanceford, Lower Windsor, Manheim, North Codorus, North Hopewell, Paradise, Peach Bottom, Penn, Shrewsbury, Spring Garden, Springettsbury, Springfield, West Manheim, Windsor and York and the BOROUGHS of Cross Roads, Dallastown, Delta, East Prospect, Fawn Grove, Felton, Glen Rock, Hallam, Hanover, Jacobus, Jefferson, Loganville, New Freedom, New Salem, North York, Railroad, Red Lion, Seven Valleys, Shrewsbury, Spring Grove, Stewartstown, Windsor, Winterstown, Wrightsville, Yoe and Yorkana.  
Total population: 262,475
- Dist. 29    CARBON, LUZERNE and SCHUYLKILL Counties.  
All of CARBON County; Part of LUZERNE County consisting of the CITY of Hazleton and the TOWNSHIPS of Bear Creek, Buck, Dennison, Foster and Hazle and the BOROUGHS of Bear Creek Village, Freeland, Jeddo, Penn Lake Park, West Hazleton and White Haven and All of SCHUYLKILL County.  
Total population: 264,845
- Dist. 30    BLAIR, FULTON, HUNTINGDON, JUNIATA and MIFFLIN Counties.  
All of BLAIR County; All of FULTON County; All of HUNTINGDON County; All of JUNIATA County and All of MIFFLIN County.  
Total population: 249,843

STATE SENATE DISTRICTS

- Dist. 31 CUMBERLAND and YORK Counties.  
Part of CUMBERLAND County consisting of the TOWNSHIPS of Lower Allen and Upper Allen and the BOROUGHS of Lemoyne, Mechanicsburg, New Cumberland and Shiremanstown and Part of YORK County consisting of the CITY of York and the TOWNSHIPS of Carroll, Conewago, Dover, East Manchester, Fairview, Franklin, Manchester, Monaghan, Newberry, Warrington, Washington and West Manchester and the BOROUGHS of Dillsburg, Dover, Franklintown, Goldsboro, Lewisberry, Manchester, Mount Wolf, Wellsville, West York and York Haven.  
Total population: 259,208
- Dist. 32 BEDFORD, FAYETTE, SOMERSET and WESTMORELAND Counties.  
All of BEDFORD County; All of FAYETTE County; All of SOMERSET County and Part of WESTMORELAND County consisting of the BOROUGH of Scottdale.  
Total population: 252,099
- Dist. 33 ADAMS and FRANKLIN Counties.  
All of ADAMS County and All of FRANKLIN County.  
Total population: 260,301
- Dist. 34 CUMBERLAND, DAUPHIN and PERRY Counties.  
Part of CUMBERLAND County consisting of the TOWNSHIPS of Cooke, Dickinson, East Pennsboro, Hampden, Hopewell, Lower Frankford, Lower Mifflin, Middlesex, Monroe, North Middleton, North Newton, Penn, Shippensburg, Silver Spring, South Middleton, South Newton, Southampton, Upper Frankford, Upper Mifflin and West Pennsboro and the BOROUGHS of Camp Hill, Carlisle, Mount Holly Springs, Newburg, Newville, Shippensburg (Cumberland County Portion) and Wormleysburg; Part of DAUPHIN County consisting of the TOWNSHIPS of Halifax, Jackson, Jefferson, Lykens, Mifflin, Reed, Rush, Upper Paxton, Washington, Wayne, Wiconisco and Williams and the BOROUGHS of Berrysburg, Elizabethville, Gratz, Halifax, Lykens, Millersburg, Pillow and Williamstown and All of PERRY County.  
Total population: 266,501

STATE SENATE DISTRICTS

- Dist. 35      CAMBRIA, CENTRE and CLEARFIELD Counties.  
All of CAMBRIA County; Part of CENTRE County  
consisting of the TOWNSHIPS of Ferguson, Halfmoon,  
Huston, Patton, Rush, Taylor and Worth and the  
BOROUGHS of Philipsburg and Port Matilda and All of  
CLEARFIELD County.  
Total population: 260,141
- Dist. 36      LANCASTER County.  
Part of LANCASTER County consisting of the TOWNSHIPS  
of Conoy, Earl, East Donegal, East Hempfield,  
Elizabeth, Ephrata, Manheim, Mount Joy, Penn, Rapho,  
Warwick, West Donegal, West Earl and West Hempfield  
and the BOROUGHS of Akron, Columbia, East Petersburg,  
Elizabethtown, Ephrata, Lititz, Manheim, Marietta,  
Mount Joy, Mountville and New Holland.  
Total population: 269,182
- Dist. 37      ALLEGHENY County.  
Part of ALLEGHENY County consisting of the TOWNSHIPS  
of Aleppo, Collier, Crescent, Findlay, Kilbuck, Leet,  
Marshall, Moon, North Fayette, Ohio, Robinson, South  
Fayette, South Park and Upper St. Clair and the  
BOROUGHS of Bell Acres, Ben Avon Heights, Bethel Park,  
Bradford Woods, Bridgeville, Coraopolis, Edgeworth,  
Franklin Park, Glen Osborne, Glenfield, Haysville,  
Heidelberg, Jefferson Hills, Leetsdale, McDonald  
(Allegheny County Portion), Oakdale, Pennsbury  
Village, Pleasant Hills, Rosslyn Farms, Sewickley,  
Sewickley Heights, Sewickley Hills and Thornburg.  
Total population: 248,858
- Dist. 38      ALLEGHENY County.  
Part of ALLEGHENY County consisting of the CITY of  
Pittsburgh (PART, Wards 10, 11 and 12) and the  
TOWNSHIPS of East Deer, Fawn, Frazer, Hampton, Harmar,  
Harrison, Indiana, McCandless, O'Hara, Pine, Richland,  
Ross, Shaler, Springdale and West Deer and the  
BOROUGHS of Aspinwall, Blawnox, Brackenridge,  
Cheswick, Etna, Fox Chapel, Sharpsburg, Springdale,  
Tarentum and West View.  
Total population: 251,647

STATE SENATE DISTRICTS

- Dist. 39      WESTMORELAND County.  
Part of WESTMORELAND County consisting of the CITIES of Greensburg, Jeannette, Latrobe and Monessen and the TOWNSHIPS of Cook, Donegal, East Huntingdon, Hempfield, Mount Pleasant, North Huntingdon, Penn, Rostraver, Salem, Sewickley, South Huntingdon and Unity and the BOROUGHs of Adamsburg, Arona, Delmont, Donegal, Export, Hunker, Irwin, Madison, Manor, Mount Pleasant, Murrysville, New Stanton, North Belle Vernon, North Irwin, Penn, Smithton, South Greensburg, Southwest Greensburg, Sutersville, Trafford (Westmoreland County Portion), West Newton, Youngstown and Youngwood.  
Total population: 261,704
- Dist. 40      LACKAWANNA, MONROE and WAYNE Counties.  
Part of LACKAWANNA County consisting of the CITY of Carbondale and the TOWNSHIPS of Carbondale, Clifton, Covington, Elmhurst, Fell, Jefferson, Madison, Roaring Brook, Spring Brook and Thornhurst and the BOROUGHs of Archbald, Blakely, Jermyn, Jessup, Mayfield, Moscow, Olyphant and Vandling; All of MONROE County and Part of WAYNE County consisting of the TOWNSHIPS of Canaan, Cherry Ridge, Dreher, Lake, Lehigh, Salem, South Canaan, Sterling and Texas and the BOROUGHs of Honesdale, Prompton and Waymart.  
Total population: 256,698
- Dist. 41      ARMSTRONG, INDIANA, JEFFERSON and WESTMORELAND Counties.  
All of ARMSTRONG County; All of INDIANA County; Part of JEFFERSON County consisting of the TOWNSHIPS of Bell, Gaskill, Henderson, McCalmont, Oliver, Perry, Porter, Ringgold and Young and the BOROUGHs of Big Run, Punxsutawney, Timblin and Worthville and Part of WESTMORELAND County consisting of the CITIES of Arnold, Lower Burrell and New Kensington and the TOWNSHIPS of Allegheny, Bell, Derry, Fairfield, Ligonier, Loyalhanna, St. Clair, Upper Burrell and Washington and the BOROUGHs of Avonmore, Bolivar, Derry, East Vandergrift, Hyde Park, Laurel Mountain, Ligonier, New Alexandria, New Florence, Oklahoma, Seward, Vandergrift and West Leechburg.  
Total population: 254,701

STATE SENATE DISTRICTS

- Dist. 42 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the CITY of Pittsburgh (PART, Wards 01, 02, 03, 06, 09, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28 and 32) and the TOWNSHIPS of Kennedy, Mount Lebanon, Neville, Reserve, Scott and Stowe and the BOROUGHS of Avalon, Bellevue, Ben Avon, Carnegie, Crafton, Dormont, Emsworth, Green Tree, Ingram, McKees Rocks and Millvale.  
Total population: 250,536
- Dist. 43 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the CITY of Pittsburgh (PART, Wards 04, 05, 07, 08, 13, 14, 15, 16, 17, 18, 29, 30 and 31) and the TOWNSHIPS of Penn Hills and Wilkins and the BOROUGHS of Braddock Hills, Chalfant, Churchill, Edgewood, Forest Hills, Mount Oliver, Oakmont, Rankin, Swissvale, Verona and Wilkinsburg.  
Total population: 251,870
- Dist. 44 BERKS, CHESTER and MONTGOMERY Counties.  
Part of BERKS County consisting of the TOWNSHIP of Union and the BOROUGH of Birdsboro; Part of CHESTER County consisting of the TOWNSHIPS of Caln, Charlestown, East Brandywine, East Coventry, East Nantmeal, East Pikeland, East Vincent, East Whiteland, Honey Brook, North Coventry, Sadsbury, Schuylkill, South Coventry, Upper Uwchlan, Uwchlan, Wallace, Warwick, West Brandywine, West Caln, West Nantmeal, West Pikeland, West Sadsbury and West Vincent and the BOROUGHS of Atglen, Elverson, Honey Brook, Parkesburg, Phoenixville and Spring City and Part of MONTGOMERY County consisting of the TOWNSHIPS of Lower Providence and Upper Providence and the BOROUGH of Royersford.  
Total population: 264,849

STATE SENATE DISTRICTS

- Dist. 45 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the CITIES of Clairton, Duquesne and McKeesport and the TOWNSHIPS of Baldwin, Elizabeth, Forward, North Versailles and South Versailles and the BOROUGHS of Baldwin, Braddock, Brentwood, Castle Shannon, Dravosburg, East McKeesport, East Pittsburgh, Elizabeth, Glassport, Homestead, Liberty, Lincoln, Monroeville, Munhall, North Braddock, Pitcairn, Plum, Port Vue, Trafford (Allegheny County Portion), Turtle Creek, Versailles, Wall, West Elizabeth, West Homestead, West Mifflin, Whitaker, White Oak, Whitehall and Wilmerding.  
Total population: 249,661
- Dist. 46 BEAVER, GREENE and WASHINGTON Counties.  
Part of BEAVER County consisting of the TOWNSHIPS of Hanover and Independence and the BOROUGH of Frankfort Springs; All of GREENE County and All of WASHINGTON County.  
Total population: 250,466

STATE SENATE DISTRICTS

Dist. 47 BEAVER, BUTLER and LAWRENCE Counties.  
Part of BEAVER County consisting of the CITIES of Aliquippa and Beaver Falls and the TOWNSHIPS of Brighton, Center, Chippewa, Darlington, Daugherty, Franklin, Greene, Harmony, Hopewell, Marion, New Sewickley, North Sewickley, Patterson, Potter, Pulaski, Raccoon, Rochester, South Beaver, Vanport and White and the BOROUGHs of Ambridge, Baden, Beaver, Big Beaver, Bridgewater, Conway, Darlington, East Rochester, Eastvale, Economy, Ellwood City (Beaver County Portion), Fallston, Freedom, Georgetown, Glasgow, Homewood, Hookstown, Industry, Koppel, Midland, Monaca, New Brighton, New Galilee, Ohioville, Patterson Heights, Rochester, Shippingport, South Heights and West Mayfield; Part of BUTLER County consisting of the TOWNSHIPS of Adams, Cranberry, Forward, Jackson, Lancaster and Middlesex and the BOROUGHs of Callery, Evans City, Harmony, Mars, Seven Fields, Valencia and Zelienople and Part of LAWRENCE County consisting of the TOWNSHIPS of Little Beaver, Perry and Wayne and the BOROUGHs of Ellport, Ellwood City (Lawrence County Portion), Enon Valley, New Beaver and Wampum.  
Total population: 256,105

Dist. 48 BERKS, LANCASTER and LEBANON Counties.  
Part of BERKS County consisting of the TOWNSHIPS of Albany, Bern, Bethel, Centre, Greenwich, Heidelberg, Jefferson, Lower Heidelberg, Maiden creek, Marion, North Heidelberg, Ontelaunee, Penn, Perry, South Heidelberg, Tilden, Tulpehocken, Upper Bern, Upper Tulpehocken and Windsor and the BOROUGHs of Bernville, Centerport, Hamburg, Leesport, Lenhartsville, Robesonia, Shoemakersville, Wernersville and Womelsdorf; Part of LANCASTER County consisting of the TOWNSHIPS of Brecknock, Clay, East Cocalico and West Cocalico and the BOROUGHs of Adamstown (Lancaster County Portion) and Denver and All of LEBANON County.  
Total population: 269,151

STATE SENATE DISTRICTS

Dist. 49     **ERIE County.**  
Part of **ERIE County** consisting of the **CITY** of Erie and the **TOWNSHIPS** of Amity, Conneaut, Elk Creek, Fairview, Franklin, Girard, Greene, Greenfield, Harborcreek, Lake Erie, Lawrence Park, Leboeuf, McKean, Millcreek, North East, Springfield, Summit, Union, Venango, Washington and Waterford and the **BOROUGHs** of Albion, Cranesville, Edinboro, Girard, Lake City, McKean, Mill Village, North East, Platea, Union City, Waterford, Wattsburg and Wesleyville.  
Total population: 261,100

Dist. 50     **CRAWFORD, LAWRENCE and MERCER Counties.**  
All of **CRAWFORD County**; Part of **LAWRENCE County** consisting of the **CITY** of New Castle and the **TOWNSHIPS** of Hickory, Mahoning, Neshannock, North Beaver, Plain Grove, Pulaski, Scott, Shenango, Slippery Rock, Taylor, Union, Washington and Wilmington and the **BOROUGHs** of Bessemer, New Wilmington, S.N.P.J., South New Castle and Volant and All of **MERCER County**.  
Total population: 263,540

Population of all districts: 13,002,700

## COUNTIES SPLIT BY SENATE DISTRICTS

23 TOTAL COUNTIES

47 TOTAL SPLITS

ALLEGHENY	037 038 042 043 045
BEAVER	046 047
BERKS	011 013 024 044 048
BUCKS	006 010 016
BUTLER	021 047
CENTRE	025 035
CHESTER	009 019 044
CUMBERLAND	031 034
DAUPHIN	015 034
DELAWARE	008 009 017 026
ERIE	021 049
JEFFERSON	025 041
LACKAWANNA	022 040
LANCASTER	013 036 048
LAWRENCE	047 050
LEHIGH	014 016 018
LUZERNE	020 022 027 029
MONTGOMERY	004 007 012 017 024 044
NORTHAMPTON	014 018

COUNTIES SPLIT BY SENATE DISTRICTS

PHILADELPHIA	001 002 003 004
	005 007 008
WAYNE	020 040
WESTMORELAND	032 039 041
YORK	028 031

PLACES SPLIT BY SENATE DISTRICTS

4 TOTAL PLACES

10 TOTAL SPLITS

ALLEGHENY COUNTY

PITTSBURGH CITY 038 042 043

LEHIGH COUNTY

ALLENTOWN CITY 014 016

SOUTH WHITEHALL TOWNSHIP 014 016

PHILADELPHIA COUNTY

PHILADELPHIA CITY 001 002 003 004 005  
007 008

WARDS SPLIT BY SENATE DISTRICTS

8 TOTAL WARDS

8 TOTAL SPLITS

PHILADELPHIA COUNTY

PHILADELPHIA

CITY

WARD 12	004 007
WARD 25	001 002
WARD 26	001 008
WARD 27	007 008
WARD 35	002 003
WARD 40	001 008
WARD 46	007 008
WARD 60	007 008

# Attachment G

Pennsylvania ▾  
1 65,227 1,174

View: County City  
Only: Precinct Block

🔧 Tools ▾

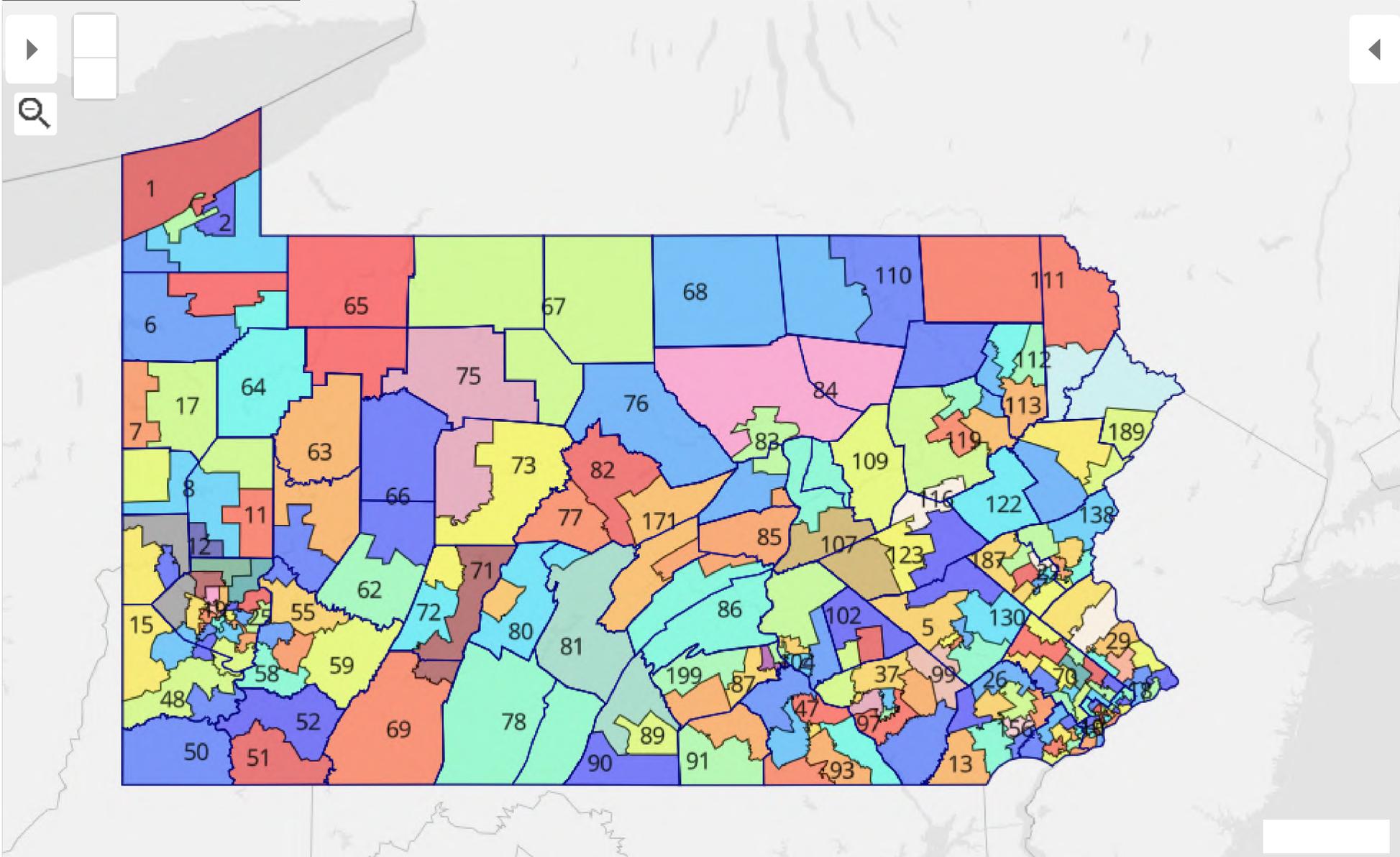
🗺 Map

📊 Statistics

🔄 Analyze

↔ Compare

📈 Advanced



**The Statewide population = 13,002,700**

**The Average population per district = 64,053**

<b>DISTRICT</b>	<b>POPULATION</b>	<b>DEVIATION</b>
1	65,227	+1,174 (1.83%)
2	65,669	+1,616 (2.52%)
3	65,250	+1,197 (1.87%)
4	64,282	+229 (0.36%)
5	65,035	+982 (1.53%)
6	64,059	+6 (0.01%)
7	65,917	+1,864 (2.91%)
8	65,051	+998 (1.56%)
9	63,610	-443 (0.69%)
10	61,532	-2,521 (3.94%)
11	64,833	+780 (1.22%)
12	64,712	+659 (1.03%)
13	64,075	+22 (0.03%)
14	66,854	+2,801 (4.37%)
15	66,277	+2,224 (3.47%)
16	64,976	+923 (1.44%)
17	65,933	+1,880 (2.94%)
18	63,773	-280 (0.44%)
19	61,450	-2,603 (4.06%)
20	61,715	-2,338 (3.65%)
21	62,076	-1,977 (3.09%)
22	62,468	-1,585 (2.47%)
23	61,580	-2,473 (3.86%)
24	61,444	-2,609 (4.07%)
25	64,844	+791 (1.24%)
26	64,162	+109 (0.17%)
27	61,874	-2,179 (3.40%)
28	63,153	-900 (1.40%)
29	65,554	+1,501 (2.34%)
30	63,488	-565 (0.88%)
31	66,821	+2,768 (4.32%)
32	64,205	+152 (0.24%)

33	61,859	-2,194 (3.42%)
34	61,582	-2,471 (3.86%)
35	64,711	+658 (1.03%)
36	61,727	-2,326 (3.63%)
37	66,593	+2,540 (3.97%)
38	64,487	+434 (0.68%)
39	65,835	+1,782 (2.78%)
40	66,305	+2,252 (3.52%)
41	64,434	+381 (0.60%)
42	63,959	-94 (0.15%)
43	64,434	+381 (0.60%)
44	66,419	+2,366 (3.69%)
45	65,880	+1,827 (2.85%)
46	66,666	+2,613 (4.08%)
47	64,984	+931 (1.45%)
48	65,851	+1,798 (2.81%)
49	62,983	-1,070 (1.67%)
50	66,562	+2,509 (3.92%)
51	65,033	+980 (1.53%)
52	63,125	-928 (1.45%)
53	64,733	+680 (1.06%)
54	63,471	-582 (0.91%)
55	66,435	+2,382 (3.72%)
56	64,562	+509 (0.80%)
57	66,577	+2,524 (3.94%)
58	64,556	+503 (0.79%)
59	66,601	+2,548 (3.98%)
60	64,259	+206 (0.32%)
61	63,924	-129 (0.20%)
62	64,920	+867 (1.35%)
63	65,048	+995 (1.55%)
64	62,365	-1,688 (2.63%)
65	61,937	-2,116 (3.30%)
66	62,378	-1,675 (2.61%)
67	61,546	-2,507 (3.91%)
68	63,772	-281 (0.44%)

69	63,457	-596 (0.93%)
70	65,364	+1,311 (2.05%)
71	62,849	-1,204 (1.88%)
72	64,105	+52 (0.08%)
73	61,454	-2,599 (4.06%)
74	64,829	+776 (1.21%)
75	63,767	-286 (0.45%)
76	62,712	-1,341 (2.09%)
77	61,876	-2,177 (3.40%)
78	62,267	-1,786 (2.79%)
79	63,269	-784 (1.22%)
80	62,295	-1,758 (2.74%)
81	64,708	+655 (1.02%)
82	62,294	-1,759 (2.75%)
83	63,798	-255 (0.40%)
84	64,134	+81 (0.13%)
85	66,424	+2,371 (3.70%)
86	64,092	+39 (0.06%)
87	66,300	+2,247 (3.51%)
88	64,646	+593 (0.93%)
89	66,531	+2,478 (3.87%)
90	64,923	+870 (1.36%)
91	65,612	+1,559 (2.43%)
92	66,531	+2,478 (3.87%)
93	65,319	+1,266 (1.98%)
94	63,281	-772 (1.20%)
95	66,193	+2,140 (3.34%)
96	63,476	-577 (0.90%)
97	65,859	+1,806 (2.82%)
98	66,784	+2,731 (4.26%)
99	64,103	+50 (0.08%)
100	64,207	+154 (0.24%)
101	65,422	+1,369 (2.14%)
102	65,771	+1,718 (2.68%)
103	64,346	+293 (0.46%)
104	65,491	+1,438 (2.25%)

105	62,825	-1,228 (1.92%)
106	66,872	+2,819 (4.40%)
107	65,921	+1,868 (2.92%)
108	65,258	+1,205 (1.88%)
109	64,825	+772 (1.21%)
110	63,536	-517 (0.81%)
111	65,251	+1,198 (1.87%)
112	62,766	-1,287 (2.01%)
113	62,709	-1,344 (2.10%)
114	62,413	-1,640 (2.56%)
115	62,673	-1,380 (2.15%)
116	63,945	-108 (0.17%)
117	61,755	-2,298 (3.59%)
118	61,770	-2,283 (3.56%)
119	61,334	-2,719 (4.24%)
120	61,645	-2,408 (3.76%)
121	61,466	-2,587 (4.04%)
122	64,866	+813 (1.27%)
123	65,886	+1,833 (2.86%)
124	64,846	+793 (1.24%)
125	64,693	+640 (1.00%)
126	63,936	-117 (0.18%)
127	62,627	-1,426 (2.23%)
128	62,731	-1,322 (2.06%)
129	63,444	-609 (0.95%)
130	65,179	+1,126 (1.76%)
131	65,219	+1,166 (1.82%)
132	63,677	-376 (0.59%)
133	65,425	+1,372 (2.14%)
134	62,882	-1,171 (1.83%)
135	65,793	+1,740 (2.72%)
136	63,648	-405 (0.63%)
137	65,856	+1,803 (2.82%)
138	66,215	+2,162 (3.38%)
139	63,297	-756 (1.18%)
140	61,806	-2,247 (3.51%)

141	64,322	+269 (0.42%)
142	65,233	+1,180 (1.84%)
143	65,742	+1,689 (2.64%)
144	65,208	+1,155 (1.80%)
145	63,152	-901 (1.41%)
146	65,008	+955 (1.49%)
147	65,711	+1,658 (2.59%)
148	63,587	-466 (0.73%)
149	64,410	+357 (0.56%)
150	63,779	-274 (0.43%)
151	63,765	-288 (0.45%)
152	61,386	-2,667 (4.16%)
153	62,313	-1,740 (2.72%)
154	63,038	-1,015 (1.58%)
155	64,311	+258 (0.40%)
156	66,169	+2,116 (3.30%)
157	62,988	-1,065 (1.66%)
158	62,792	-1,261 (1.97%)
159	61,801	-2,252 (3.52%)
160	63,956	-97 (0.15%)
161	63,804	-249 (0.39%)
162	64,947	+894 (1.40%)
163	63,755	-298 (0.46%)
164	63,129	-924 (1.44%)
165	62,800	-1,253 (1.96%)
166	63,050	-1,003 (1.57%)
167	63,435	-618 (0.96%)
168	62,978	-1,075 (1.68%)
169	64,977	+924 (1.44%)
170	62,661	-1,392 (2.17%)
171	65,554	+1,501 (2.34%)
172	64,450	+397 (0.62%)
173	62,913	-1,140 (1.78%)
174	62,812	-1,241 (1.94%)
175	62,108	-1,945 (3.04%)
176	62,863	-1,190 (1.86%)

177	62,232	-1,821 (2.84%)
178	65,518	+1,465 (2.29%)
179	61,563	-2,490 (3.89%)
180	62,540	-1,513 (2.36%)
181	62,079	-1,974 (3.08%)
182	66,317	+2,264 (3.54%)
183	66,148	+2,095 (3.27%)
184	64,108	+55 (0.09%)
185	61,863	-2,190 (3.42%)
186	62,436	-1,617 (2.52%)
187	66,296	+2,243 (3.50%)
188	61,778	-2,275 (3.55%)
189	61,876	-2,177 (3.40%)
190	61,771	-2,282 (3.56%)
191	62,629	-1,424 (2.22%)
192	61,419	-2,634 (4.11%)
193	64,302	+249 (0.39%)
194	62,236	-1,817 (2.84%)
195	62,205	-1,848 (2.88%)
196	65,953	+1,900 (2.97%)
197	62,586	-1,467 (2.29%)
198	63,729	-324 (0.51%)
199	64,111	+58 (0.09%)
200	65,563	+1,510 (2.36%)
201	66,430	+2,377 (3.71%)
202	64,695	+642 (1.00%)
203	65,519	+1,466 (2.29%)

LEGISLATIVE DATA PROCESSING CENTER  
COMPOSITE LISTING  
OF  
HOUSE OF REPRESENTATIVES DISTRICTS

<u>DISTRICT NUMBER</u>	<u>DESCRIPTION</u>
Dist. 1	ERIE County. Part of ERIE County consisting of the CITY of Erie (PART, Wards 01, 02, 03, 04 and 06) and the TOWNSHIPS of Lake Erie and Lawrence Park. Total population: 65,227
Dist. 2	ERIE County. Part of ERIE County consisting of the CITY of Erie (PART, Ward 05) and the TOWNSHIPS of Greene, Harborcreek and Summit and the BOROUGH of Wesleyville. Total population: 65,669
Dist. 3	ERIE County. Part of ERIE County consisting of the TOWNSHIPS of Fairview and Millcreek. Total population: 65,250
Dist. 4	ERIE County. Part of ERIE County consisting of the CITY of Corry and the TOWNSHIPS of Amity, Concord, Franklin, Girard, Greenfield, Leboeuf, McKean, North East, Union, Venango, Washington, Waterford and Wayne and the BOROUGHs of Edinboro, Elgin, Girard, Lake City, McKean, Mill Village, North East, Platea, Union City, Waterford and Wattsburg. Total population: 64,282
Dist. 5	BERKS County. Part of BERKS County consisting of the TOWNSHIPS of Bern, Bethel, Centre, Heidelberg, Jefferson, Lower Heidelberg, Marion, North Heidelberg, Ontelaunee, Penn, Perry, South Heidelberg, Spring (PART, Districts 05, 07 and 08) and Tulpehocken and the BOROUGHs of Bernville, Centerport, Leesport, Robesonia, Shoemakersville, Wernersville and Womelsdorf. Total population: 65,035

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 6      CRAWFORD and ERIE Counties.  
Part of CRAWFORD County consisting of the CITY of Meadville and the TOWNSHIPS of Beaver, Conneaut, East Fairfield, East Fallowfield, East Mead, Fairfield, Greenwood, Hayfield, North Shenango, Pine, Randolph, Sadsbury, South Shenango, Spring, Summerhill, Summit, Union, Vernon, Wayne, West Fallowfield, West Mead and West Shenango and the BOROUGHs of Cochranton, Conneaut Lake, Conneautville, Linesville and Springboro and Part of ERIE County consisting of the TOWNSHIPS of Conneaut, Elk Creek and Springfield and the BOROUGHs of Albion and Cranesville.  
Total population: 64,059
- Dist. 7      MERCER County.  
Part of MERCER County consisting of the CITIES of Farrell, Hermitage and Sharon and the TOWNSHIPS of Greene, Hempfield, Lackawannock, Pymatuning, Shenango, South Pymatuning and West Salem and the BOROUGHs of Clark, Greenville, Jamestown, Sharpsville, West Middlesex and Wheatland.  
Total population: 65,917
- Dist. 8      BUTLER and LAWRENCE Counties.  
Part of BUTLER County consisting of the TOWNSHIPS of Brady, Center, Clay, Connoquenessing, Forward, Franklin, Lancaster, Middlesex, Muddycreek, Penn and Worth and the BOROUGHs of Connoquenessing, Portersville, Prospect, West Liberty and West Sunbury and Part of LAWRENCE County consisting of the TOWNSHIPS of Little Beaver, Perry, Plain Grove, Scott, Slippery Rock, Washington and Wayne and the BOROUGHs of Ellport, Ellwood City (Lawrence County Portion), Enon Valley, New Beaver, Volant and Wampum.  
Total population: 65,051
- Dist. 9      LAWRENCE County.  
Part of LAWRENCE County consisting of the CITY of New Castle and the TOWNSHIPS of Hickory, Mahoning, Neshannock, North Beaver, Pulaski, Shenango, Taylor, Union and Wilmington and the BOROUGHs of Bessemer, New Wilmington, S.N.P.J. and South New Castle.  
Total population: 63,610

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 10 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 04 [PART, Divisions 01, 07, 08 and 12], 06 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 and 16], 08 [PART, Divisions 17, 18, 19, 22, 23 and 29], 24, 44 [PART, Divisions 03, 04, 06, 08, 09, 10, 13, 14, 15 and 16] and 60 [PART, Divisions 04, 05, 06, 07, 11, 14, 15, 16, 17, 18, 19, 20, 21 and 22])).  
Total population: 61,532
- Dist. 11 BUTLER County.  
Part of BUTLER County consisting of the CITY of Butler and the TOWNSHIPS of Buffalo, Butler, Clearfield, Clinton, Donegal, Jefferson, Oakland, Summit and Winfield and the BOROUGHS of Chicora, East Butler and Saxonburg.  
Total population: 64,833
- Dist. 12 BUTLER County.  
Part of BUTLER County consisting of the TOWNSHIPS of Adams, Cranberry and Jackson and the BOROUGHS of Callery, Evans City, Harmony, Mars, Seven Fields, Valencia and Zelienople.  
Total population: 64,712
- Dist. 13 CHESTER County.  
Part of CHESTER County consisting of the TOWNSHIPS of East Nottingham, Elk, Franklin, Highland, London Britain, London Grove, Londonderry, Lower Oxford, New London, Penn, Upper Oxford, West Fallowfield and West Nottingham and the BOROUGHS of Oxford and West Grove.  
Total population: 64,075

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 14 BEAVER County.  
Part of BEAVER County consisting of the CITY of Beaver Falls and the TOWNSHIPS of Chippewa, Darlington, Daugherty, Franklin, Marion, New Sewickley, North Sewickley, Patterson, Pulaski and White and the BOROUGHS of Big Beaver, Bridgewater, Darlington, Eastvale, Economy, Ellwood City (Beaver County Portion), Fallston, Homewood, Koppel, New Brighton, New Galilee, Patterson Heights and West Mayfield.  
Total population: 66,854
- Dist. 15 BEAVER and WASHINGTON Counties.  
Part of BEAVER County consisting of the TOWNSHIPS of Brighton, Greene, Hanover, Independence, Potter, Raccoon, South Beaver and Vanport and the BOROUGHS of Beaver, Frankfort Springs, Georgetown, Glasgow, Hookstown, Industry, Midland, Ohioville and Shippingport and Part of WASHINGTON County consisting of the TOWNSHIPS of Blaine, Buffalo, Canton, Cross Creek, Donegal, Hanover, Hopewell, Independence, Jefferson, Robinson and Smith and the BOROUGHS of Burgettstown, Claysville, Midway and West Middletown.  
Total population: 66,277
- Dist. 16 BEAVER County.  
Part of BEAVER County consisting of the CITY of Aliquippa and the TOWNSHIPS of Center, Harmony, Hopewell and Rochester and the BOROUGHS of Ambridge, Baden, Conway, East Rochester, Freedom, Monaca, Rochester and South Heights.  
Total population: 64,976

HOUSE OF REPRESENTATIVES DISTRICTS

Dist. 17 BUTLER and MERCER Counties.  
Part of BUTLER County consisting of the TOWNSHIPS of Allegheny, Cherry, Concord, Fairview, Marion, Mercer, Parker, Slippery Rock, Venango and Washington and the BOROUGHS of Bruin, Cherry Valley, Eau Claire, Fairview, Harrisville, Karns City, Petrolia and Slippery Rock and Part of MERCER County consisting of the TOWNSHIPS of Coolspring, Deer Creek, Delaware, East Lackawannock, Fairview, Findley, French Creek, Jackson, Jefferson, Lake, Liberty, Mill Creek, New Vernon, Otter Creek, Perry, Pine, Salem, Sandy Creek, Sandy Lake, Springfield, Sugar Grove, Wilmington, Wolf Creek and Worth and the BOROUGHS of Fredonia, Grove City, Jackson Center, Mercer, New Lebanon, Sandy Lake, Sheakleyville and Stoneboro.  
Total population: 65,933

Dist. 18 BUCKS County.  
Part of BUCKS County consisting of the TOWNSHIP of Bensalem and the BOROUGH of Hulmeville.  
Total population: 63,773

Dist. 19 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the CITY of Pittsburgh (PART, Wards 01, 02 [PART, Division 01], 03, 04 [PART, Divisions 01, 02, 17 and 19], 05 [PART, Divisions 01, 02 and 16], 15 [PART, Divisions 13, 14, 15, 16, 17, 18 and 19], 17 [PART, Divisions 01, 02 and 03], 18 [PART, Divisions 02, 03, 04, 05, 06, 07, 08, 09, 10 and 11], 20 [PART, Divisions 08, 09, 10, 11, 12 and 13], 21, 22, 23 [PART, Division 02], 25, 26 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 10, 11, 14 and 16], 27 [PART, Divisions 06, 09, 10, 11, 12 and 13] and 30).  
Total population: 61,450

Dist. 20 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the CITY of Pittsburgh (PART, Wards 26 [PART, Divisions 12, 13 and 15] and 27 [PART, Divisions 01, 02, 03, 04, 05, 07 and 08]) and the TOWNSHIP of Ross and the BOROUGHS of Avalon, Bellevue and West View.  
Total population: 61,715

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 21 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the CITY of Pittsburgh (PART, Wards 02 [PART, Division 02], 06, 09, 10 [PART, Divisions 01, 02, 03, 04, 05, 06, 07 and 10], 23 [PART, Divisions 01 and 03], 24 and 26 [PART, Divisions 09 and 17]) and the TOWNSHIPS of Reserve and Shaler and the BOROUGHs of Etna and Millvale.  
Total population: 62,076
- Dist. 22 LEHIGH County.  
Part of LEHIGH County consisting of the CITY of Allentown (PART, Wards 01, 04, 05, 06, 07, 08 [PART, Divisions 01, 02, 03, 05 and 06], 09, 10, 11 [PART, Division 02], 14 and 15) and the TOWNSHIP of Salisbury (PART, Wards 01, 02 and 03 [PART, Division 02]).  
Total population: 62,468
- Dist. 23 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the CITY of Pittsburgh (PART, Wards 04 [PART, Divisions 05, 08, 09, 10, 11, 12, 13, 14, 15 and 16], 07 [PART, Divisions 01, 02, 05, 06, 07, 10, 13 and 14], 14 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 and 41] and 15 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11 and 12]).  
Total population: 61,580
- Dist. 24 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the CITY of Pittsburgh (PART, Wards 04 [PART, Divisions 03, 04, 06, 07 and 18], 05 [PART, Divisions 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 17 and 18], 07 [PART, Divisions 03, 04, 08, 09, 11 and 12], 08, 10 [PART, Divisions 08, 09, 11, 12, 13, 14, 15, 16, 17, 18 and 19], 11, 12 and 13 [PART, Divisions 02, 03, 04, 05, 06, 07, 09, 11, 12, 15, 16, 17, 18 and 19]).  
Total population: 61,444

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 25 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the TOWNSHIP of North Versailles and the BOROUGHS of East McKeesport, Monroeville, Pitcairn, Plum (PART, Districts 04, 05, 06, 08, 09, 10, 11, 12, 13, 14, 15 and 16), Trafford (Allegheny County Portion), Turtle Creek, Wall and Wilmerding.  
Total population: 64,844
- Dist. 26 CHESTER County.  
Part of CHESTER County consisting of the TOWNSHIPS of East Coventry, East Nantmeal, East Pikeland, East Vincent, North Coventry, South Coventry, Warwick and West Nantmeal and the BOROUGHS of Elverson, Phoenixville and Spring City.  
Total population: 64,162
- Dist. 27 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the CITY of Pittsburgh (PART, Wards 19 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 13 and 28], 20 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 14, 15, 16, 17 and 18] and 28) and the TOWNSHIP of Scott and the BOROUGHS of Crafton, Green Tree, Heidelberg, Ingram, Rosslyn Farms and Thornburg.  
Total population: 61,874
- Dist. 28 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the TOWNSHIPS of Hampton (PART, Districts 01, 02, 06, 07, 08, 09, 10 and 11), Marshall, Pine, Richland and West Deer and the BOROUGH of Bradford Woods.  
Total population: 63,153
- Dist. 29 BUCKS County.  
Part of BUCKS County consisting of the TOWNSHIPS of Buckingham, Doylestown and Solebury and the BOROUGHS of Chalfont, Doylestown, New Britain and New Hope.  
Total population: 65,554

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 30 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the TOWNSHIPS of Hampton (PART, Districts 03, 04, 05, 12 and 13), Kilbuck, McCandless and Ohio and the BOROUGHS of Ben Avon, Ben Avon Heights, Emsworth and Franklin Park.  
Total population: 63,488
- Dist. 31 BUCKS County.  
Part of BUCKS County consisting of the TOWNSHIPS of Lower Makefield, Newtown and Upper Makefield and the BOROUGHS of Newtown and Yardley.  
Total population: 66,821
- Dist. 32 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the TOWNSHIP of Penn Hills and the BOROUGHS of Oakmont, Plum (PART, Districts 01, 02, 03, 07, 17, 18, 19, 20 and 21) and Verona.  
Total population: 64,205
- Dist. 33 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the TOWNSHIPS of East Deer, Fawn, Frazer, Harmar, Harrison, Indiana, O'Hara and Springdale and the BOROUGHS of Aspinwall, Blawnox, Brackenridge, Cheswick, Fox Chapel, Sharpsburg, Springdale and Tarentum.  
Total population: 61,859
- Dist. 34 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the CITY of Pittsburgh (PART, Wards 13 [PART, Divisions 01, 08, 10, 13 and 14] and 14 [PART, Divisions 12, 13, 14, 15, 16, 17 and 18]) and the TOWNSHIP of Wilkins and the BOROUGHS of Braddock, Braddock Hills, Chalfant, Churchill, East Pittsburgh, Edgewood, Forest Hills, North Braddock, Rankin, Swissvale and Wilkinsburg.  
Total population: 61,582

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 35 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the CITIES of Clairton, Duquesne and McKeesport and the TOWNSHIP of South Versailles and the BOROUGHS of Homestead, Liberty, Lincoln, Munhall, Port Vue, Versailles, West Homestead, West Mifflin (PART, Districts 03, 04 and 15), Whitaker and White Oak.  
Total population: 64,711
- Dist. 36 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the CITY of Pittsburgh (PART, Wards 16, 17 [PART, Divisions 04, 05, 06, 07 and 08], 18 [PART, Division 01], 19 [PART, Divisions 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37 and 38], 29 and 32) and the BOROUGHS of Brentwood and Mount Oliver.  
Total population: 61,727
- Dist. 37 LANCASTER County.  
Part of LANCASTER County consisting of the TOWNSHIPS of Clay, Elizabeth, Penn, Rapho and Warwick and the BOROUGHS of Lititz and Manheim.  
Total population: 66,593
- Dist. 38 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the CITY of Pittsburgh (PART, Ward 31) and the BOROUGHS of Baldwin, Dravosburg, Glassport, West Mifflin (PART, Districts 01, 02, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20 and 21) and Whitehall.  
Total population: 64,487
- Dist. 39 ALLEGHENY and WASHINGTON Counties.  
Part of ALLEGHENY County consisting of the TOWNSHIPS of Elizabeth, Forward and South Park and the BOROUGHS of Elizabeth, Jefferson Hills, Pleasant Hills and West Elizabeth and Part of WASHINGTON County consisting of the CITY of Monongahela and the TOWNSHIPS of Carroll (PART, Districts 01 and 02) and Union and the BOROUGHS of Finleyville and New Eagle.  
Total population: 65,835

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 40 ALLEGHENY and WASHINGTON Counties.  
Part of ALLEGHENY County consisting of the TOWNSHIP of Upper St. Clair (PART, Wards 03 [PART, Divisions 01 and 02], 04 [PART, Divisions 02, 03 and 04] and 05) and the BOROUGH of Bethel Park and Part of WASHINGTON County consisting of the TOWNSHIP of Peters.  
Total population: 66,305
- Dist. 41 LANCASTER County.  
Part of LANCASTER County consisting of the TOWNSHIPS of East Hempfield, Manor (PART, Districts Bethel, Hambright and West Lancaster) and West Hempfield and the BOROUGHS of Columbia and Mountville.  
Total population: 64,434
- Dist. 42 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the TOWNSHIPS of Baldwin, Mount Lebanon and Upper St. Clair (PART, Wards 01, 02, 03 [PART, Division 03] and 04 [PART, Division 01]) and the BOROUGHS of Castle Shannon and Dormont.  
Total population: 63,959
- Dist. 43 LANCASTER County.  
Part of LANCASTER County consisting of the TOWNSHIPS of Earl, Ephrata, Leacock, Upper Leacock and West Earl and the BOROUGHS of Akron, Ephrata and New Holland.  
Total population: 64,434
- Dist. 44 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the TOWNSHIPS of Aleppo, Crescent, Findlay, Leet, Moon and North Fayette and the BOROUGHS of Bell Acres, Edgeworth, Glen Osborne, Glenfield, Haysville, Leetsdale, Sewickley, Sewickley Heights and Sewickley Hills.  
Total population: 66,419

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 45 ALLEGHENY County.  
Part of ALLEGHENY County consisting of the TOWNSHIPS of Collier, Kennedy, Neville, Robinson and Stowe and the BOROUGHS of Bridgeville, Carnegie, Coraopolis, McKees Rocks and Pennsbury Village.  
Total population: 65,880
- Dist. 46 ALLEGHENY and WASHINGTON Counties.  
Part of ALLEGHENY County consisting of the TOWNSHIP of South Fayette and the BOROUGHS of McDonald (Allegheny County Portion) and Oakdale and Part of WASHINGTON County consisting of the TOWNSHIPS of Cecil, Chartiers, Mount Pleasant and North Strabane (PART, Districts 06, 07, 08 and 09) and the BOROUGHS of Canonsburg, Houston and McDonald (Washington County Portion).  
Total population: 66,666
- Dist. 47 YORK County.  
Part of YORK County consisting of the TOWNSHIPS of Conewago, East Manchester, Hellam, Manchester and Springettsbury (PART, Districts 02, 03 and 07) and the BOROUGHS of Hallam, Manchester, Mount Wolf and Wrightsville.  
Total population: 64,984
- Dist. 48 WASHINGTON County.  
Part of WASHINGTON County consisting of the CITY of Washington and the TOWNSHIPS of Amwell, Carroll (PART, Districts 03, 04 and 05), East Finley, Fallowfield, Morris, North Franklin, North Strabane (PART, Districts 01, 02, 03, 04 and 05), Nottingham, Somerset, South Franklin, South Strabane and West Finley and the BOROUGHS of Donora, East Washington and Green Hills.  
Total population: 65,851
- Dist. 49 LANCASTER County.  
Part of LANCASTER County consisting of the CITY of Lancaster (PART, Wards 02 [PART, Division 02], 03, 04, 06 [PART, Division 08], 07 and 08) and the TOWNSHIP of Lancaster and the BOROUGH of Millersville.  
Total population: 62,983

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 50     GREENE and WASHINGTON Counties.  
All of GREENE County and Part of WASHINGTON County  
consisting of the TOWNSHIPS of East Bethlehem, North  
Bethlehem, West Bethlehem and West Pike Run and the  
BOROUGHs of Allenport, Beallsville, Bentleyville,  
California, Centerville, Charleroi, Coal Center,  
Cokeburg, Deemston, Dunlevy, Elco, Ellsworth, Long  
Branch, Marianna, North Charleroi, Roscoe, Speers,  
Stockdale, Twilight and West Brownsville.  
Total population: 66,562
- Dist. 51     FAYETTE County.  
Part of FAYETTE County consisting of the CITY of  
Uniontown and the TOWNSHIPS of Georges, German, Henry  
Clay, Menallen, Nicholson, North Union, South Union,  
Springhill and Wharton and the BOROUGHs of Fairchance,  
Markleysburg, Masontown, Point Marion and Smithfield.  
Total population: 65,033
- Dist. 52     FAYETTE County.  
Part of FAYETTE County consisting of the CITY of  
Connellsville and the TOWNSHIPS of Brownsville,  
Bullskin, Connellsville, Dunbar, Franklin, Jefferson,  
Lower Tyrone, Luzerne, Perry, Redstone, Saltlick,  
Springfield, Stewart, Upper Tyrone and Washington and  
the BOROUGHs of Belle Vernon, Brownsville, Dawson,  
Dunbar, Everson, Fayette City, Newell, Ohiopyle,  
Perryopolis, Seven Springs (Fayette County Portion),  
South Connellsville and Vanderbilt.  
Total population: 63,125
- Dist. 53     MONTGOMERY County.  
Part of MONTGOMERY County consisting of the TOWNSHIPS  
of Franconia (PART, Precincts 02, 05 and 08), Hatfield  
and Montgomery (PART, Districts 01, 02 and 03) and  
the BOROUGHs of Hatfield, Lansdale, Souderton and  
Telford (Montgomery County Portion).  
Total population: 64,733

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 54 MONTGOMERY County.  
Part of MONTGOMERY County consisting of the TOWNSHIP of Plymouth and the BOROUGHs of Conshohocken and Norristown.  
Total population: 63,471
- Dist. 55 WESTMORELAND County.  
Part of WESTMORELAND County consisting of the CITIES of Arnold, Lower Burrell (PART, Ward 04 [PART, Division 01]) and New Kensington and the TOWNSHIPS of Bell, Derry (PART, Districts Alters and Simpsons), Loyalhanna, Salem, Upper Burrell and Washington and the BOROUGHs of Avonmore, Delmont, Export, Murrysville, New Alexandria and Oklahoma.  
Total population: 66,435
- Dist. 56 WESTMORELAND County.  
Part of WESTMORELAND County consisting of the CITY of Jeannette and the TOWNSHIPS of North Huntingdon (PART, Wards 01, 02, 04 [PART, Divisions 01, 03 and 04], 05, 06 and 07) and Penn and the BOROUGHs of Irwin, Manor, North Irwin, Penn and Trafford (Westmoreland County Portion).  
Total population: 64,562
- Dist. 57 WESTMORELAND County.  
Part of WESTMORELAND County consisting of the CITY of Greensburg and the TOWNSHIP of Hempfield and the BOROUGHs of Adamsburg, Arona, New Stanton, South Greensburg, Southwest Greensburg and Youngwood.  
Total population: 66,577
- Dist. 58 WESTMORELAND County.  
Part of WESTMORELAND County consisting of the CITY of Monessen and the TOWNSHIPS of East Huntingdon, Mount Pleasant (PART, Districts Bridgeport, Duncan, Heccla and Spring Garden), North Huntingdon (PART, Wards 03 and 04 [PART, Division 02]), Rostraver, Sewickley and South Huntingdon and the BOROUGHs of Hunker, Madison, Mount Pleasant, North Belle Vernon, Scottdale, Smithton, Sutersville and West Newton.  
Total population: 64,556

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 59 WESTMORELAND County.  
Part of WESTMORELAND County consisting of the CITY of Latrobe and the TOWNSHIPS of Cook, Derry (PART, Districts Bradenville, Cokeville, Cooperstown, Kingston, Loyalhanna, Millwood, New Derry, Peanut, Saxman, Scalp Level and Torrance), Donegal, Fairfield, Ligonier, Mount Pleasant (PART, Districts Laurel Run, Mammoth, Pleasant Valley, Ridgeview, United and Westmoreland), St. Clair and Unity and the BOROUGHS of Bolivar, Derry, Donegal, Laurel Mountain, Ligonier, New Florence, Seward and Youngstown.  
Total population: 66,601
- Dist. 60 ARMSTRONG and WESTMORELAND Counties.  
Part of ARMSTRONG County consisting of the TOWNSHIPS of Bethel, Burrell, Cadogan, East Franklin, Gilpin, Kiskiminetas, Manor, North Buffalo, Parks, South Bend and South Buffalo and the BOROUGHS of Apollo, Applegold, Ford City, Ford Cliff, Freeport, Leechburg, Manorville, North Apollo and West Kittanning and Part of WESTMORELAND County consisting of the CITY of Lower Burrell (PART, Wards 01, 02, 03 and 04 [PART, Division 02]) and the TOWNSHIP of Allegheny and the BOROUGHS of East Vandergrift, Hyde Park, Vandergrift and West Leechburg.  
Total population: 64,259
- Dist. 61 MONTGOMERY County.  
Part of MONTGOMERY County consisting of the TOWNSHIPS of Lower Gwynedd, Towamencin, Upper Gwynedd and Whitpain (PART, Districts 01, 02, 03, 04, 05, 06, 07 and 12) and the BOROUGH of North Wales.  
Total population: 63,924
- Dist. 62 INDIANA County.  
Part of INDIANA County consisting of the TOWNSHIPS of Armstrong, Blacklick, Brush Valley, Buffington, Burrell, Center, Cherryhill, Conemaugh, East Wheatfield, Pine, Washington, West Wheatfield, White and Young and the BOROUGHS of Armagh, Blairsville, Clymer, Creekside, Homer City, Indiana, Saltsburg and Shelocta.  
Total population: 64,920

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 63     ARMSTRONG and CLARION Counties.  
Part of ARMSTRONG County consisting of the CITY of Parker City and the TOWNSHIPS of Boggs, Bradys Bend, Cowanshannock, Hovey, Kittanning, Madison, Mahoning, Perry, Pine, Plumcreek, Rayburn, Redbank, Sugarcreek, Valley, Washington, Wayne and West Franklin and the BOROUGHS of Atwood, Dayton, Elderton, Kittanning, Rural Valley, South Bethlehem and Worthington and All of CLARION County.  
Total population: 65,048
- Dist. 64     CRAWFORD and VENANGO Counties.  
Part of CRAWFORD County consisting of the CITY of Titusville and the TOWNSHIPS of Oil Creek, Rome, Steuben and Troy and the BOROUGHS of Hydetown and Townville and All of VENANGO County.  
Total population: 62,365
- Dist. 65     CRAWFORD, FOREST and WARREN Counties.  
Part of CRAWFORD County consisting of the TOWNSHIPS of Athens, Bloomfield, Cambridge, Cussewago, Richmond, Rockdale, Sparta, Venango and Woodcock and the BOROUGHS of Blooming Valley, Cambridge Springs, Centerville, Saegertown, Spartansburg, Venango and Woodcock; All of FOREST County and All of WARREN County.  
Total population: 61,937
- Dist. 66     INDIANA and JEFFERSON Counties.  
Part of INDIANA County consisting of the TOWNSHIPS of Banks, Canoe, East Mahoning, Grant, Green, Montgomery, North Mahoning, Rayne, South Mahoning and West Mahoning and the BOROUGHS of Cherry Tree, Ernest, Glen Campbell, Marion Center, Plumville and Smicksburg and All of JEFFERSON County.  
Total population: 62,378
- Dist. 67     CAMERON, MCKEAN and POTTER Counties.  
All of CAMERON County; All of MCKEAN County and All of POTTER County.  
Total population: 61,546

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 68     BRADFORD and TIOGA Counties.  
Part of BRADFORD County consisting of the TOWNSHIPS of Armenia, Burlington, Canton, Columbia, Franklin, Granville, Leroy, Monroe, North Towanda, Overton, Ridgebury, Smithfield, South Creek, Springfield, Towanda, Troy, Wells and West Burlington and the BOROUGHS of Alba, Burlington, Canton, Monroe, Sylvania and Troy and All of TIOGA County.  
Total population: 63,772
- Dist. 69     SOMERSET County.  
Part of SOMERSET County consisting of the TOWNSHIPS of Addison, Allegheny, Black, Brothersvalley, Conemaugh, Elk Lick, Fairhope, Greenville, Jefferson, Jenner, Larimer, Lincoln, Lower Turkeyfoot, Middlecreek, Milford, Northampton, Quemahoning, Shade, Somerset, Southampton, Stonycreek, Summit and Upper Turkeyfoot and the BOROUGHS of Addison, Benson, Berlin, Boswell, Callimont, Casselman, Central City, Confluence, Garrett, Hooversville, Indian Lake, Jennerstown, Meyersdale, New Baltimore, New Centerville, Rockwood, Salisbury, Seven Springs (Somerset County Portion), Shanksville, Somerset, Stoystown, Ursina and Wellersburg.  
Total population: 63,457
- Dist. 70     MONTGOMERY County.  
Part of MONTGOMERY County consisting of the TOWNSHIPS of East Norriton, Perkiomen, Skippack, West Norriton (PART, Districts 01, 02 and 04), Whitpain (PART, Districts 08, 09, 10 and 11) and Worcester and the BOROUGH of Schwenksville.  
Total population: 65,364

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 71 CAMBRIA and SOMERSET Counties.  
Part of CAMBRIA County consisting of the TOWNSHIPS of Adams, Allegheny, Chest, Clearfield, Cresson, Dean, Gallitzin, Munster, Portage, Reade, Richland, Stonycreek, Summerhill, Washington and White and the BOROUGHs of Ashville, Cassandra, Chest Springs, Cresson, Ferndale, Gallitzin, Geistown, Lilly, Loretto, Portage, Sankertown, Scalp Level, South Fork, Tunnelhill (Cambria County Portion) and Wilmore and Part of SOMERSET County consisting of the TOWNSHIPS of Ogle and Paint and the BOROUGHs of Paint and Windber.  
Total population: 62,849
- Dist. 72 CAMBRIA County.  
Part of CAMBRIA County consisting of the CITY of Johnstown and the TOWNSHIPS of Blacklick, Cambria, Conemaugh, Croyle, East Taylor, Jackson, Lower Yoder, Middle Taylor, Upper Yoder and West Taylor and the BOROUGHs of Brownstown, Daisytown, Dale, East Conemaugh, Ebensburg, Ehrenfeld, Franklin, Lorain, Nanty Glo, Southmont, Summerhill, Vintondale and Westmont.  
Total population: 64,105
- Dist. 73 CAMBRIA and CLEARFIELD Counties.  
Part of CAMBRIA County consisting of the TOWNSHIPS of Barr, East Carroll, Elder, Susquehanna and West Carroll and the BOROUGHs of Carrolltown, Hastings, Northern Cambria and Patton and Part of CLEARFIELD County consisting of the TOWNSHIPS of Beccaria, Bigler, Boggs, Bradford, Burnside, Chest, Cooper, Covington, Decatur, Girard, Goshen, Graham, Gulich, Jordan, Karthaus, Knox, Lawrence, Morris, Pine and Woodward and the BOROUGHs of Brisbin, Burnside, Chester Hill, Clearfield, Coalport, Glen Hope, Houtzdale, Irvona, Osceola Mills, Ramey, Wallaceton and Westover.  
Total population: 61,454

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 74      CHESTER County.  
Part of CHESTER County consisting of the CITY of Coatesville and the TOWNSHIPS of Caln (PART, Districts 01, 02 and 03), Honey Brook, Sadsbury, Valley, West Caln and West Sadsbury and the BOROUGHs of Atglen, Honey Brook, Modena, Parkesburg and South Coatesville.  
Total population: 64,829
- Dist. 75      CLEARFIELD and ELK Counties.  
Part of CLEARFIELD County consisting of the CITY of Dubois and the TOWNSHIPS of Bell, Bloom, Brady, Ferguson, Greenwood, Huston, Penn, Pike, Sandy and Union and the BOROUGHs of Curwensville, Falls Creek (Clearfield County Portion), Grampian, Mahaffey, New Washington, Newburg and Troutville and All of ELK County.  
Total population: 63,767
- Dist. 76      CLINTON and UNION Counties.  
All of CLINTON County and Part of UNION County consisting of the TOWNSHIPS of Buffalo, Hartley, Kelly, Lewis, Limestone and West Buffalo and the BOROUGHs of Hartleton, Lewisburg, Mifflinburg and New Berlin.  
Total population: 62,712
- Dist. 77      CENTRE County.  
Part of CENTRE County consisting of the TOWNSHIPS of Ferguson, Halfmoon, Huston, Patton, Rush, Taylor and Worth and the BOROUGHs of Philipsburg, Port Matilda and State College (PART, Districts East Central [PART, Division 02], Northwest, South [PART, Division 01], West and West Central).  
Total population: 61,876
- Dist. 78      BEDFORD and FULTON Counties.  
All of BEDFORD County and All of FULTON County.  
Total population: 62,267

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 79      BLAIR County.  
Part of BLAIR County consisting of the CITY of Altoona and the TOWNSHIPS of Allegheny and Logan and the BOROUGH of Tunnelhill (Blair County Portion).  
Total population: 63,269
- Dist. 80      BLAIR and HUNTINGDON Counties.  
Part of BLAIR County consisting of the TOWNSHIPS of Antis, Blair, Catharine, Frankstown, Freedom, Greenfield, Huston, Juniata, North Woodbury, Snyder, Taylor, Tyrone and Woodbury and the BOROUGHS of Bellwood, Duncansville, Hollidaysburg, Martinsburg, Newry, Roaring Spring, Tyrone and Williamsburg and Part of HUNTINGDON County consisting of the TOWNSHIPS of Franklin and Warriors Mark and the BOROUGH of Birmingham.  
Total population: 62,295
- Dist. 81      FRANKLIN and HUNTINGDON Counties.  
Part of FRANKLIN County consisting of the TOWNSHIPS of Fannett, Letterkenny, Lurgan, Metal, Southampton and St. Thomas and the BOROUGHS of Orrstown and Shippensburg (Franklin County Portion) and Part of HUNTINGDON County consisting of the TOWNSHIPS of Barree, Brady, Carbon, Cass, Clay, Cromwell, Dublin, Henderson, Hopewell, Jackson, Juniata, Lincoln, Logan, Miller, Morris, Oneida, Penn, Porter, Shirley, Smithfield, Springfield, Spruce Creek, Tell, Todd, Union, Walker, West and Wood and the BOROUGHS of Alexandria, Broad Top City, Cassville, Coalmont, Dudley, Huntingdon, Mapleton, Marklesburg, Mill Creek, Mount Union, Orbisonia, Petersburg, Rockhill, Saltillo, Shade Gap, Shirleysburg and Three Springs.  
Total population: 64,708

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 82      CENTRE County.  
Part of CENTRE County consisting of the TOWNSHIPS of Benner, Boggs, Burnside, College, Curtin, Harris, Howard, Liberty, Marion, Snow Shoe and Union and the BOROUGHs of Howard, Milesburg, Snow Shoe, State College (PART, Districts East, East Central [PART, Division 03], North, Northeast, Penn State Univ. (hub), South [PART, Division 02], South Central and Southeast) and Unionville.  
Total population: 62,294
- Dist. 83      LYCOMING and UNION Counties.  
Part of LYCOMING County consisting of the CITY of Williamsport and the TOWNSHIPS of Armstrong, Brady, Clinton, Loyalsock, Susquehanna and Washington and the BOROUGHs of Duboistown, Montgomery and South Williamsport and Part of UNION County consisting of the TOWNSHIPS of Gregg and White Deer.  
Total population: 63,798
- Dist. 84      LYCOMING and SULLIVAN Counties.  
Part of LYCOMING County consisting of the TOWNSHIPS of Anthony, Bastress, Brown, Cascade, Cogan House, Cummings, Eldred, Fairfield, Franklin, Gamble, Hepburn, Jackson, Jordan, Lewis, Limestone, Lycoming, McHenry, McIntyre, McNett, Mifflin, Mill Creek, Moreland, Muncy, Muncy Creek, Nippenose, Old Lycoming, Penn, Piatt, Pine, Plunketts Creek, Porter, Shrewsbury, Upper Fairfield, Watson, Wolf and Woodward and the BOROUGHs of Hughesville, Jersey Shore, Montoursville, Muncy, Picture Rocks and Salladasburg and All of SULLIVAN County.  
Total population: 64,134
- Dist. 85      JUNIATA, MIFFLIN, SNYDER and UNION Counties.  
Part of JUNIATA County consisting of the TOWNSHIPS of Fayette and Monroe; Part of MIFFLIN County consisting of the TOWNSHIPS of Decatur and Derry and the BOROUGH of Burnham; All of SNYDER County and Part of UNION County consisting of the TOWNSHIPS of East Buffalo and Union.  
Total population: 66,424

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 86 JUNIATA and PERRY Counties.  
Part of JUNIATA County consisting of the TOWNSHIPS of Beale, Delaware, Fermanagh, Greenwood, Lack, Milford, Spruce Hill, Susquehanna, Turbett, Tuscarora and Walker and the BOROUGHS of Mifflin, Mifflintown, Port Royal and Thompsontown and All of PERRY County.  
Total population: 64,092
- Dist. 87 CUMBERLAND County.  
Part of CUMBERLAND County consisting of the TOWNSHIPS of Lower Allen (PART, Precinct 02), Monroe, Silver Spring, South Middleton (PART, Precincts 01, 02, 06, 07, 08 and 09) and Upper Allen and the BOROUGH of Mount Holly Springs.  
Total population: 66,300
- Dist. 88 CUMBERLAND County.  
Part of CUMBERLAND County consisting of the TOWNSHIPS of Hampden and Lower Allen (PART, Precincts 01, 03, 04, 05 and 06) and the BOROUGHS of Mechanicsburg, New Cumberland and Shiremanstown.  
Total population: 64,646
- Dist. 89 FRANKLIN County.  
Part of FRANKLIN County consisting of the TOWNSHIPS of Greene, Guilford and Hamilton and the BOROUGH of Chambersburg.  
Total population: 66,531
- Dist. 90 FRANKLIN County.  
Part of FRANKLIN County consisting of the TOWNSHIPS of Antrim, Montgomery, Peters, Quincy, Warren and Washington and the BOROUGHS of Greencastle, Mercersburg, Mont Alto and Waynesboro.  
Total population: 64,923

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 91 ADAMS County.  
Part of ADAMS County consisting of the TOWNSHIPS of Conewago, Cumberland, Franklin, Freedom, Germany, Hamiltonban, Highland, Liberty, Mount Joy, Mount Pleasant, Straban and Union and the BOROUGHS of Bonneauville, Carroll Valley, Fairfield, Gettysburg, Littlestown and McSherrystown.  
Total population: 65,612
- Dist. 92 YORK County.  
Part of YORK County consisting of the TOWNSHIPS of Carroll, Dover (PART, District 02), Fairview, Franklin, Monaghan, Newberry, Warrington and Washington and the BOROUGHS of Dillsburg, Franklintown, Goldsboro, Lewisberry, Wellsville and York Haven.  
Total population: 66,531
- Dist. 93 YORK County.  
Part of YORK County consisting of the TOWNSHIPS of East Hopewell, Fawn, Hopewell, North Hopewell, Springfield and York and the BOROUGHS of Cross Roads, Dallastown, Fawn Grove, Jacobus, Loganville, Shrewsbury, Stewartstown, Winterstown and Yoe.  
Total population: 65,319
- Dist. 94 YORK County.  
Part of YORK County consisting of the TOWNSHIPS of Chanceford, Lower Chanceford, Lower Windsor, Peach Bottom, Springettsbury (PART, Districts 01, 04, 05, 06 and 08) and Windsor and the BOROUGHS of Delta, East Prospect, Felton, Red Lion, Windsor and Yorkana.  
Total population: 63,281
- Dist. 95 YORK County.  
Part of YORK County consisting of the CITY of York and the TOWNSHIP of Spring Garden and the BOROUGHS of North York and West York.  
Total population: 66,193

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 96     LANCASTER County.  
Part of LANCASTER County consisting of the CITY of Lancaster (PART, Wards 01, 02 [PART, Division 01], 05, 06 [PART, Divisions 01, 02, 03, 04, 05, 06 and 07] and 09) and the TOWNSHIP of Manheim (PART, Districts 01, 03, 04, 05, 07 A, 07 B, 08, 09, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22 and 23) and the BOROUGH of East Petersburg.  
Total population: 63,476
- Dist. 97     LANCASTER County.  
Part of LANCASTER County consisting of the TOWNSHIPS of Conestoga, East Lampeter, Manheim (PART, Districts 02, 06, 12 and 13), Manor (PART, Districts Hershey Mill, Indiantown, Leisure, Manor, New, New East and Washington Boro), Pequea and West Lampeter.  
Total population: 65,859
- Dist. 98     LANCASTER and LEBANON Counties.  
Part of LANCASTER County consisting of the TOWNSHIPS of Conoy, East Donegal, Mount Joy and West Donegal and the BOROUGHS of Elizabethtown, Marietta and Mount Joy and Part of LEBANON County consisting of the TOWNSHIPS of South Annville and South Londonderry and the BOROUGH of Mount Gretna.  
Total population: 66,784
- Dist. 99     BERKS and LANCASTER Counties.  
Part of BERKS County consisting of the TOWNSHIPS of Brecknock, Cumru (PART, Districts 03 and 05) and Spring (PART, Districts 11 and 12) and the BOROUGHS of Adamstown (Berks County Portion) and Mohnton and Part of LANCASTER County consisting of the TOWNSHIPS of Brecknock, Caernarvon, East Cocalico, East Earl, Salisbury (PART, District Cambridge) and West Cocalico and the BOROUGHS of Adamstown (Lancaster County Portion), Denver and Terre Hill.  
Total population: 64,103

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 100 LANCASTER County.  
Part of LANCASTER County consisting of the TOWNSHIPS of Bart, Colerain, Drumore, East Drumore, Eden, Fulton, Little Britain, Martic, Paradise, Providence, Sadsbury, Salisbury (PART, Districts Gap and White Horse) and Strasburg and the BOROUGHS of Christiana, Quarryville and Strasburg.  
Total population: 64,207
- Dist. 101 LEBANON County.  
Part of LEBANON County consisting of the CITY of Lebanon and the TOWNSHIPS of North Cornwall, North Lebanon, South Lebanon, West Cornwall and West Lebanon and the BOROUGH of Cornwall.  
Total population: 65,422
- Dist. 102 LEBANON County.  
Part of LEBANON County consisting of the TOWNSHIPS of Annville, Bethel, East Hanover, Heidelberg, Jackson, Millcreek, North Annville, North Londonderry, Swatara and Union and the BOROUGHS of Cleona, Jonestown, Myerstown, Palmyra and Richland.  
Total population: 65,771
- Dist. 103 CUMBERLAND and DAUPHIN Counties.  
Part of CUMBERLAND County consisting of the TOWNSHIP of East Pennsboro and the BOROUGHS of Camp Hill, Lemoyne and Wormleysburg and Part of DAUPHIN County consisting of the CITY of Harrisburg (PART, Wards 01 [PART, Division 01], 03, 04, 05, 06, 07, 08, 09 [PART, Division 01], 10, 11, 12, 14 and 15).  
Total population: 64,346
- Dist. 104 DAUPHIN County.  
Part of DAUPHIN County consisting of the CITY of Harrisburg (PART, Wards 01 [PART, Divisions 02 and 03], 02, 09 [PART, Divisions 02, 03, 04 and 05] and 13) and the TOWNSHIPS of Lower Swatara (PART, District 03) and Swatara and the BOROUGHS of Highspire, Paxtang and Steelton.  
Total population: 65,491

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 105    DAUPHIN County.  
Part of DAUPHIN County consisting of the TOWNSHIPS of Lower Paxton (PART, Districts 01, 02, 05, 06, 07, 08, 10, 11, 12, 13, 14, 17, 18, 20, 23, 25 and 26) and Susquehanna and the BOROUGH of Penbrook.  
Total population: 62,825
- Dist. 106    DAUPHIN County.  
Part of DAUPHIN County consisting of the TOWNSHIPS of Conewago, Derry, East Hanover, Londonderry, Lower Swatara (PART, Districts 01, 02 and 04) and South Hanover and the BOROUGHs of Hummelstown, Middletown and Royalton.  
Total population: 66,872
- Dist. 107    NORTHUMBERLAND and SCHUYLKILL Counties.  
Part of NORTHUMBERLAND County consisting of the CITY of Shamokin and the TOWNSHIPS of Coal, East Cameron, Jackson, Jordan, Little Mahanoy, Lower Augusta, Lower Mahanoy, Mount Carmel, Ralpho, Shamokin, Upper Mahanoy, Washington, West Cameron and Zerbe and the BOROUGHs of Herndon, Kulpmont, Marion Heights and Mount Carmel and Part of SCHUYLKILL County consisting of the TOWNSHIPS of Barry, Eldred, Foster, Frailey, Hegins, Hubley, Pine Grove, Porter, Reilly, Tremont, Upper Mahantongo and Washington and the BOROUGHs of Pine Grove, Tower City and Tremont.  
Total population: 65,921
- Dist. 108    MONTOUR and NORTHUMBERLAND Counties.  
All of MONTOUR County and Part of NORTHUMBERLAND County consisting of the CITY of Sunbury and the TOWNSHIPS of Delaware, East Chillisquaque, Lewis, Point, Rockefeller, Rush, Turbot, Upper Augusta and West Chillisquaque and the BOROUGHs of McEwensville, Milton, Northumberland, Riverside, Snyderstown, Turbotville and Watsonstown.  
Total population: 65,258
- Dist. 109    COLUMBIA County.  
; All of COLUMBIA County.  
Total population: 64,825

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 110 BRADFORD and WYOMING Counties.  
Part of BRADFORD County consisting of the TOWNSHIPS of Albany, Asylum, Athens, Herrick, Litchfield, Orwell, Pike, Rome, Sheshequin, Standing Stone, Stevens, Terry, Tuscarora, Ulster, Warren, Wilmot, Windham, Wyalusing and Wysox and the BOROUGHS of Athens, Leraysville, New Albany, Rome, Sayre, South Waverly, Towanda and Wyalusing and All of WYOMING County.  
Total population: 63,536
- Dist. 111 SUSQUEHANNA and WAYNE Counties.  
All of SUSQUEHANNA County and Part of WAYNE County consisting of the TOWNSHIPS of Berlin, Buckingham, Canaan, Clinton, Damascus, Dyberry, Lebanon, Manchester, Mount Pleasant, Oregon, Preston, Scott and Texas and the BOROUGHS of Bethany, Honesdale, Prompton, Starrucca and Waymart.  
Total population: 65,251
- Dist. 112 LACKAWANNA County.  
Part of LACKAWANNA County consisting of the CITY of Carbondale and the TOWNSHIPS of Carbondale, Fell and Jefferson and the BOROUGHS of Archbald, Blakely, Dunmore, Jermyn, Jessup, Mayfield, Olyphant, Throop and Vandling.  
Total population: 62,766
- Dist. 113 LACKAWANNA County.  
Part of LACKAWANNA County consisting of the CITY of Scranton (PART, Wards 04 [PART, Division 01], 05, 06, 09, 10, 11, 12, 14, 15, 16, 17, 19, 20, 22 and 24) and the TOWNSHIPS of Clifton, Covington, Elmhurst, Madison, Roaring Brook, Spring Brook and Thornhurst and the BOROUGH of Moscow.  
Total population: 62,709

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 114 LACKAWANNA County.  
Part of LACKAWANNA County consisting of the CITY of Scranton (PART, Wards 01, 02, 03, 04 [PART, Division 02], 07, 13, 21 and 23) and the TOWNSHIPS of Benton, Greenfield, North Abington, Scott, South Abington and Waverly and the BOROUGHS of Clarks Green, Clarks Summit and Dickson City.  
Total population: 62,413
- Dist. 115 MONROE County.  
Part of MONROE County consisting of the TOWNSHIPS of Barrett, Coolbaugh, Middle Smithfield (PART, District West), Paradise, Pocono, Price and Stroud (PART, Districts 02, 04 and 05) and the BOROUGH of Mount Pocono.  
Total population: 62,673
- Dist. 116 LUZERNE and SCHUYLKILL Counties.  
Part of LUZERNE County consisting of the CITY of Hazleton and the TOWNSHIP of Hazle and the BOROUGH of West Hazleton and Part of SCHUYLKILL County consisting of the TOWNSHIPS of East Union, Kline, Mahanoy, North Union and Union and the BOROUGHS of Mahanoy City, McAdoo, Ringtown and Shenandoah.  
Total population: 63,945
- Dist. 117 LUZERNE County.  
Part of LUZERNE County consisting of the TOWNSHIPS of Black Creek, Butler, Conyngham, Dennison, Dorrance, Fairmount, Foster, Hollenback, Hunlock, Huntington, Lake, Lehman, Nescopeck, Ross, Salem, Slocum, Sugarloaf and Union and the BOROUGHS of Conyngham, Dallas, Freeland, Harveys Lake, Jeddo, Nescopeck, New Columbus, Nuangola, Penn Lake Park, Shickshinny and White Haven.  
Total population: 61,755

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 118 LACKAWANNA and LUZERNE Counties.  
Part of LACKAWANNA County consisting of the TOWNSHIPS of Glenburn, La Plume, Newton, Ransom and West Abington and the BOROUGHS of Dalton, Moosic, Old Forge and Taylor and Part of LUZERNE County consisting of the CITY of Pittston and the TOWNSHIPS of Jenkins and Pittston and the BOROUGHS of Avoca, Dupont, Duryea, Hughestown, Laflin, West Pittston and Yatesville.  
Total population: 61,770
- Dist. 119 LUZERNE County.  
Part of LUZERNE County consisting of the CITY of Nanticoke and the TOWNSHIPS of Fairview, Hanover, Newport, Plymouth, Rice and Wright and the BOROUGHS of Ashley, Edwardsville, Larksville, Plymouth, Sugar Notch and Warrior Run.  
Total population: 61,334
- Dist. 120 LUZERNE County.  
Part of LUZERNE County consisting of the TOWNSHIPS of Dallas, Exeter, Franklin, Jackson and Kingston and the BOROUGHS of Courtdale, Exeter, Forty Fort, Kingston, Luzerne, Pringle, Swoyersville, West Wyoming and Wyoming.  
Total population: 61,645
- Dist. 121 LUZERNE County.  
Part of LUZERNE County consisting of the CITY of Wilkes-Barre and the TOWNSHIPS of Bear Creek, Buck, Plains and Wilkes-Barre and the BOROUGHS of Bear Creek Village and Laurel Run.  
Total population: 61,466
- Dist. 122 CARBON County.  
; All of CARBON County.  
Total population: 64,866

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 123 SCHUYLKILL County.  
Part of SCHUYLKILL County consisting of the CITY of Pottsville and the TOWNSHIPS of Blythe, Branch, Butler, Cass, East Norwegian, New Castle, North Manheim, Norwegian, Wayne and West Mahanoy and the BOROUGHS of Ashland (Schuylkill County Portion), Cressona, Frackville, Gilberton, Girardville, Gordon, Mechanicsville, Middleport, Minersville, Mount Carbon, New Philadelphia, Palo Alto, Port Carbon, Schuylkill Haven and St. Clair.  
Total population: 65,886
- Dist. 124 BERKS and SCHUYLKILL Counties.  
Part of BERKS County consisting of the TOWNSHIPS of Albany, Greenwich, Maxatawny, Tilden, Upper Bern, Upper Tulpehocken and Windsor and the BOROUGHS of Hamburg, Kutztown and Lenhartsville and Part of SCHUYLKILL County consisting of the TOWNSHIPS of Delano, East Brunswick, Rush, Ryan, Schuylkill, South Manheim, Walker, West Brunswick and West Penn and the BOROUGHS of Auburn, Coaldale, Deer Lake, Landingville, New Ringgold, Orwigsburg, Port Clinton and Tamaqua.  
Total population: 64,846
- Dist. 125 DAUPHIN County.  
Part of DAUPHIN County consisting of the TOWNSHIPS of Halifax, Jackson, Jefferson, Lower Paxton (PART, Districts 03, 04, 09, 15, 16, 19, 21, 22, 24 and 27), Lykens, Middle Paxton, Mifflin, Reed, Rush, Upper Paxton, Washington, Wayne, West Hanover, Wiconisco and Williams and the BOROUGHS of Berrysburg, Dauphin, Elizabethville, Gratz, Halifax, Lykens, Millersburg, Pillow and Williamstown.  
Total population: 64,693
- Dist. 126 BERKS County.  
Part of BERKS County consisting of the CITY of Reading (PART, Wards 12 [PART, Division 05], 13, 14 [PART, Division 06], 16 [PART, Division 05] and 17) and the TOWNSHIPS of Exeter (PART, Precincts 04, 05 and 11), Lower Alsace and Muhlenberg and the BOROUGHS of Laureldale, Mount Penn and St. Lawrence.  
Total population: 63,936

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 127    BERKS County.  
Part of BERKS County consisting of the CITY of Reading (PART, Wards 01, 02, 03, 04, 05, 07, 08, 09, 10, 11, 12 [PART, Divisions 01 and 03], 16 [PART, Divisions 01, 02 and 04] and 18) and the TOWNSHIP of Cumru (PART, Districts 06 and 07) and the BOROUGHS of Kenhorst and Shillington.  
Total population: 62,627
- Dist. 128    BERKS County.  
Part of BERKS County consisting of the TOWNSHIPS of Amity, Caernarvon, Cumru (PART, Districts 01, 02 and 04), Douglass, Exeter (PART, Precincts 01, 02, 03, 06, 07, 08, 09 and 10), Robeson and Union and the BOROUGHS of Birdsboro and New Morgan.  
Total population: 62,731
- Dist. 129    BERKS County.  
Part of BERKS County consisting of the CITY of Reading (PART, Wards 06, 14 [PART, Divisions 01, 04 and 05], 15 and 19) and the TOWNSHIP of Spring (PART, Districts 01, 02, 03, 04, 06, 09, 10 and 13) and the BOROUGHS of Sinking Spring, West Reading and Wyomissing.  
Total population: 63,444
- Dist. 130    BERKS County.  
Part of BERKS County consisting of the TOWNSHIPS of Alsace, Colebrookdale, District, Earl, Hereford, Longswamp, Maiden creek, Oley, Pike, Richmond, Rockland, Ruscombmanor and Washington and the BOROUGHS of Bally, Bechtelsville, Boyertown, Fleetwood, Lyons and Topton.  
Total population: 65,179

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 131    LEHIGH, MONTGOMERY and NORTHAMPTON Counties.  
Part of LEHIGH County consisting of the TOWNSHIPS of Lower Milford, Salisbury (PART, Ward 03 [PART, Division 01]), Upper Milford and Upper Saucon and the BOROUGH of Coopersburg; Part of MONTGOMERY County consisting of the TOWNSHIPS of Marlborough, Salford and Upper Hanover and the BOROUGHS of East Greenville, Green Lane, Pennsburg and Red Hill and Part of NORTHAMPTON County consisting of the TOWNSHIP of Lower Saucon (PART, Districts 01, 02, 04, 07 and 08).  
Total population: 65,219
- Dist. 132    LEHIGH County.  
Part of LEHIGH County consisting of the CITY of Allentown (PART, Wards 08 [PART, Divisions 04 and 07], 11 [PART, Divisions 04, 05, 06 and 07], 13 [PART, Division 04], 17 and 18) and the TOWNSHIPS of South Whitehall and Upper Macungie (PART, Districts 01, 02, 04, 05 and 06).  
Total population: 63,677
- Dist. 133    LEHIGH County.  
Part of LEHIGH County consisting of the CITY of Bethlehem (Lehigh County Portion) and the TOWNSHIPS of Hanover and Whitehall and the BOROUGHS of Catasauqua, Coplay and Fountain Hill.  
Total population: 65,425
- Dist. 134    LEHIGH County.  
Part of LEHIGH County consisting of the CITY of Allentown (PART, Wards 02, 03, 11 [PART, Divisions 01 and 03], 12, 13 [PART, Divisions 01, 02 and 03], 16 and 19) and the TOWNSHIP of Salisbury (PART, Wards 04 and 05) and the BOROUGH of Emmaus.  
Total population: 62,882
- Dist. 135    NORTHAMPTON County.  
Part of NORTHAMPTON County consisting of the CITY of Bethlehem (Northampton County Portion) and the TOWNSHIP of Hanover (PART, Districts 01, 02, 03, 04 and 06).  
Total population: 65,793

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 136    NORTHAMPTON County.  
Part of NORTHAMPTON County consisting of the CITY of Easton and the TOWNSHIPS of Lower Saucon (PART, Districts 03, 05 and 06), Palmer (PART, Districts Eastern and Western [PART, Division 01]) and Williams and the BOROUGHS of Freemansburg, Glendon, Hellertown, West Easton and Wilson.  
Total population: 63,648
- Dist. 137    NORTHAMPTON County.  
Part of NORTHAMPTON County consisting of the TOWNSHIPS of Bethlehem, Hanover (PART, District 05), Lower Nazareth, Palmer (PART, Districts Middle, Upper Eastern, Upper Western and Western [PART, Division 02]) and Upper Nazareth and the BOROUGHS of Nazareth and Tatamy.  
Total population: 65,856
- Dist. 138    NORTHAMPTON County.  
Part of NORTHAMPTON County consisting of the TOWNSHIPS of Bushkill, Forks, Lower Mount Bethel, Moore (PART, Districts Eastern and Pt. Phillips), Plainfield, Upper Mount Bethel and Washington and the BOROUGHS of Bangor, Chapman, East Bangor, Pen Argyl, Portland, Roseto, Stockertown and Wind Gap.  
Total population: 66,215
- Dist. 139    PIKE and WAYNE Counties.  
Part of PIKE County consisting of the TOWNSHIPS of Blooming Grove, Dingman, Greene, Lackawaxen, Milford, Palmyra, Shohola and Westfall and the BOROUGHS of Matamoras and Milford and Part of WAYNE County consisting of the TOWNSHIPS of Cherry Ridge, Dreher, Lake, Lehigh, Palmyra, Paupack, Salem, South Canaan and Sterling and the BOROUGH of Hawley.  
Total population: 63,297
- Dist. 140    BUCKS County.  
Part of BUCKS County consisting of the TOWNSHIPS of Falls and Middletown (PART, District Lower [PART, Divisions 03, 04, 05, 06, 07, 08, 09, 10, 11 and 12]) and the BOROUGHS of Morrisville and Tullytown.  
Total population: 61,806

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 141 BUCKS County.  
Part of BUCKS County consisting of the TOWNSHIP of Bristol and the BOROUGH of Bristol.  
Total population: 64,322
- Dist. 142 BUCKS County.  
Part of BUCKS County consisting of the TOWNSHIPS of Lower Southampton, Middletown (PART, Districts Lower [PART, Divisions 01, 02 and 13] and Upper) and Northampton (PART, Districts 09, 10 and 14) and the BOROUGHs of Langhorne, Langhorne Manor and Penndel.  
Total population: 65,233
- Dist. 143 BUCKS County.  
Part of BUCKS County consisting of the TOWNSHIPS of Bedminster, Hilltown, New Britain (PART, Districts East and West), Plumstead and Tinicum and the BOROUGHs of Dublin, Perkasio, Sellersville and Silverdale.  
Total population: 65,742
- Dist. 144 BUCKS County.  
Part of BUCKS County consisting of the TOWNSHIPS of New Britain (PART, District South), Warminster and Warrington and the BOROUGH of Ivyland.  
Total population: 65,208
- Dist. 145 BUCKS County.  
Part of BUCKS County consisting of the TOWNSHIPS of Bridgeton, Durham, East Rockhill, Haycock, Milford, Nockamixon, Richland, Springfield and West Rockhill and the BOROUGHs of Quakertown, Richlandtown, Riegelsville, Telford (Bucks County Portion) and Trumbauersville.  
Total population: 63,152
- Dist. 146 MONTGOMERY County.  
Part of MONTGOMERY County consisting of the TOWNSHIPS of Limerick, Lower Pottsgrove and West Pottsgrove and the BOROUGHs of Pottstown and Royersford.  
Total population: 65,008

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 147 MONTGOMERY County.  
Part of MONTGOMERY County consisting of the TOWNSHIPS of Douglass, Franconia (PART, Precincts 01, 03, 04, 06 and 07), Lower Frederick, Lower Salford, New Hanover, Upper Frederick, Upper Pottsgrove and Upper Salford.  
Total population: 65,711
- Dist. 148 MONTGOMERY County.  
Part of MONTGOMERY County consisting of the TOWNSHIPS of Lower Merion (PART, Wards 01, 02, 03, 05 [PART, Divisions 01 and 02], 07, 09, 12, 13 and 14) and Whitemarsh and the BOROUGH of Narberth.  
Total population: 63,587
- Dist. 149 MONTGOMERY County.  
Part of MONTGOMERY County consisting of the TOWNSHIPS of Lower Merion (PART, Wards 04, 05 [PART, Division 03], 06, 08, 10 and 11) and Upper Merion and the BOROUGHS of Bridgeport and West Conshohocken.  
Total population: 64,410
- Dist. 150 MONTGOMERY County.  
Part of MONTGOMERY County consisting of the TOWNSHIPS of Lower Providence, Upper Providence and West Norriton (PART, District 03) and the BOROUGHS of Collegeville and Trappe.  
Total population: 63,779
- Dist. 151 MONTGOMERY County.  
Part of MONTGOMERY County consisting of the TOWNSHIPS of Horsham, Montgomery (PART, Districts 04, 05, 06, 07 and 08) and Upper Dublin (PART, Districts 01 [PART, Division 02], 02 [PART, Division 03], 03, 06 and 07) and the BOROUGH of Ambler.  
Total population: 63,765

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 152 MONTGOMERY County.  
Part of MONTGOMERY County consisting of the TOWNSHIPS of Abington (PART, Wards 05, 08, 10 [PART, Division 02], 14 [PART, Division 01] and 15 [PART, Division 02]), Lower Moreland and Upper Moreland and the BOROUGHS of Bryn Athyn and Hatboro.  
Total population: 61,386
- Dist. 153 MONTGOMERY County.  
Part of MONTGOMERY County consisting of the TOWNSHIPS of Abington (PART, Wards 01, 02, 03, 04, 06, 07, 09, 10 [PART, Divisions 01 and 03], 11, 12, 13, 14 [PART, Division 02] and 15 [PART, Division 01]) and Upper Dublin (PART, Districts 01 [PART, Divisions 01 and 03], 02 [PART, Divisions 01 and 02], 04 and 05) and the BOROUGH of Rockledge.  
Total population: 62,313
- Dist. 154 MONTGOMERY County.  
Part of MONTGOMERY County consisting of the TOWNSHIPS of Cheltenham and Springfield and the BOROUGH of Jenkintown.  
Total population: 63,038
- Dist. 155 CHESTER County.  
Part of CHESTER County consisting of the TOWNSHIPS of Caln (PART, District 04), East Brandywine, Upper Uwchlan, Uwchlan, Wallace and West Brandywine and the BOROUGH of Downingtown.  
Total population: 64,311
- Dist. 156 CHESTER County.  
Part of CHESTER County consisting of the TOWNSHIPS of East Bradford, East Goshen (PART, Precincts 01, 02, 03, 04, 07, 08 and 09) and West Goshen and the BOROUGH of West Chester.  
Total population: 66,169
- Dist. 157 CHESTER County.  
Part of CHESTER County consisting of the TOWNSHIPS of Easttown, Schuylkill, Tredyffrin and Willistown.  
Total population: 62,988

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 158 CHESTER County.  
Part of CHESTER County consisting of the TOWNSHIPS of East Fallowfield, East Marlborough, Kennett, New Garden, Newlin, Pocopson, West Bradford and West Marlborough and the BOROUGHS of Avondale and Kennett Square.  
Total population: 62,792
- Dist. 159 DELAWARE County.  
Part of DELAWARE County consisting of the CITY of Chester and the TOWNSHIPS of Lower Chichester and Upper Chichester and the BOROUGHS of Eddystone, Marcus Hook, Parkside and Trainer.  
Total population: 61,801
- Dist. 160 CHESTER and DELAWARE Counties.  
Part of CHESTER County consisting of the TOWNSHIPS of Birmingham, Pennsbury, Thornbury and Westtown and Part of DELAWARE County consisting of the TOWNSHIPS of Bethel, Chadds Ford, Concord and Thornbury and the BOROUGH of Chester Heights.  
Total population: 63,956
- Dist. 161 DELAWARE County.  
Part of DELAWARE County consisting of the TOWNSHIPS of Aston, Chester, Middletown (PART, Districts 01 and 02 [PART, Divisions 01 and 02]), Nether Providence and Ridley (PART, Wards 01 [PART, Divisions 01 and 03], 02, 05 [PART, Division 01] and 07) and the BOROUGHS of Brookhaven, Rose Valley and Upland.  
Total population: 63,804
- Dist. 162 DELAWARE County.  
Part of DELAWARE County consisting of the TOWNSHIPS of Darby (PART, Wards 01 and 02) and Ridley (PART, Wards 01 [PART, Division 02], 03, 04, 05 [PART, Division 02], 06, 08 and 09) and the BOROUGHS of Folcroft, Glenolden, Norwood, Prospect Park, Ridley Park, Rutledge and Sharon Hill.  
Total population: 64,947

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 163 DELAWARE County.  
Part of DELAWARE County consisting of the TOWNSHIPS of Darby (PART, Wards 03, 04 and 05) and Upper Darby (PART, Districts 01, 02, 03 [PART, Divisions 01, 02, 03, 04, 05, 08, 09, 10 and 11] and 05 [PART, Divisions 04, 06, 08 and 09]) and the BOROUGHS of Aldan, Clifton Heights and Collingdale.  
Total population: 63,755
- Dist. 164 DELAWARE County.  
Part of DELAWARE County consisting of the TOWNSHIP of Upper Darby (PART, Districts 03 [PART, Divisions 06 and 07], 04, 05 [PART, Divisions 01, 02, 03, 05, 07 and 10], 06 and 07) and the BOROUGHS of East Lansdowne, Lansdowne and Millbourne.  
Total population: 63,129
- Dist. 165 DELAWARE County.  
Part of DELAWARE County consisting of the TOWNSHIPS of Marple (PART, Wards 04 [PART, Division 02], 05, 06 and 07), Springfield and Upper Providence and the BOROUGHS of Media, Morton and Swarthmore.  
Total population: 62,800
- Dist. 166 DELAWARE County.  
Part of DELAWARE County consisting of the TOWNSHIPS of Haverford and Marple (PART, Wards 01, 02, 03 and 04 [PART, Divisions 01 and 03]).  
Total population: 63,050
- Dist. 167 CHESTER County.  
Part of CHESTER County consisting of the TOWNSHIPS of Charlestown, East Caln, East Goshen (PART, Precincts 05 and 06), East Whiteland, West Pikeland, West Vincent and West Whiteland and the BOROUGH of Malvern.  
Total population: 63,435
- Dist. 168 DELAWARE County.  
Part of DELAWARE County consisting of the TOWNSHIPS of Edgmont, Middletown (PART, Districts 02 [PART, Division 03], 03 and 04), Newtown and Radnor.  
Total population: 62,978

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 169 YORK County.  
Part of YORK County consisting of the TOWNSHIPS of Codorus, Manheim, Penn, Shrewsbury and West Manheim and the BOROUGHS of Glen Rock, Hanover, Jefferson, New Freedom and Railroad.  
Total population: 64,977
- Dist. 170 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 58 [PART, Divisions 03, 04, 05, 06, 07, 08, 12, 20, 21, 22, 23, 24, 25, 29, 30, 31, 32, 33, 34, 35, 37, 38, 39, 40, 41 and 43] and 66 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 11, 12, 13, 14, 15, 16, 17, 20, 22, 23, 24, 30, 33, 34, 35, 36, 38, 39, 41, 42, 44 and 45]).  
Total population: 62,661
- Dist. 171 CENTRE and MIFFLIN Counties.  
Part of CENTRE County consisting of the TOWNSHIPS of Gregg, Haines, Miles, Penn, Potter, Spring and Walker and the BOROUGHS of Bellefonte, Centre Hall and Millheim and Part of MIFFLIN County consisting of the TOWNSHIPS of Armagh, Bratton, Brown, Granville, Menno, Oliver, Union and Wayne and the BOROUGHS of Juniata Terrace, Kistler, Lewistown, McVeytown and Newton Hamilton.  
Total population: 65,554
- Dist. 172 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 56 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 13, 14, 15, 16, 33, 34, 36, 37 and 40], 58 [PART, Divisions 01, 02, 09, 10, 11, 13, 14, 15, 16, 17, 18, 19, 26, 27, 28, 36, 42 and 44] and 63).  
Total population: 64,450

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 173 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 41 [PART, Divisions 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 and 26], 57 [PART, Divisions 01, 13, 14, 17, 18, 22 and 28], 64 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 13, 14, 15, 16, 17 and 18] and 65).  
Total population: 62,913
- Dist. 174 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 56 [PART, Divisions 11, 12, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 35, 38, 39 and 41], 57 [PART, Divisions 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 15, 16, 19, 20, 21, 23, 24, 25, 26 and 27] and 66 [PART, Divisions 10, 18, 19, 21, 25, 26, 27, 28, 29, 31, 32, 37, 40, 43 and 46]).  
Total population: 62,812
- Dist. 175 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 02 [PART, Divisions 01, 02, 13, 14, 15, 16, 25, 26, 27, 28 and 29], 05 [PART, Divisions 01, 02, 03, 04, 05, 10, 12, 13, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 30, 31, 32, 33, 34, 35, 36 and 37], 18 [PART, Divisions 01, 02, 04, 05, 06, 07, 10, 11, 12, 18 and 19] and 31 [PART, Divisions 03, 04, 05, 06, 13 and 15]).  
Total population: 62,108
- Dist. 176 MONROE County.  
Part of MONROE County consisting of the TOWNSHIPS of Chestnuthill, Eldred, Hamilton, Jackson, Polk, Ross, Tobyhanna and Tunkhannock.  
Total population: 62,863

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 177 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 23 [PART, Division 13], 25 [PART, Divisions 01, 03, 04, 05, 06, 07, 08, 10, 11, 12, 22 and 23], 31 [PART, Divisions 07, 08, 10, 11, 12, 14, 16, 17, 18 and 19], 41 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 13 and 14], 45 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 12, 15, 20, 22, 23, 24 and 25], 55 [PART, Divisions 01 and 02] and 62 [PART, Divisions 03, 05, 07, 10, 11, 12, 13, 15, 16, 17, 18 and 19]).  
Total population: 62,232
- Dist. 178 BUCKS County.  
Part of BUCKS County consisting of the TOWNSHIPS of Northampton (PART, Districts 01, 02, 03, 04, 05, 06, 07, 08, 11, 12, 13, 15, 16, 17 and 18), Upper Southampton, Warwick and Wrightstown.  
Total population: 65,518
- Dist. 179 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 23 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22 and 23], 33 [PART, Divisions 01 and 05], 35 [PART, Divisions 21, 22, 23, 24, 26, 27, 28, 29 and 30], 42 [PART, Divisions 01, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24 and 25] and 62 [PART, Divisions 01, 02, 04, 06, 08 and 09]).  
Total population: 61,563
- Dist. 180 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 07 [PART, Divisions 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 and 23], 25 [PART, Divisions 02, 09, 13, 14, 15, 16, 17, 18, 19, 20, 21 and 24], 33 [PART, Divisions 02, 03, 04, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 and 24] and 45 [PART, Divisions 08, 09, 10, 11, 13, 14, 16, 17, 18, 19 and 21]).  
Total population: 62,540

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 181 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 08 [PART, Divisions 25, 26, 30 and 32], 14, 15 [PART, Divisions 03, 07 and 10], 18 [PART, Divisions 09, 14, 15 and 16], 20, 37 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 14, 17 and 18] and 47).  
Total population: 62,079
- Dist. 182 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 02 [PART, Divisions 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 17, 18, 19, 20, 21, 22, 23 and 24], 05 [PART, Divisions 06, 07, 08, 09, 11, 14, 22, 28 and 29], 08 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 20, 21, 27, 28, 33, 34 and 35] and 30 [PART, Divisions 01, 02, 03, 06, 07, 08, 09, 15 and 16]).  
Total population: 66,317
- Dist. 183 LEHIGH and NORTHAMPTON Counties.  
Part of LEHIGH County consisting of the TOWNSHIPS of Lowhill and North Whitehall and the BOROUGH of Slatington and Part of NORTHAMPTON County consisting of the TOWNSHIPS of Allen, East Allen, Lehigh and Moore (PART, Districts Beersville and Klecknersville) and the BOROUGHS of Bath, North Catasauqua, Northampton and Walnutport.  
Total population: 66,148
- Dist. 184 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 01 and 39).  
Total population: 64,108

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 185 DELAWARE and PHILADELPHIA Counties.  
Part of DELAWARE County consisting of the TOWNSHIP of Tinicum and the BOROUGH of Colwyn and Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 26, 40 [PART, Divisions 01, 03, 04, 06, 12, 13, 14, 15, 16, 17, 18, 19, 22, 27, 28, 29, 30, 31, 32, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 50 and 51] and 48 [PART, Divisions 08, 12 and 17]).  
Total population: 61,863
- Dist. 186 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 30 [PART, Divisions 04, 05, 10, 11, 12, 13, 14 and 17], 36, 48 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 09, 10, 11, 13, 14, 15, 16, 18, 19, 20, 21, 22 and 23] and 51 [PART, Divisions 03, 09, 10, 11, 12, 21, 22, 24 and 25]).  
Total population: 62,436
- Dist. 187 LEHIGH County.  
Part of LEHIGH County consisting of the TOWNSHIPS of Heidelberg, Lower Macungie, Lynn, Upper Macungie (PART, Districts 03, 07 and 08), Washington and Weisenberg and the BOROUGHs of Alburtis and Macungie.  
Total population: 66,296
- Dist. 188 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 27, 46, 51 [PART, Divisions 01, 02, 05, 06, 07, 08, 14, 15 and 23] and 60 [PART, Divisions 01, 02, 03, 08, 09, 10, 12, 13 and 23]).  
Total population: 61,778
- Dist. 189 MONROE and PIKE Counties.  
Part of MONROE County consisting of the TOWNSHIPS of Middle Smithfield (PART, District East), Smithfield and Stroud (PART, Districts 01, 03, 06 and 07) and the BOROUGHs of Delaware Water Gap, East Stroudsburg and Stroudsburg and Part of PIKE County consisting of the TOWNSHIPS of Delaware, Lehman and Porter.  
Total population: 61,876

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 190 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 06 [PART, Divisions 13, 14, 15, 17 and 18], 11, 13 [PART, Divisions 16, 18, 20, 21, 22, 23, 24 and 25], 28 [PART, Divisions 01, 04, 05, 06, 09, 10, 11, 12, 13, 14, 15, 16, 17 and 18], 38 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 17 and 21], 44 [PART, Divisions 01, 02, 05, 07, 11, 12, 17, 18 and 19] and 52 [PART, Divisions 01, 02, 03, 04, 06, 07, 08, 09, 10, 11, 12, 13, 17, 21, 22, 23, 24 and 28]).  
Total population: 61,771
- Dist. 191 DELAWARE and PHILADELPHIA Counties.  
Part of DELAWARE County consisting of the BOROUGHs of Darby and Yeadon and Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 03, 40 [PART, Divisions 02, 05, 07, 08, 09, 10, 11, 20, 21, 23, 24, 25, 26, 33, 34 and 47] and 51 [PART, Divisions 04, 13, 16, 17, 18, 19, 20, 26, 27 and 28]).  
Total population: 62,629
- Dist. 192 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 04 [PART, Divisions 02, 03, 04, 05, 06, 09, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20 and 21], 34 and 52 [PART, Divisions 05, 14, 15, 16, 18, 19, 20, 25, 26 and 27])).  
Total population: 61,419
- Dist. 193 ADAMS and CUMBERLAND Counties.  
Part of ADAMS County consisting of the TOWNSHIPS of Berwick, Butler, Hamilton, Huntington, Latimore, Menallen, Oxford, Reading and Tyrone and the BOROUGHs of Abbottstown, Arendtsville, Bendersville, Biglerville, East Berlin, New Oxford and York Springs and Part of CUMBERLAND County consisting of the TOWNSHIPS of Cooke, Dickinson, Penn, Shippensburg, South Newton and Southampton and the BOROUGH of Shippensburg (Cumberland County Portion).  
Total population: 64,302

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 194 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 09 [PART, Divisions 04, 05, 06, 07, 08, 09, 10, 16 and 17], 21 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44 and 45] and 38 [PART, Divisions 11, 12, 13, 14, 15, 16, 18, 19 and 20])).  
Total population: 62,236
- Dist. 195 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 08 [PART, Divisions 24 and 31], 15 [PART, Divisions 01, 02, 04, 05, 06, 08, 09, 11, 12, 13, 14, 15, 16, 17, 18 and 19], 16, 28 [PART, Divisions 02, 03, 07 and 08], 29 and 32).  
Total population: 62,205
- Dist. 196 YORK County.  
Part of YORK County consisting of the TOWNSHIPS of Dover (PART, Districts 01, 03 and 04), Heidelberg, Jackson, North Codorus, Paradise and West Manchester and the BOROUGHS of Dover, New Salem, Seven Valleys and Spring Grove.  
Total population: 65,953
- Dist. 197 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 07 [PART, Divisions 01, 02, 03 and 04], 18 [PART, Divisions 03, 08, 13 and 17], 19, 31 [PART, Divisions 01, 02 and 09], 37 [PART, Divisions 13, 15, 16, 19, 20 and 21], 42 [PART, Divisions 02, 03, 04, 05, 06, 07, 08, 09, 10, 11 and 22], 43 and 49 [PART, Divisions 01 and 13])).  
Total population: 62,586

HOUSE OF REPRESENTATIVES DISTRICTS

- Dist. 198 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 10 [PART, Divisions 01, 07, 08, 09, 10, 11 and 12], 12 [PART, Divisions 08, 11, 17, 18, 19, 20, 21 and 24], 13 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 17 and 19], 49 [PART, Divisions 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21 and 22] and 61 [PART, Divisions 01, 02, 03, 04, 06, 07, 08, 09, 17, 21, 22, 23, 24, 25 and 26]).  
Total population: 63,729
- Dist. 199 CUMBERLAND County.  
Part of CUMBERLAND County consisting of the TOWNSHIPS of Hopewell, Lower Frankford, Lower Mifflin, Middlesex, North Middleton, North Newton, South Middleton (PART, Precincts 03, 04 and 05), Upper Frankford, Upper Mifflin and West Pennsboro and the BOROUGHs of Carlisle, Newburg and Newville.  
Total population: 64,111
- Dist. 200 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 09 [PART, Divisions 01, 02, 03, 11, 12, 13, 14 and 15], 10 [PART, Divisions 02, 03, 04, 05, 13, 14, 15, 17, 23, 24, 25, 28 and 29], 21 [PART, Division 24], 22 and 50).  
Total population: 65,563
- Dist. 201 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 10 [PART, Divisions 06, 16, 18, 19, 20, 21, 22, 26 and 27], 12 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 09, 10, 12, 13, 14, 15, 16, 22 and 23], 17 and 59).  
Total population: 66,430

HOUSE OF REPRESENTATIVES DISTRICTS

Dist. 202 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 41 [PART, Division 12], 54, 55 [PART, Divisions 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28 and 29], 62 [PART, Divisions 14, 20, 21, 22, 23, 24, 25 and 26] and 64 [PART, Division 12]).  
Total population: 64,695

Dist. 203 PHILADELPHIA County.  
Part of PHILADELPHIA County consisting of the CITY of Philadelphia (PART, Wards 35 [PART, Divisions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 25, 31 and 32], 53 and 61 [PART, Divisions 05, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 27 and 28])).  
Total population: 65,519

Population of all districts: 13,002,700

## COUNTIES SPLIT BY HOUSE DISTRICTS

45 TOTAL COUNTIES

186 TOTAL SPLITS

ADAMS	091	193		
ALLEGHENY	019	020	021	023
	024	025	027	028
	030	032	033	034
	035	036	038	039
	040	042	044	045
	046			
ARMSTRONG	060	063		
BEAVER	014	015	016	
BERKS	005	099	124	126
	127	128	129	130
BLAIR	079	080		
BRADFORD	068	110		
BUCKS	018	029	031	140
	141	142	143	144
	145	178		
BUTLER	008	011	012	017
CAMBRIA	071	072	073	
CENTRE	077	082	171	
CHESTER	013	026	074	155
	156	157	158	160
	167			
CLEARFIELD	073	075		
CRAWFORD	006	064	065	
CUMBERLAND	087	088	103	193
	199			

## COUNTIES SPLIT BY HOUSE DISTRICTS

DAUPHIN	103	104	105	106
	125			
DELAWARE	159	160	161	162
	163	164	165	166
	168	185	191	
ERIE	001	002	003	004
	006			
FAYETTE	051	052		
FRANKLIN	081	089	090	
HUNTINGDON	080	081		
INDIANA	062	066		
JUNIATA	085	086		
LACKAWANNA	112	113	114	118
LANCASTER	037	041	043	049
	096	097	098	099
	100			
LAWRENCE	008	009		
LEBANON	098	101	102	
LEHIGH	022	131	132	133
	134	183	187	
LUZERNE	116	117	118	119
	120	121		
LYCOMING	083	084		
MERCER	007	017		
MIFFLIN	085	171		
MONROE	115	176	189	

## COUNTIES SPLIT BY HOUSE DISTRICTS

MONTGOMERY	053	054	061	070
	131	146	147	148
	149	150	151	152
	153	154		
NORTHAMPTON	131	135	136	137
	138	183		
NORTHUMBERLAND	107	108		
PHILADELPHIA	010	170	172	173
	174	175	177	179
	180	181	182	184
	185	186	188	190
	191	192	194	195
	197	198	200	201
	202	203		
PIKE	139	189		
SCHUYLKILL	107	116	123	124
SOMERSET	069	071		
UNION	076	083	085	
WASHINGTON	015	039	040	046
	048	050		
WAYNE	111	139		
WESTMORELAND	055	056	057	058
	059	060		
YORK	047	092	093	094
	095	169	196	

## PLACES SPLIT BY HOUSE DISTRICTS

56 TOTAL PLACES

92 TOTAL SPLITS

## ALLEGHENY COUNTY

PITTSBURGH	CITY	019 020 021 023 024
		027 034 036 038
HAMPTON	TOWNSHIP	028 030
UPPER ST. CLAIR	TOWNSHIP	040 042
PLUM	BOROUGH	025 032
WEST MIFFLIN	BOROUGH	035 038

## BERKS COUNTY

READING	CITY	126 127 129
CUMRU	TOWNSHIP	099 127 128
EXETER	TOWNSHIP	126 128
SPRING	TOWNSHIP	005 099 129

## BUCKS COUNTY

MIDDLETOWN	TOWNSHIP	140 142
NEW BRITAIN	TOWNSHIP	143 144
NORTHAMPTON	TOWNSHIP	142 178

## CENTRE COUNTY

STATE COLLEGE	BOROUGH	077 082
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## CHESTER COUNTY

CALN	TOWNSHIP	074 155
EAST GOSHEN	TOWNSHIP	156 167

## CUMBERLAND COUNTY

LOWER ALLEN	TOWNSHIP	087 088
SOUTH MIDDLETON	TOWNSHIP	087 199

## DAUPHIN COUNTY

HARRISBURG	CITY	103 104
LOWER PAXTON	TOWNSHIP	105 125
LOWER SWATARA	TOWNSHIP	104 106

## PLACES SPLIT BY HOUSE DISTRICTS

## DELAWARE COUNTY

DARBY	TOWNSHIP	162	163
MARPLE	TOWNSHIP	165	166
MIDDLETOWN	TOWNSHIP	161	168
RIDLEY	TOWNSHIP	161	162
UPPER DARBY	TOWNSHIP	163	164

## ERIE COUNTY

ERIE	CITY	001	002
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## LACKAWANNA COUNTY

SCRANTON	CITY	113	114
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## LANCASTER COUNTY

LANCASTER	CITY	049	096
MANHEIM	TOWNSHIP	096	097
MANOR	TOWNSHIP	041	097
SALISBURY	TOWNSHIP	099	100

## LEHIGH COUNTY

ALLENTOWN	CITY	022	132	134
SALISBURY	TOWNSHIP	022	131	134
UPPER MACUNGIE	TOWNSHIP	132	187	

## MONROE COUNTY

MIDDLE SMITHFIELD	TOWNSHIP	115	189
STROUD	TOWNSHIP	115	189

## MONTGOMERY COUNTY

ABINGTON	TOWNSHIP	152	153
FRANCONIA	TOWNSHIP	053	147
LOWER MERION	TOWNSHIP	148	149
MONTGOMERY	TOWNSHIP	053	151
UPPER DUBLIN	TOWNSHIP	151	153
WEST NORRITON	TOWNSHIP	070	150
WHITPAIN	TOWNSHIP	061	070

## NORTHAMPTON COUNTY

HANOVER	TOWNSHIP	135	137
LOWER SAUCON	TOWNSHIP	131	136
MOORE	TOWNSHIP	138	183
PALMER	TOWNSHIP	136	137

## PLACES SPLIT BY HOUSE DISTRICTS

## PHILADELPHIA COUNTY

PHILADELPHIA	CITY	010	170	172	173	174
		175	177	179	180	181
		182	184	185	186	188
		190	191	192	194	195
		197	198	200	201	202
		203				

## WASHINGTON COUNTY

CARROLL	TOWNSHIP	039	048			
NORTH STRABANE	TOWNSHIP	046	048			

## WESTMORELAND COUNTY

LOWER BURRELL	CITY	055	060			
DERRY	TOWNSHIP	055	059			
MOUNT PLEASANT	TOWNSHIP	058	059			
NORTH HUNTINGDON	TOWNSHIP	056	058			

## YORK COUNTY

DOVER	TOWNSHIP	092	196			
SPRINGETTSBURY	TOWNSHIP	047	094			

WARDS SPLIT BY HOUSE DISTRICTS

87 TOTAL WARDS

98 TOTAL SPLITS

ALLEGHENY COUNTY

PITTSBURGH

CITY

WARD 02	019 021
WARD 04	019 023 024
WARD 05	019 024
WARD 07	023 024
WARD 10	021 024
WARD 13	024 034
WARD 14	023 034
WARD 15	019 023
WARD 17	019 036
WARD 18	019 036
WARD 19	027 036
WARD 20	019 027
WARD 23	019 021
WARD 26	019 020 021
WARD 27	019 020

UPPER ST. CLAIR

TOWNSHIP

WARD 03	040 042
WARD 04	040 042

BERKS COUNTY

READING

CITY

WARD 12	126 127
WARD 14	126 129
WARD 16	126 127

BUCKS COUNTY

MIDDLETOWN

TOWNSHIP

WARD LOWER	140 142
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CENTRE COUNTY

STATE COLLEGE

BOROUGH

WARD EAST CENTRAL	077 082
WARD SOUTH	077 082

DAUPHIN COUNTY

HARRISBURG

CITY

WARD 01	103 104
WARD 09	103 104

## WARDS SPLIT BY HOUSE DISTRICTS

## DELAWARE COUNTY

MARPLE	TOWNSHIP		
WARD 04		165	166
MIDDLETOWN	TOWNSHIP		
WARD 02		161	168
RIDLEY	TOWNSHIP		
WARD 01		161	162
WARD 05		161	162
UPPER DARBY	TOWNSHIP		
WARD 03		163	164
WARD 05		163	164

## LACKAWANNA COUNTY

SCRANTON	CITY		
WARD 04		113	114

## LANCASTER COUNTY

LANCASTER	CITY		
WARD 02		049	096
WARD 06		049	096

## LEHIGH COUNTY

ALLENTOWN	CITY		
WARD 08		022	132
WARD 11		022	132 134
WARD 13		132	134
SALISBURY	TOWNSHIP		
WARD 03		022	131

## MONTGOMERY COUNTY

ABINGTON	TOWNSHIP		
WARD 10		152	153
WARD 14		152	153
WARD 15		152	153
LOWER MERION	TOWNSHIP		
WARD 05		148	149
UPPER DUBLIN	TOWNSHIP		
WARD 01		151	153
WARD 02		151	153

## NORTHAMPTON COUNTY

PALMER	TOWNSHIP		
WARD WESTERN		136	137

## WARDS SPLIT BY HOUSE DISTRICTS

## PHILADELPHIA COUNTY

## PHILADELPHIA

## CITY

WARD 02	175	182
WARD 04	010	192
WARD 05	175	182
WARD 06	010	190
WARD 07	180	197
WARD 08	010	181 182
	195	
WARD 09	194	200
WARD 10	198	200 201
WARD 12	198	201
WARD 13	190	198
WARD 15	181	195
WARD 18	175	181 197
WARD 21	194	200
WARD 23	177	179
WARD 25	177	180
WARD 28	190	195
WARD 30	182	186
WARD 31	175	177 197
WARD 33	179	180
WARD 35	179	203
WARD 37	181	197
WARD 38	190	194
WARD 40	185	191
WARD 41	173	177 202
WARD 42	179	197
WARD 44	010	190
WARD 45	177	180
WARD 48	185	186
WARD 49	197	198
WARD 51	186	188 191
WARD 52	190	192
WARD 55	177	202
WARD 56	172	174
WARD 57	173	174
WARD 58	170	172
WARD 60	010	188
WARD 61	198	203
WARD 62	177	179 202
WARD 64	173	202
WARD 66	170	174

WARDS SPLIT BY HOUSE DISTRICTS

WESTMORELAND COUNTY

LOWER BURRELL

CITY

WARD 04

055 060

NORTH HUNTINGDON

TOWNSHIP

WARD 04

056 058