

Appendix A

**[J-1-2018] IN THE SUPREME COURT OF
PENNSYLVANIA MIDDLE DISTRICT**

LEAGUE OF WOMEN VOTERS OF
PENNSYLVANIA, CARMEN FEBO SAN MIGUEL,
JAMES SOLOMON, JOHN GREINER, JOHN
CAPOWSKI, GRETCHEN BRANDT, THOMAS
RENTSCHLER, MARY ELIZABETH LAWN, LISA
ISAACS, DON LANCASTER, JORDI COMAS,
ROBERT SMITH, WILLIAM MARX, RICHARD
MANTELL, PRISCILLA MCNULTY, THOMAS
ULRICH, ROBERT MCKINSTRY, MARK LICHTY,
LORRAINE PETROSKY,

Petitioners

v.

THE COMMONWEALTH OF PENNSYLVANIA;
THE PENNSYLVANIA : GENERAL ASSEMBLY;
THOMAS W. WOLF, IN HIS CAPACITY AS
GOVERNOR OF PENNSYLVANIA; MICHAEL J.
STACK III, IN HIS CAPACITY AS LIEUTENANT
GOVERNOR OF PENNSYLVANIA AND
PRESIDENT OF THE PENNSYLVANIA
SENATE; MICHAEL C. TURZAI, IN HIS
CAPACITY AS SPEAKER OF THE
PENNSYLVANIA HOUSE OF
REPRESENTATIVES; JOSEPH B. SCARNATI III,
IN HIS CAPACITY AS PENNSYLVANIA SENATE
PRESIDENT PRO TEMPORE; ROBERT TORRES,
IN HIS CAPACITY AS ACTING SECRETARY OF

THE COMMONWEALTH OF PENNSYLVANIA;
JONATHAN M. MARKS, IN HIS CAPACITY AS
COMMISSIONER OF THE BUREAU OF
COMMISSIONS, ELECTIONS, AND
LEGISLATION OF THE PENNSYLVANIA
DEPARTMENT OF STATE,

Respondents.

No. 159 MM 2017

ORDER

PER CURIAM

AND NOW, this 26th day of January, 2018, in furtherance of this Court's Order of January 22, 2018, and in anticipation of the possible eventuality that the General Assembly and the Governor do not enact a remedial congressional districting plan by the time periods specified in that Order, the Court orders as follows.

Pursuant to Paragraph "Third" of our Order of January 22, 2018:

First, this Court appoints Professor Nathaniel Persily as an advisor to assist the Court in adopting, if necessary, a remedial congressional redistricting plan.

Second, the Pennsylvania General Assembly shall submit to the Court, or direct the Legislative Data Processing Center to submit to the Court, no later than **January 31, 2018 at**

noon, ESRI shape files that contain the current boundaries of all Pennsylvania municipalities and precincts.

Third, any redistricting plan the parties or intervenors choose to submit to the Court for its consideration shall include the following:

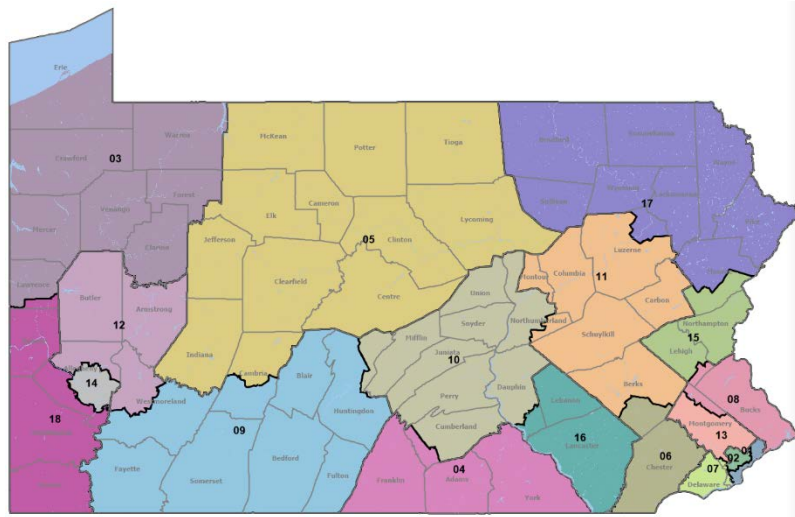
- a. A 2010 Census block equivalency and ESRI shape file expressing the plan.
- b. A report detailing the compactness of the districts according to each of the following measures: Reock; Schwartzberg; Polsby-Popper; Population Polygon; and Minimum Convex Polygon.
- c. A report detailing the number of counties split by each district and split in the plan as a whole.
- d. A report detailing the number of municipalities split by each district and the plan as a whole.
- e. A report detailing the number of precincts split by each district and the plan as a whole.
- f. A statement explaining the proposed plan's compliance with this Court's Order of January 22, 2018.

Fourth, the parties and intervenors shall submit to the Court, no later than **January 31**,

2018 at noon, a 2010 Census block equivalency and ESRI shape file for the maps which formed the basis for the expert testimony and reports offered into evidence in the proceedings before the Commonwealth Court. All such maps shall be labeled consistently with the parties' or intervenors' exhibits and descriptions therein.

Justice Baer files a
Concurring and
Dissenting Statement.
Chief Justice Saylor and
Justice Mundy dissent.

Appendix B



Appendix C

Plan ACRU
Name: Map

Measures of Compactness

	Reock	Schwartzberg	Polsby-Popper	Population Polygon	Min Convex Polygon
	N/A	N/A	N/A	N/A	N/A
Min	0.21	1.33	0.2200	0.4700	0.6100
Max	0.66	2.10	0.4900	0.9300	0.8900
Mean	0.47	1.5761	0.3722	0.7789	0.8128
Std. Dev.	0.11	0.1795	0.0698	0.1434	0.0632

DISTRICT	Reock	Schwartzberg	Polsby-Popper	Population Polygon	Min Convex Polygon
01	0.21	2.10	0.22	0.61	0.61
02	0.55	1.61	0.38	0.84	0.78
03	0.53	1.33	0.43	0.93	0.81
04	0.30	1.59	0.36	0.83	0.82
05	0.47	1.37	0.49	0.85	0.88

06	0.47	1.67	0.31	0.81	0.75
07	0.53	1.42	0.45	0.89	0.87
08	0.40	1.52	0.40	0.71	0.79
09	0.46	1.52	0.39	0.81	0.87
10	0.58	1.55	0.37	0.89	0.84
11	0.61	1.61	0.37	0.59	0.82
12	0.58	1.61	0.32	0.54	0.80
13	0.39	1.72	0.31	0.68	0.81
14	0.66	1.69	0.29	0.89	0.84
15	0.43	1.59	0.38	0.92	0.78
16	0.48	1.34	0.48	0.93	0.89
17	0.43	1.43	0.43	0.83	0.85
18	0.37	1.70	0.32	0.47	0.82

Appendix D

Plan Name: ACRU Map

Political Subdivisions Split Between Districts

Number of subdivisions not split:

County 52

Number of subdivisions split into more than one district:

County 15

Number of subdivision splits which affect *no* population:

County 1

Split Counts:

County

Cases where an area is split among 2

Districts: 12

Cases where an area is split among 3

Districts: 3

County

Split Counties:	District	Population
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Allegheny PA	12	244,910
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Allegheny PA	14	705,688
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Allegheny PA	18	272,750
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Berks PA	06	206,802
Berks PA	11	204,640
Cambria PA	05	40,707
Cambria PA	09	102,972
Chester PA	06	498,886
Chester PA	07	-
Cumberland PA	04	19,691
Cumberland PA	10	215,715
Dauphin PA	10	215,426
Dauphin PA	16	52,674
Huntingdon PA	09	39,477
Huntingdon PA	10	6,436
Lawrence PA	03	75,216
Lawrence PA	18	15,892
Lehigh PA	08	18,332
Lehigh PA	15	331,165
Luzerne PA	11	173,595

Luzerne PA	17	147,323
Monroe PA	15	76,787
Monroe PA	17	93,055
Montgomery PA	07	32,079
Montgomery PA	08	62,107
Montgomery PA	13	705,688
Northumberland PA	10	66,175
Northumberland PA	11	28,353
Philadelphia PA	01	705,688
Philadelphia PA	02	705,688
Philadelphia PA	07	114,630
Westmoreland PA	09	157,194
Westmoreland PA	12	207,975

Appendix E

Plan Name: ACRU Map

Communities of Interest - County Subdivision

County Subdivision	District	Population	%
Birmingham PA	06	4,208	100.00
Birmingham PA	07	0	0.00
Chestnuthill PA	15	8,257	48.13
Chestnuthill PA	17	8,899	51.87
Coal PA	10	3,515	33.85
Coal PA	11	6,868	66.15
Dormont PA	14	5,556	64.66
Dormont PA	18	3,037	35.34
Hatfield PA	08	14,639	84.87
Hatfield PA	13	2,610	15.13
Hempfield PA	09	16,873	39.02
Hempfield PA	12	26,368	60.98
Larksville PA	11	189	4.22
Larksville PA	17	4,291	95.78
Little Beaver PA	03	1,057	74.91
Little Beaver PA	18	354	25.09
Lower Merion PA	07	27,797	48.07
Lower Merion PA	13	30,028	51.93
Lower Swatara PA	10	5,250	63.5

Lower Swatara PA	16	3,018	36.5
Nanty-Glo PA	05	203	7.43
Nanty-Glo PA	09	2,531	92.57
Philadelphia PA	01	705,688	46.24
Philadelphia PA	02	705,688	46.24
Philadelphia PA	07	114,630	7.51
Ross PA	12	24,657	79.27
Ross PA	14	6,448	20.73
Shirley PA	09	1,838	72.82
Shirley PA	10	686	27.18
South Newton PA	04	822	59.44
South Newton PA	10	561	40.56
Spring PA	06	2,334	8.61
Spring PA	11	24,785	91.39
Upper Saucon PA	08	12,171	82.19
Upper Saucon PA	15	2,637	17.81

County Subdivisions - Listed by District

Subdivision	District	Population	%
Philadelphia PA (part)	District 01	705,688	46.24
Philadelphia PA (part)	District 02	705,688	46.24
Little Beaver PA (part)	District 03	1,057	74.91
South Newton PA (part)	District 04	822	59.44

Nanty-Glo PA (part)	District 05	203	7.43
Birmingham PA (part)	District 06	4,208	100
Spring PA (part) Birmingham PA (part)	District 06	2,334	8.61
Lower Merion PA (part)	District 07	0	0
Philadelphia PA (part)	District 07	27,797	48.07
Hatfield PA (part)	District 07	114,630	7.51
Upper Saucon PA (part)	District 08	14,639	84.87
Hempfield PA (part)	District 08	12,171	82.19
Nanty-Glo PA (part)	District 09	16,873	39.02
Shirley PA (part)	District 09	2,531	92.57
Coal PA (part)	District 09	1,838	72.82
Lower Swatara PA (part)	District 10	3,515	33.85
Shirley PA (part)	District 10	5,250	63.5
South Newton PA (part)	District 10	686	27.18
Coal PA (part)	District 10	561	40.56
Larksville PA (part)	District 11	6,868	66.15
Spring PA (part)	District 11	189	4.22
Hempfield PA (part)	District 11	24,785	91.39
	District 12	26,368	60.98

Ross PA (part)	District 12	24,657	79.27
Hatfield PA (part)	District 13	2,610	15.13
Lower Merion PA (part)	District 13	30,028	51.93
Dormont PA (part)	District 14	5,556	64.66
Ross PA (part)	District 14	6,448	20.73
Chestnuthill PA (part)	District 15	8,257	48.13
Upper Saucon PA (part)	District 15	2,637	17.81
Lower Swatara PA (part)	District 16	3,018	36.5
Chestnuthill PA (part)	District 17	8,899	51.87
Larksville PA (part)	District 17	4,291	95.78
Dormont PA (part)	District 18	3,037	35.34
Little Beaver PA (part)	District 18	354	25.09

**Summary
Statistics**

Number of County Subdivision not split	1,545
Number of County Subdivision split	342
Number of County Subdivision split in two	197

Number of County Subdivision split in three	77
Number of County Subdivision split in four	27
Number of County Subdivision split in five	18
Number of County Subdivision split in six	7
Number of County Subdivision split in seven	4
Number of County Subdivision split in eight	2
Number of County Subdivision split in nine	3
Number of County Subdivision split in ten	1
Number of County Subdivision split in eleven	1
Number of County Subdivision split in twelve	0
Number of County Subdivision split in thirteen	0
Number of County Subdivision split in fourteen	1
Number of County Subdivision split in fifteen	0
Number of County Subdivision split in sixteen	0
Number of County Subdivision split in seventeen	0
Number of County Subdivision split in eighteen	3
Number of County Subdivision split in nineteen	0

Number of County Subdivision split in twenty	0
Number of County Subdivision split in twenty-one	0
Number of County Subdivision split in twenty-two	0
Number of County Subdivision split in twenty-three	1
 Total number of splits	 1,048

Appendix F

Plan Name: ACRU Map

Political Subdivisions Split Between Districts

Number of subdivisions not split:

County	52
Voting	9,239
District	

Number of subdivisions split into more
than one district:

County	15
Voting	17
District	

Number of subdivision splits which
affect *no* population:

County	1
Voting	1
District	

Split Counts:

County

Cases where an area is split
among 2 Districts: 12

Cases where an area is split
among 3 Districts: 3

Voting

District

Cases where an area is split
among 2 Districts: 17

County	Voting District	District	Population
<i>Split</i>			
<i>Counties:</i>			
Allegheny PA		12	244,910
Allegheny PA		14	705,688
Allegheny PA		18	272,750
Berks PA		06	206,802
Berks PA		11	204,640
Cambria PA		05	40,707
Cambria PA		09	102,972
Chester PA		06	498,886
Chester PA		07	0
Cumberland PA		04	19,691
Cumberland PA		10	215,715
Dauphin PA		10	215,426
Dauphin PA		16	52,674
Huntingdon PA		09	39,477
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Montgomery PA		07	32,079
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Montgomery PA		13	705,688
Northumberl and PA		10	66,175
Northumberl and PA		11	28,353
Philadelphia PA		01	705,688
Philadelphia PA		02	705,688
Philadelphia PA		07	114,630
Westmorelan d PA		09	157,194
Westmorelan d PA		12	207,975

Split Voting

Districts:

Allegheny PA	DORMONT DIST 03	14	805
Allegheny PA	DORMONT DIST 03	18	501
Berks PA	SPRING TWP DIST 02	06	619
Berks PA	SPRING TWP DIST 02	11	1,777

Cambria PA	NANTY GLO WD 02 ED 02	05	203
Cambria PA	NANTY GLO WD 02 ED 02	09	757
Chester PA	BIRMINGHA M TWP PCT 02	06	2,751
Chester PA	BIRMINGHA M TWP PCT 02	07	0
Cumberland PA	SOUTH NEWTON TWP Voting District	04	822
Cumberland PA	SOUTH NEWTON TWP Voting District	10	561
Dauphin PA	LOWER SWATARA TWP DIST 01	10	2,026
Dauphin PA	LOWER SWATARA TWP DIST 01	16	221
Huntingdon PA	SHIRLEY TWP DIST MT. UNION	09	931
Huntingdon PA	SHIRLEY TWP DIST MT. UNION	10	686
Lawrence PA	LITTLE BEAVER TWP	03	1,057

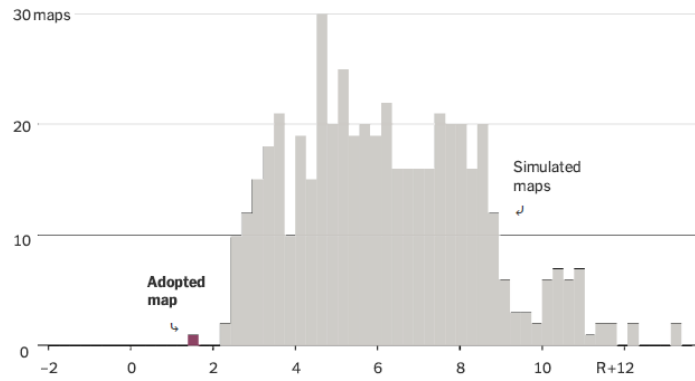
Lawrence PA	LITTLE BEAVER TWP	18	354
Lehigh PA	UPPER SAUCON TWP DIST 04	08	5,335
Lehigh PA	UPPER SAUCON TWP DIST 04	15	167
Luzerne PA	LARKSVILL E WD 01	11	189
Luzerne PA	LARKSVILL E WD 01	17	1,345
Monroe PA	CHESTNUT HILL TWP DIST 02	15	1,726
Monroe PA	CHESTNUT HILL TWP DIST 02	17	2,732
Montgomery PA	HATFIELD TWP VTD 1-1	08	832
Montgomery PA	HATFIELD TWP VTD 1-1	13	608
Montgomery PA	LOWER MERION TWP WD 10 PCT 02	07	60
Montgomery PA	LOWER MERION TWP WD 10 PCT 02	13	1,295
Northumberl and PA	COAL TWP WD 07	10	1,488

Northumberland PA	COAL TWP WD 07 PHILADELPHIA	11	128
Philadelphia PA	HIA WD 03 PCT 01 PHILADELPHIA	02	90
Philadelphia PA	HIA WD 03 PCT 01 PHILADELPHIA	07	687
Philadelphia PA	HIA WD 15 PCT 10 PHILADELPHIA	01	175
Philadelphia PA	HIA WD 15 PCT 10 HEMPFIELD TWP VTD	02	781
Westmoreland PA	MIDDLETON WN HEMPFIELD TWP VTD	09	627
Westmoreland PA	MIDDLETON WN	12	364

Appendix G

New Map Favored Democrats Compared With Simulations

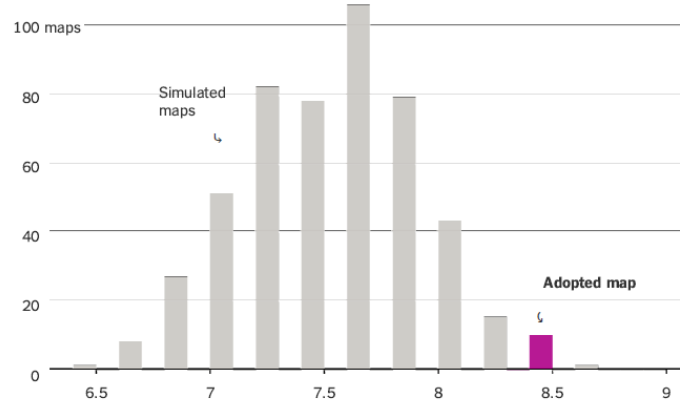
Republican advantage in the median congressional district compared with the average 2016 statewide popular vote in 500 simulations and the map adopted by the court.



By The New York Times | Source: Upshot analysis of Jowei Chen simulations, election results from Nathaniel Kelso and Michal Migurski.

Appendix H

Number of Democratic wins in the average 2016 statewide election in 500 simulated maps and the new adopted map.



Source: Upshot analysis of Jowei Chen simulations, election results from Nathaniel Kelso and Michal Migurski.

Appendix I

The New Pennsylvania Map Is Even Better for Democrats Than the Democratic Proposals

Districts won by Democrats in the ...	Current Map	Proposed Democratic Plans				New Map
		Governor	Lt. Gov.	Senate	House	
2016 pres. race	6	7	7	7	7	8
2016 Senate race	4	7	7	6	7	5
Any 2016 race	9	9	10	10	11	11
Average of all 2016 races	5.4	7.4	8.0	7.8	8.2	8.4
Median 2016 Democratic pres. margin	-8.9	-10.6	-9.7	-9.6	-7.8	-5.7