APPENDIX B

WILLIAM WHITFORD, ROGER ANCLAIM, EMILY BUNTING, MARY LUNNE DONOHUE, HELEN HARRIS, WAYNE JENSEN, WENDY SUE JOHNSON, JANET MITCHELL, ALLISON SEATON, JAMES SEATON, JEROME WALLACE AND DONALD WINTER, Plaintiffs, v. BEVERLY R. GILL, JULIE M. GLANCEY, ANN S. JACOBS, STEVE KING, DON MILLIS, and MARK L. THOMSEN, Defendants.[1]

1 As of June 30, 2016, the Government Accountability Board, the entity previously tasked with administering and enforcing Wisconsin's election laws, ceased to exist and its authority, as it relates to this action, was transferred to the newly formed Elections Commission. See Wis. Act 118, 2015 Wis. Legis. Serv. 1104 (West). Prior to this transfer, the parties filed a stipulated motion to substitute the members of the Elections Commission for the members of the Government Accountability Board. We grant that motion and have substituted as defendants the members of the Elections Commission in their official capacity.

15-cv-421-bbc

UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF WISCONSIN

2016 U.S. Dist. LEXIS 160811

November 21, 2016, Decided
November 21, 2016, Filed

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JUDGES: KENNETH F. RIPPLE, Circuit Judge. BARBARA B. CRABB, District [*2] Judge. WILLIAM

C. GRIESBACH, District Judge.

OPINION BY: KENNETH F. RIPPLE

OPINION

OPINION and ORDER

OPINION

Before RIPPLE, *Circuit Judge*, and CRABB and GRIESBACH, *District Judges*.

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RIPPLE, *Circuit Judge*. The plaintiffs have brought this action alleging that Act 43, the redistricting plan enacted by the Wisconsin Legislature in 2011, constitutes an unconstitutional partisan gerrymander. Specifically, they maintain that the Republican-controlled legislature drafted and enacted a redistricting plan that systematically dilutes the voting strength of Democratic voters statewide. We find that Act 43 was intended to burden the representational rights of Democratic voters throughout [*3] the decennial period by impeding their ability to translate their votes into legislative seats. Moreover, as demonstrated by the results of the 2012 and 2014 elections, among other evidence, we conclude that Act 43 has had its intended effect. Finally, we find that the discriminatory effect is not explained by the political

geography of Wisconsin nor is it justified by a legitimate state interest. Consequently, Act 43 constitutes an unconstitutional political gerrymander. This opinion constitutes our findings of fact and conclusions of law pursuant to *Federal Rule of Civil Procedure 52(a)(1)*.

I

BACKGROUND[2]

2 The reader will notice on occasion some repetition and cross-reference. We think this is necessary to ensure ease of comprehension to the first-time reader.

We begin our consideration of the plaintiffs' claims by examining Wisconsin's statutory requirements for redistricting as well as its recent redistricting history.

A. Reapportionment in Wisconsin

1. The State's constitutional and statutory framework

Reapportionment of state legislative districts is a responsibility constitutionally vested in the state government. *See, e.g., Growe v. Emison, 507 U.S. 25, 34 (1993)* (citing *U.S. Const. art I., § 2*); *Chapman v. Meier, 420 U.S. 1, 27 (1975)*. Although some states have chosen to avoid the problem of partisan gerrymandering by vesting [*4] this power in a neutral body designed specifically to perform that delicate function, *see Arizona State Legislature v. Arizona Indep. Redistricting Comm'n, 135 S. Ct. 2652, 2661-62 & n.6 (2015)*, the people of Wisconsin have so far chosen to rely on its legislature to reapportion its districts after the decennial census. They have vested responsibility in the bicameral legislature composed of the Wisconsin State Senate and the Wisconsin State Assembly. *Wis. Const. art. IV, §§ 1, 3*. According to Wisconsin law, "[t]he state is divided into 33 senate districts, each composed of 3 assembly districts. Each senate district shall be entitled to elect one member of the senate. Each assembly district shall be entitled to elect one representative to the assembly." *Wis. Stat. § 4.001*.

The Wisconsin Constitution directs the Wisconsin legislature, "[a]t its first session after each enumeration made by the authority of the United States," to "apportion and district anew the members of the senate and assembly, according to the number of inhabitants." *Wis. Const. art. IV, § 3*. The Wisconsin Constitution also imposes specific requirements for reapportionment plans. Assembly districts are "to be bounded by county, precinct, town or ward lines, to consist of contiguous territory and be in as compact form as practicable." *Id.* § 4. With respect to political subdivisions, a prior federal [*5] district court observed that, "[a]lthough avoiding the division of counties is no longer an inviolable principle, respect for the prerogatives of the Wisconsin Constitution dictate that wards and municipalities be kept whole where possible." *Baumgart v. Wendelberger*, Nos. 01-C-0121 & 02-C-0366, 2002 WL 34127471, at *3 (E.D. Wis. May 30, 2002), *amended by* 2002 WL 34127473 (E.D. Wis. July 11, 2002). The Wisconsin Constitution further requires that "no assembly district shall be divided in the formation of a senate district." *Wis. Const. art. IV, § 5*.

In addition to the state constitutional requirements, the Wisconsin legislature must comply with federal law when redistricting. In particular, state legislatures must ensure that districts are approximately equal in population, so that they do not violate the "one-person, one-vote" principle embedded in the *Equal Protection Clause of the Fourteenth Amendment*. *See Reynolds v. Sims, 377 U.S. 533, 568 (1964)* ("[T]he *Equal Protection Clause* requires that the seats in both houses of a bicameral state legislature must be apportioned on a population basis."); *see also Brown v. Thomson, 462 U.S. 835, 842-43 (1983)* (holding "that an apportionment plan with a maximum population deviation under 10%" is presumptively constitutional, while a population deviation larger than 10% must be justified by the state); *Harris v. Arizona Indep. Redistricting Comm'n, 136 S. Ct. 1301, 1306-07 (2016)* (same). Further, states also must comply with *§ 2* of the Voting Rights Act of 1965, which focuses on preserving the voting power [*6] of minority groups. *52 U.S.C. § 10301*; *see also Thornburg v. Gingles, 478 U.S. 30, 47 (1986)*.

Redistricting laws in Wisconsin are enacted, in large measure, in the same manner as other legislation, specifically, by way of bills originating in either house of the legislature, *see Wis. Const. art. IV, § 19*. Tad Ottman, aide to the Senate Majority Leader, explained in some detail this legislative process:

> [L]egislators will work either on their own or with drafters or with a small group of people to develop legislation. Usually it's developed among members of your own party, if not just the individual

> legislator. They create a proposal with the assistance of the Legislative Reference Bureau. At that point, the bill is often, but not always, circulated among other legislators to see if anybody else would want to sign on ....[3]
>
> The bill is then circulated. At some point it is introduced. ... And then once they are introduced, they are assigned to a committee. The committee chairman or chairwoman can choose to hold a public hearing on that piece of legislation. Most of the time a public hearing is held. ... And then that legislation is forwarded to the full body, either the Senate or the Assembly, for debate and then it is passed over to the other House where a similar process occurs.[4]

A bill [*7] must then "be presented to the governor," who can sign or veto the bill. *Wis. Const. art. V, § 10*.

3 Ottman noted that, regardless of the political party in power, "[t]ypically the first time the minority party, and frankly most of the majority party sees legislation, is when a bill is circulated." R.148 at 53.
4 *Id. at 51-52*.

The caucus system plays a significant role in the legislative process.[5] Caucus meetings are held in the morning prior to the legislative session to vet legislation internally before a vote on the floor.[6] Professor William Whitford, a named plaintiff and retired professor of law from the University of Wisconsin, testified that important "debate and discussion," as well as the "vote[] that matters," occur within the caucus meetings.[7] "Once the party caucuses come to a majority result, the other members of the party are expected to follow the party line ... ."[8] Thus, it is "extremely difficult" to pass legislation through a bipartisan coalition.[9]

5 Pursuant to *Federal Rule of Evidence 201(b)(2)*, we take judicial notice of the legislative process in Wisconsin as set forth in Office of the Chief Clerk of the Wisconsin State Assembly, *How a Bill Becomes Law* (2016), https://legis.wisconsin.gov/assembly/acc /media/1106/howabillbecomeslaw.pdf .
6 *See id.*
7 R.147 at 33.
8 *Id.*
9 *Id.*

2. The modern history of reapportionment in Wisconsin

In the wake of [*8] the 1980 census, the plan that had been enacted in 1972 could no longer satisfy the constitutional requirement of "one-person one-vote." *See Wis. State AFL-CIO v. Elections Bd., 543 F. Supp. 630, 631 (E.D. Wis. 1982)*. In response to these changes in population, a redistricting plan was drafted and enacted by the Wisconsin legislature, which had a Democratic majority, but it was vetoed by the Republican governor. Consequently, a federal district court was asked to devise a remedy. *See id. at 632-33*. Upon reviewing several plans submitted by legislators and interest groups, the court "reluctantly concluded" that it could "be more faithful to the goals of reapportionment" by drafting its own plan. *Id. at 637*. In doing so, the court focused on ensuring population equality, avoiding the dilution of racial minority voting strength, and keeping communities of interest together. *Id. at 637-39*. This "*AFL-CIO* Plan" remained in effect for one election in 1982. As a result of that election, the Democratic Party held control of both houses of the Wisconsin legislature and also gained the governor's office.[10] The legislature passed, and the governor signed, a new apportionment plan that lasted for the rest of the decennial period. *See* 1983 Wis. Sess. Laws 633.

10 Tr. Ex. 211, at 3.

Following the 1990 election, [*9] the Wisconsin government again was divided between two political parties. *See Prosser v. Elections Bd., 793 F. Supp. 859, 862 (W.D. Wis. 1992)*. The Democratic Party controlled both houses of the Wisconsin legislature while the governor was a Republican. *Id.* "For that or other reasons, no bill to reapportion the legislature had been enacted into law" by January 1992, leading several Republican legislators to challenge the existing apportionment plan "as unconstitutional and violative of the Voting Rights Act." *Id.* As a result, the federal court was asked to draft a new plan.

In an attempt to play a more limited role in the redistricting process, the court "asked the parties at the outset whether they had any objection ... to [the court's] selecting the best of the submitted plans rather than trying

to create [its] own plan." *Id. at 865* (emphasis removed). Upon receiving these submissions, however, the court determined that the plans bore "the marks of their partisan origins." *Id. at 865*. It therefore used parts of one Republican plan and one Democratic plan. The court plan preserved the strengths of the partisan plans, "primarily population equality and contiguity and compactness," while "avoid[ing] their weaknesses." *Id. at 870*. The plan remained in effect through the 2000 election.

Following [*10] the 2000 census, a divided Wisconsin legislature again was unable to agree upon a redistricting plan. *Arrington v. Elections Bd., 173 F. Supp. 2d 856, 862 (E.D. Wis. 2001)*. In an ensuing law suit, the federal district court determined that "the existing Wisconsin Assembly and Senate districts," which had not been redrawn since 1992, were "violative of the 'one person, one vote' standard." *Baumgart*, 2002 WL 34127471, at *1. A new plan was therefore necessary. The court considered sixteen plans that had been submitted by legislators and other interest groups, but "found various unredeemable flaws" in all of them. *Id. at *6*. The court therefore drew a plan "in the most neutral way it could conceive--by taking the 1992 reapportionment plan as a template and adjusting it for population deviations." *Id. at *7*. In making these changes, the court attempted to "maintain[] municipal boundaries and unit[e] communities of interest." *Id.* The "*Baumgart* Plan" was in effect from 2002 until 2010.

B. Drafting of Act 43

In 2010, for the first time in over forty years, the voters of Wisconsin elected a Republican majority in the Assembly, a Republican majority in the Senate, and a Republican Governor. This uniformity in control led the Republican leadership to conclude that a legislatively enacted redistricting plan was possible. [*11]

In January 2011, Scott Fitzgerald, Wisconsin Senate Majority Leader, and Jeff Fitzgerald, Speaker of the Wisconsin Assembly, retained attorney Eric McLeod and the law firm of Michael Best & Friedrich, LLP, to assist with the reapportionment of the state legislative districts.[11] The firm supervised the work of Tad Ottman, staff member to Senate Majority Leader Fitzgerald; Adam Foltz, staff member to Speaker Fitzgerald; and Joseph Handrick, a consultant with the law firm Reinhart Boerner Van Deuren s.c., in planning, drafting, and negotiating the new districting plan. Ottman, Foltz, and later Handrick, worked in a room located in the offices of Michael Best & Friedrich, which they referred to as the "map room."[12]

11 *See* R.125 (J. Final Pretrial Report containing J. Statement of Stipulated Facts) at 5, ¶ 20.
12 *Id. at 7*, ¶¶ 23, 26.

Ottman, Foltz, and Handrick also received assistance from Professor Ronald Keith Gaddie, a professor of political science at the University of Oklahoma. Michael Best & Friedrich had retained Professor Gaddie "as an independent advisor on the appropriate racial and/or political make-up of legislative and congressional districts in Wisconsin."[13] Professor Gaddie described his job as [*12] "devis[ing] measures and consult[ing] ... about measures" of partisanship, compactness, "the integrity of counties, the integrity of city boundaries, the so-called good government principles of redistricting."[14] "Where [he] ... spent most of [his] time was trying to disentangle the performance of the majority/minority districts in Milwaukee County."[15]

13 Tr. Ex. 169.
14 Tr. Ex. 161 (Gaddie Dep.), at 45.
15 *Id. at 46*.

A "significant part" of his work was "building a regression model to be able to test the partisan makeup and performance of districts as they might be configured in different ways."[16] As explained by one of the plaintiffs' experts, Professor Kenneth Mayer, "[r]egression is a technique where we can seek to explain a dependent variable, the variable that we're trying to account for. ... [W]e attempt to explain the values that a dependent variable take[s] with what are called *independent variables* or underlying causal variables."[17] In this instance, Professor Gaddie's dependent variable was the baseline partisanship of a unit of geography, which then could be aggregated into different configurations of Assembly districts. In this way, Professor Gaddie was able to assess the partisanship of the Assembly maps that the drafters passed on to him for analysis.[18] Professor [*13] Mayer testified that "the political science literature is essentially unanimous" that the approach taken by Professor Gaddie is "the appropriate method,"[19] and Professor Mayer used the same methodology to construct his Demonstration Plan.[20]

16 *Id.*
17 R.148 at 156-57.
18 *See infra* at 12-14.

19 R.148 at 152.
20 *See infra* at 107-08.

Ottman, Foltz, and Handrick began drafting the map that would become Act 43 in April 2011, after they received census data from the Legislative Technology Services Bureau ("LTSB").[21] The LTSB also had provided them with computers loaded with the redistricting software, autoBound.[22] Ottman described in detail how the software was used:

> [Y]ou would open up a plan that you'd been working on or label a new plan and assign it the Assembly district that you wanted to work with and then you could also pick a color that you wanted that Assembly district to be. It's sort of like a color-by-number exercise. ...
>
> You also determine what other layers that you want to look at on the screen. There were a number of different overlays that you have, anywhere from existing Senate and Assembly districts, ... count[y] boundaries, municipal boundaries, ward boundaries all the way down to census block boundaries. As a practical matter what you tried [*14] to do is you would zoom in the region of your screen to the area that you're looking at to the smallest amount that you could see and then have kind of the fewest layers displayed that you would need because the more information that you were requiring it to display slows down the computer speed a lot and makes it really slow to render.
>
> ... .
>
> And then what you would do is there were a couple different ways that you could add population to the district.[23]

Ottman further explained that, in more populated areas, the drafters worked more at the ward level: "So you would have the wards displayed and you would literally draw a circle, click on it, and it would assign it to the map and fill it in."[24] "In other parts of the state ... you might do that at the county level because it's so sparsely populated so you'd grab three or four counties at [a] time."[25]

21 *See* R.148 at 68-69.
22 *See id. at 62*.
23 *Id. at 72-73*.
24 *Id. at 73*.
25 *Id. at 74*. In the early stages, the drafters worked "almost exclusively in the City of Milwaukee." *Id. at 75*. Ottman explained that

> [w]e knew there were going to be more redistricting criteria, including ... the voting rights application that was going to apply there. ... [W]e wanted to kind of get those Milwaukee districts drawn in such a way that [*15] the lawyers advised us was kind of in a good place and then we just kind of wanted to lock that in and leave it alone before we drew the rest of the map.

Id. at 75.

When the drafters would increase the area size of the districts that they were drawing, autoBound provided demographic information for the area that the drafter had included, such as the number of people in the district, the deviation from the ideal population, voting-age population, and different minority group populations.[26] It also allowed the user to include "customized ... demographic data."[27]

26 *See id. at 63-64*.
27 *Id. at 64*.

One piece of "customized demographic data" employed by the drafters was a composite partisan score. From the time that Ottman, Foltz, and Handrick received the census data from the LTSB, they worked to develop a composite partisan score that accurately reflected the political make-up of the population units.[28] Having this measure was necessary so that, when they aggregated those units into new districts, they could assess the partisan make-up of the new district they had drawn. On April 19, 2011, they developed a composite of "all statewide races from [20]04 to 2010" that "seem[ed] to work well."[29] They sent this composite measure to Professor Gaddie, [*16] who tested it against his regression model. Professor Gaddie confirmed to Handrick that "the partisanship proxy you are using (all

races) is an almost perfect proxy for the open seat vote, and the best proxy you'll come up with."[30] Once Professor Gaddie confirmed the usefulness of their composite measure, Ottman, Foltz, and Handrick could "assess the partisan impact of the map[s] that [they] drew."[31]

28 *See* Tr. Ex. 175, at 1-2.
29 *Id. at 2*.
30 *Id. at 1*.
31 *See* R.147 at 61; R.148 at 16-17. The drafters' "partisanship proxy" and Professor Gaddie's "open seat vote" measure of partisanship, Tr. Ex. 175, at 1, correlated almost "identical[ly]" with the "open-seat baseline model" that Professor Mayer developed by way of a regression analysis and that he used to construct his Demonstration Plan. R.148 at 191; *see also infra* at 24.

Although Ottman, Foltz, and Handrick worked in the same room at Michael Best & Friedrich, they worked independently on their own maps. They drew several statewide maps, and even more regional maps from which the legislative leadership eventually would choose. As they drew the maps, they would ensure that the districts were "close-to-ideal population."[32] They did an "eyeball test" for "compactness and contiguousness."[33] They "looked [*17] at ... what the core of the existing district was compared to the new district," "looked at municipalities that were split," whether the new district had changed Senate districts, and "where incumbents lived."[34]

32 R.148 at 83.
33 *Id.*
34 *Id. at 85-86*. Ottman testified that where incumbents lived "matter[s] because in the end this was a map that we were going to ask the Legislature to vote for and we knew that that was one of the considerations that was going to be very important to the people being asked to vote for this." *Id. at 86*.

The drafters were attentive to traditional districting criteria like population equality, compactness, and municipal splits throughout the drafting process. When the drafters had created a statewide map with which they were satisfied, they would export the district-by-district partisanship scores from autoBound into a spreadsheet for that "finalized" "statewide" plan.[35]

35 R.147 at 162 (Foltz testifying that once "you get a statewide plan finalized, all 99 assembly districts," "you can then take that composite column from auto[B]ound and then move it over into those Excel spreadsheets that I was talking about earlier"); R.148 at 14 (Ottman testifying that the partisan performance spreadsheet was "one of the reports [*18] that was generated on any statewide map that we laid down").

The drafters used their composite score to evaluate the statewide maps that they had drawn based on the level of partisan advantage that they provided to Republicans. In many instances, the names of the maps reflected the level of partisan advantage achieved by the districting plan; for instance, there are maps labeled "Assertive" and "Aggressive."[36] Foltz testified that "aggressive" in this context meant "probably that [the map] was a more aggressive map with regard to GOP leaning."[37]

36 *See, e.g.*, R.148 at 30. During the drafting process, Ottman met with individual senators to review with them the census numbers for their district, to verify their addresses, and to ask general questions about their districts, such as "are there areas you like, are there areas you don't like, are there areas surrounding your district that you like." *Id. at 81*. Ottman also received a few requests from Senators concerning their districts. Senator Vukmir provided specific suggestions on how her district could be re-drawn to take the seat away from a Democratic member of the Assembly: "If you need a way to take the Staskunas seat, put a little bit of my Senate [*19] seat into New Berlin (2-3 wards could make that a GOP Assembly seat)." Tr. Ex. 239. However, because Senator Vukmir's district encompassed Milwaukee, the drafters could not implement the suggestion because "there was simply less flexibility in how [they] could draw that district than in some other areas of the state." R.148 at 82.
37 R.147 at 65.

The drafters created spreadsheets which collected the partisan scores, by district, for each of the statewide map alternatives. Each spreadsheet included a corresponding table comparing the partisan performance of the draft plan to the prior map drawn by the *Baumgart* court, which they called the "Current Map." These performance comparisons were made on the following criteria: "Safe"

Republican seats, "Lean" Republican seats, "Swing" seats, "Safe" Democratic seats, and "Lean" Democratic seats.[38]

38 *See, e.g.*, Tr. Ex. 364; *see also* R.148 at 15 (Ottman testifying about these criteria).

The process of drafting and evaluating these alternative district maps spanned several months. In early April 2011, the drafters produced a document comparing the partisan performance of the Current Map to two early draft maps: Joe's Basemap Basic and Joe's Basemap Assertive. [*20] [39] Under the Current Map, the drafters anticipated that the Republicans would win 49 Assembly seats.[40] This number increased to 52 under the Joe's Basemap Basic map and to 56 under the Joe's Basemap Assertive map.[41] The number of safe and leaning Republican seats increased from 40 under the Current Map to 45 under the Joe's Basemap Basic map and 49 under the Joe's Basemap Assertive map; the number of swing seats decreased from 19 to 14 to 12.[42] The number of safe and leaning Democratic seats, however, remained roughly the same under all three maps, hovering between 38 and 40.[43]

39 Tr. Ex. 465; *see also* Tr. Ex. 476 (sorting districts by Republican vote share).
40 Tr. Exs. 465, 467.
41 Tr. Exs. 465, 467.
42 Tr. Ex. 465.
43 *Id.*

The drafters prepared and evaluated the partisan performance of at least another six statewide alternative maps.[44] Each of these maps improved upon the anticipated pro-Republican advantage generated in the initial two draft plans. The total number of safe and leaning Republican seats now ranged between 51 and 54, and the number of swing seats was decreased to between 6 and 11.[45] The number of safe and leaning Democratic seats again remained about the same under each draft map, ranging between 37 [*21] and 39.[46]

44 These were: Milwaukee_Gaddie_4_16_11_V1_B (Tr. Ex. 172, at 1); Statewide2_Milwaukee_Gaddie_4_16_V1_B (Tr. Ex. 172, at 2); Tad MayQandD (Tr. Exs. 364, 477); Joe Assertive (Tr. Exs. 366, 478); Tad Aggressive (Tr. Ex. 283); and Adam Aggressive (Tr. Ex. 283). *See generally* Tr. Ex. 225 (containing metadata from the drafters' computers).
45 Tr. Exs. 172, 364, 366.
46 Tr. Exs. 172, 364, 366.

The drafters sent their completed draft maps to Professor Gaddie for further analysis. For each map, Professor Gaddie created an "S" curve--a "visual aide[] to demonstrate the partisan structure of Wisconsin politics."[47] These "S" curves show how each map would operate within an array of electoral outcomes.[48]

47 Tr. Ex. 134; *see* Tr. Exs. 263-82.
48 Tr. Ex. 161 (Gaddie Dep.), at 44-45.

The "S" curves give a visual depiction of how each party's vote share (on the x axis), ranging from 40% to 60%, relates to the number of Assembly seats that party likely will secure (on the y axis). Democratic seats are depicted by shades of blue, and Republican seats by shades of red.[49] To produce the "S" curves, Professor Gaddie first used his regression analysis to calculate the expected partisan vote shares for each new district.[50] He then shifted the vote [*22] share of each district ten points in either direction, from 40% to 60%, and assigned a color to districts that "tend[ed]" towards, or were "safe" seats, for that party.[51] The "S" curves--at least some of which were printed in large format and kept in the map room--allowed a non-statistician, by mere visual inspection, to assess the partisan performance of a particular map under all likely electoral scenarios. On one occasion, Senator Fitzgerald came to the map room, and Professor Gaddie showed him one of the large printouts of the "S" curves and "basically explain[ed] how to interpret" them.[52]

49 A partial "S" curve for the "Team Map," *see infra* at 69, is attached as Appendix 1 to this opinion.
50 Tr. Ex. 161 (Gaddie Dep.), at 44-47; *see also supra at 7-8*.
51 Tr. Ex. 161 (Gaddie Dep.), at 128.
52 *Id. at 75*.

Not long after Professor Gaddie had performed his analyses, the Republican legislative leadership contacted the drafters and indicated that they wanted to be prepared to act on a redistricting plan. Over several days in early June, the drafters presented a selection of regional maps drawn from their statewide drafts, approximately three to four per region, to the Republican leadership. Along with these regional alternatives, the leadership "saw the

partisan scores for the maps that [the drafters] [*23] presented to them in those alternatives."[53] Foltz testified during his deposition that, although he could not recall a particular example, he was sure that he was asked by the leadership about the partisan performance of the various regional options.[54]

53 R.148 at 20.
54 Tr. Ex. 191, at 106.

Following this meeting, the drafters amalgamated the regional alternatives chosen by the leadership. Foltz testified that "the draft map called team map emerged as a result of the ... leadership's choices at those meetings."[55] Under the Team Map, which was also referred to as the "Final Map,"[56] the Republicans could expect to win 59 Assembly seats, with 38 safe Republican seats, 14 leaning Republican, 10 swing, 4 leaning Democratic, and 33 safe Democratic seats.[57] In a document bearing the heading "Tale of the Tape,"[58] the drafters, among other things, compared the partisan performance of the Team Map directly to the Current Map on each of these criteria.[59] They highlighted specifically that under the Current Map, 49 seats are "50% or better" for Republicans, but under the Team Map, "59 Assembly seats are 50% or better."[60]

55 R.147 at 80.
56 Foltz testified that if the "Team Map" "[wa]sn't the final one that was pushed, put forward [*24] in the public domain, it was very close to it, and it was the result of that mashing process of taking the various regional alternatives and putting them all together." *Id.* at 165; *see also infra* note 68 (discussing changes made after the regional maps were amalgamated). He explained that the "Final Map" was the one "after the leaders got together and made the regional decisions and they were then merged together." R.147 at 62. If it was not identical to the map that "ultimately became Act 43, it[wa]s probably fairly close." *Id.*; *see also* Tr. Ex. 172, at 3-4 (showing partisan performance of the Final Map).
57 The drafters in fact produced and evaluated several distinct versions of the Team Map, but each rendition is virtually identical. *See* Tr. Ex. 172, at 3-4 (Final Map); Tr. Ex. 467, at 1 (Team Map (Joe Aggressive)); *id.* at 2 (Team Map Ranking (Joe Aggressive 2)); *id. at 3* (Team Map (6-15-11)).
58 It is unclear who titled this document "Tale of the Tape," *see* R.148 at 33 (Ottman testifying that he "did not create that title" and was "not sure what it signifies"); Ottman did testify, however, that he had "heard the expression" as it "refer[red] ... in boxing matches[] [to] pre-fight measurements of the boxer's reach," *id. at 34*.
59 Tr. [*25] Ex. 283.
60 *Id.*

The Team Map underwent even more intense partisan scrutiny in a document identified as "summary.xlsx."[61] The drafters divided the new Team Map districts into six categories of partisan performance, listing beside each district its "new incumbent" and its Republican vote share under the Current Map and the Team Map.[62] The drafters considered five districts to be "Statistical Pick Up[s]," meaning they were currently held by a Democratic incumbent but likely to become Republican; they grouped fourteen districts under the heading "GOP seats strengthened a lot"; they designated eleven districts "GOP seats strengthened a little"; they labeled three districts as "GOP seats weakened a little"; they considered another three GOP districts "likely lost"; and, finally, they identified four districts where the Democrats were "weakened."[63] The drafters also listed the twenty Republican Assembly members who, under the Team Map, could be considered "GOP Donors to the Team": "Incumbents with numbers above 55% that donate[d] to the team."[64] These representatives stood in contrast to "GOP non-donors," who were Republican incumbents with "over 55% who d[id] not donate points."[65]

61 Tr. Ex. 284, at 1.
62 *Id.*
63 *Id.*
64 *Id.*; *see also infra* [*26] note 221 (discussing meaning of "Donors to the Team").
65 Tr. Ex. 283.

The Team Map was then sent to Professor Gaddie, who conducted an "S" curve analysis. The Team Map demonstrated that Republicans would maintain a majority under any likely voting scenario; indeed, they would maintain a 54 seat majority while garnering only 48% of the statewide vote. The Democrats, by contrast, would need 54% of the statewide vote to capture a majority.[66]

66 Tr. Ex. 282.

Once the map had been finalized, Foltz presented each Republican member of the Assembly with information on his or her new district. The memos prepared for the Assembly members informed them whether the district number had changed, whether adjustment to the district population was necessary based on the census numbers, and provided a "[c]omparison of [k]ey [r]aces" in the new district compared to the old.[67] Specifically, the memorandum detailed what percentage of the population in the old and new districts voted for Republican candidates in representative statewide and national elections held since 2004. This information also was provided in terms of raw votes. The memoranda did not provide the individual legislators with any information about contiguity, compactness, [*27] or core population.

67 Tr. Ex. 342.

Ottman engaged in a similar process with Republican members of the State Senate.[68] For each meeting, he created a talking-points memo that included information about population, where changes in the district's population had occurred, and the geography of the new district.[69] These also contained information on how the re-configured district had voted in national and statewide elections.[70]

68 Foltz and Ottman both testified that, as a result of these meetings, there were only slight changes made to the Assembly map; specifically, in response to concerns articulated by Senator Mike Ellis, they "redrew the Assembly boundaries a little bit" within his district. R.148 at 111; *see also* R.147 at 185-86. No other changes were made in response to these meetings.

69 *See, e.g.*, Tr. Ex. 242 at 1 ("Added East Troy and part of the town, as well as Mukwonago.").

70 *See id. at 1* (noting, for example, that "Scott Walker won this new seat with 64.2%," "McCain won with 51.5%," and "Van Hollen 06 won with 59.4%").

Ottman also made a presentation to the Republican caucus. His notes for that meeting state: "The maps we pass will determine who's here 10 years from now," and "[w]e have an opportunity and [*28] an obligation to draw these maps that Republicans haven't had in decades."[71]

71 Tr. Ex. 241, at 1.

On July 11, 2011, the redistricting plan was introduced by the Committee on Senate Organization.[72] On July 13, 2011, a public hearing was held, during which Ottman and Foltz presented the plan and fielded questions.[73] The Senate and Assembly passed the bill on July 19, 2011, and July 20, 2011, respectively. The Governor signed the bill, and it was published as Wisconsin Act 43 on August 23, 2011.[74]

72 R.125 (J. Final Pretrial Report containing J. Statement of Stipulated Facts) at 24, ¶ 85.

73 *Id.* ¶ 86; Tr. Ex. 353.

74 R.125 (J. Final Pretrial Report containing J. Statement of Stipulated Facts) at 24, ¶ 86.

Another important legislative measure, enacted around the time of the drafting and passage of Act 43, bears mentioning. Act 39, enacted on July 25, 2011, and published on August 8, 2011, permits the legislature to draw new districts before Wisconsin's municipalities draw their ward lines. The longstanding practice in Wisconsin had been that municipalities drew their ward lines first, and the legislature drew districts based on the new wards. *See* R.148 at 123-24 (Ottman testifying to same). Following Act 39's [*29] passage, wards are drawn in response to the districts, rather than the other way around. In the absence of Act 39, the legislature would have had to postpone its drafting effort by several months until the municipalities adopted their ward boundaries.

C. Prior Court Challenges to Act 43

Even before Act 43 was passed, two actions were brought challenging the plan on constitutional and statutory grounds, including under Section 2 of the Voting Rights Act. *See Baldus v. Members of the Wis. Gov't Accountability Bd., 849 F. Supp. 2d 840, 846-47 (E.D. Wis. 2012)*. The court consolidated the actions for decision and concluded that the plan did not violate the "one-person, one-vote" principle, nor did it violate the *Equal Protection Clause* by "disenfranchise[ing]" voters who were moved to a new Senate district and were unable to vote for their state senator for another two years. *Id. at 849-51, 852-53*. However, the court did find that the plaintiffs were entitled to relief on their claim that Act 43 violated the Voting Rights Act by diluting the voting power of Latino voters in Milwaukee County, and it ordered the State to redraw these districts. *Id. at 859*.

The remainder of Act 43, however, remained intact and governed the 2012 and 2014 Assembly elections.

In 2012, the Republican Party received 48.6% of the two-party statewide vote share for Assembly candidates and won 60 [*30] of the 99 seats in the Wisconsin Assembly.[75] In 2014, the Republican Party received 52% of the two-party statewide vote share and won 63 assembly seats.[76]

75 R.125 (J. Final Pretrial Report containing J. Statement of Stipulated Facts) at 70, ¶ 289; *id. at 69*, ¶ 285. These percentages are based on the calculations of plaintiffs' expert, Professor Simon Jackman. The defendants have not contested the accuracy of these figures, and we accept them as accurate.
76 *Id. at 70*, ¶ 290.

II

PROCEDURAL HISTORY

A. Allegations of the Complaint

We now turn to the dispute before this court. Plaintiffs William Whitford, Roger Anclam, Emily Bunting, Mary Lynne Donohue, Helen Harris, Wayne Jensen, Wendy Sue Johnson, Janet Mitchell, James Seaton, Allison Seaton, Jerome Wallace, and Don Winter are United States citizens registered to vote in Wisconsin. They reside in various counties and legislative districts throughout Wisconsin. All of them are "supporters of the Democratic party and of Democratic candidates and they almost always vote for Democratic candidates in Wisconsin elections."[77] Defendants are Beverly R. Gill, Julie M. Glancey, Ann S. Jacobs, Steve King, Don Millis, and Mark L. Thomsen, each in his or her official capacity as a [*31] member of the Wisconsin Elections Commission.

77 *Id. at 3*, ¶ 2.

According to the plaintiffs, in drafting Act 43, the Republicans employed two gerrymandering techniques: "***cracking***"--"dividing a party's supporters among multiple districts so that they fall short of a majority in each one"--and "***packing***"--"concentrating one party's backers in a few districts that they win by overwhelming margins,"[78] in order to dilute the votes of Democrats statewide. This "cracking and packing result[ed] in 'wasted' votes: votes cast either for a losing candidate (in the case of cracking) or for a winning candidate but in excess of what he or she needs to prevail (in the case of packing)."[79] They therefore urge the court to adopt a new measure for assessing the discriminatory effect of political gerrymanders--the efficiency gap (or "EG"). "The efficiency gap is the difference between the parties' respective wasted votes in an election, divided by the total number of votes cast."[80] When two parties waste votes at an identical rate, a plan's EG is equal to zero. An EG in favor of one party, however, means that the party wasted votes at a lower rate than the opposing party. It is in this sense that the EG arguably is a measure of efficiency: [*32] Because the party with a favorable EG wasted fewer votes than its opponent, it was able to translate, with greater ease, its share of the total votes cast in the election into legislative seats. In short, the complaint alleges that Act 43 purposely distributed the predicted Republican vote share with greater efficiency so that it translated into a greater number of seats, while purposely distributing the Democratic vote share with less efficiency so that it would translate into fewer seats.

78 R.1 at 3, ¶ 5; *see also infra* at 81.
79 R.1 at 3, ¶ 5. "Wasted" is merely a term of art used to describe votes cast for losing candidates and votes cast for winning candidates in excess of 50% plus one; the term is not meant to suggest that the votes are worthless. *See infra* note 267 and accompanying text.
80 R.1 at 3, ¶ 5; *see also infra* at 81. The plaintiffs provided the following example:

> Suppose ... that there are five districts in a plan with 100 voters each. Suppose also that Party A wins three of the districts by a margin of 60 votes to 40, and that Party B wins two of them by a margin of 80 votes to 20. Then Party A wastes 10 votes in each of the three districts it wins and 20 votes in each of the two districts it loses, [*33] adding up to 70 wasted votes. Likewise, Party B wastes 30 votes in each of the two districts it wins and 40 votes in each of the three districts it loses, adding up to 180 wasted votes. The difference between the parties'

> respective wasted votes is 110, which, when divided by 500 total votes, yields an efficiency gap of 22% in favor of Party A.

R.1 at 15, ¶ 50.

The plaintiffs' complaint incorporated the EG into a proposed three-part test for partisan gerrymandering. First, plaintiffs would have to establish that a State had an intent to gerrymander for partisan advantage. Second, the plaintiffs would need to prove a partisan effect, by proving that the EG for a plan exceeds a certain numerical threshold (which the plaintiffs proposed, based on historical analysis, to be 7%).[81] If a plan exceeds that threshold, the plaintiffs asserted that it should be presumptively unconstitutional. Third, and finally, the plaintiffs placed the burden on the defendants to rebut the presumption by showing that the plan "is the necessary result of a legitimate state policy, or inevitable given the state's underlying political geography."[82] If the state is unable to rebut the presumption, then the plan is unconstitutional. [*34]

81 The plaintiffs' proposed threshold is based on the analysis of one of their experts, Professor Simon Jackman. *See infra* at 25-27, 83-84.
82 R.1 at 25, ¶ 84.

The plaintiffs alleged that they had satisfied all of these elements. According to the complaint, Act 43 "was drafted and enacted with the specific intent to maximize the electoral advantage of Republicans and harm Democrats to the greatest possible extent."[83] Additionally, Act 43 "produced a pro-Republican efficiency gap of 13% in 2012 and 10% in 2014."[84] They further claimed that this EG is unjustified because one of their experts, Professor Mayer, had crafted a "Demonstration Plan" with "an efficiency gap of just 2% in 2012," which "perform[ed] at least as well as [Act 43] on every other relevant metric."[85]

83 *Id. at 9*, ¶ 31.
84 *Id. at 16*, ¶ 55.
85 *Id. at 23-24*, ¶¶ 78-79 (emphasis removed); *see also infra* at 24.

For these reasons, plaintiffs claimed that Act 43 "treats voters unequally, diluting their voting power based on their political beliefs, in violation of the *Fourteenth Amendment's* guarantee of equal protection," and "unreasonably burdens their *First Amendment* rights of association and free speech."[86] They requested a declaration that Act 43 is unconstitutional, an injunction prohibiting further elections under the map, and the drawing of a new redistricting [*35] map.[87]

86 R.1 at 2, ¶ 2.
87 *Id. at 29*, ¶¶ 97-99.

B. Motion to Dismiss

The defendants filed a motion to dismiss on August 18, 2015, which contended that the court could not grant relief for three primary reasons. First, the defendants argued that the EG was directly analogous to the proportional-representation standard rejected by the Supreme Court in *Vieth v. Jubelirer, 541 U.S. 267, 287-88 (2004)*.[88] Second, the defendants argued that the EG failed to account for the impact of traditional districting criteria like contiguity and compactness. Finally, the defendants argued that the plaintiffs lacked the standing to challenge Act 43 on a statewide basis, and instead could only challenge their individual districts.

88 The defendants pointed to Professor Jackman's report, which employs a "simplified method" for calculating the EG:

$$EG = S - .5 - 2(V - .5)$$

R.34 at 18. In this equation, "S" is the party's expected seat share and "V" is the party's expected vote share. The "simplified method" implies that for 1% of the vote a party obtains above 50%, the party would be expected to earn 2% more of the seats (what is called a "winner's bonus"). It is this direct correlation between seat and vote share that, the defendants maintained, ran afoul of *Vieth v. Jubelirer, 541 U.S. 267, 287-88 (2004)*.

In an order dated [*36] December 17, 2015, we denied defendants' motion to dismiss. We first noted that the claim was justiciable, and that, "[u]ntil a majority of the Supreme Court rules otherwise, lower courts must continue to search for a judicially manageable standard."[89] We acknowledged the defendants' argument that the EG was analogous to a proportionality standard, but noted that the plaintiffs' experts disagreed with the defendants' contention and that factfinding therefore was needed. We concluded that "[a] determination whether

plaintiffs' proposed standard is judicially manageable relies at least in part on the validity of plaintiffs' expert opinions" and that a more developed record would be necessary to resolve that question.[90] Finally, we concluded that the plaintiffs had standing, explaining that "[b]ecause plaintiffs' alleged injury in this case relates to their statewide representation, it follows that they should be permitted to bring a statewide claim."[91] We noted, however, that the defendants were "free to raise this issue again on a more developed record."[92]

89 R.43 at 9.
90 *Id. at 23*.
91 *Id. at 13*.
92 *Id. at 15*.

C. Motion for Summary Judgment

Defendants subsequently filed a motion for summary judgment, raising new challenges to the plaintiffs' claims. [*37] [93] In the motion, the defendants argued that the EG metric was overinclusive and captured several plans--including court-drawn plans in Wisconsin--that were not drawn with any partisan intent. Furthermore Democratic voters tended to live in cities, which created a "natural packing" effect and distorted the EG.[94]

93 *See* R.45; R.46.
94 R.46 at 38.

The defendants acknowledged the plaintiffs' argument that a requirement of partisan intent could remedy this over-inclusivity problem, but noted that the intent element was not sufficiently demanding. The defendants contended that "[a]s long as redistricting is done by a legislature, it should not be very difficult to prove that the likely political consequences of the reapportionment were intended."[95] The intent element proposed by the plaintiffs was, therefore, "meaningless,"[96] and the Supreme Court's decision in *Vieth* already had ruled out the more demanding standard of "predominant intent." *See 541 U.S. at 284-86* (plurality opinion); *id. at 308* (Kennedy, J., concurring).

95 *Id. at 41* (quoting *Davis v. Bandemer, 478 U.S. 109, 129 (1986)* (plurality opinion) (alteration in original) (internal quotation marks omitted)).
96 *Id.*

The defendants levied two additional criticisms of the plaintiffs' test. First, they noted that the plaintiffs' "Demonstration [*38] Plan" was based on a counterfactual scenario and therefore failed to address concerns raised by some Justices about a standard which dealt with a "hypothetical state of affairs."[97] Second, they alleged that the EG is highly sensitive to "vote-switchers" in swing districts.[98] Had voters in close (or competitive) elections voted for the other party, and had a few candidates of the other party won those seats, then the EG might be dramatically different. In their view, a plan that included such competitive districts could be found unconstitutional under the plaintiffs' proposed standard.

97 *Id. at 48* (quoting *League of United Latin American Citizens v. Perry* ("*LULAC*"), *548 U.S. 399, 420 (2006)* (opinion of Kennedy, J.) (internal quotation marks omitted)).
98 *Id.*

We denied the motion for summary judgment. We explained that judgment "as a matter of law would be premature because there [we]re factual disputes regarding the validity of plaintiffs' proposed measurement."[99] We also noted that there was conflicting evidence on the "natural packing" of Democrats in Wisconsin.[100] We further observed that the defendants' arguments might serve as "a suggestion to alter the threshold of the plaintiffs' test and, perhaps, shift the burdens of production [*39] or proof."[101] In particular, we left open the question of the requisite level of intent and directed the plaintiffs to "be prepared to present the strongest evidence that they have on this issue ... in order to meet even the most demanding intent requirement."[102] We therefore set the case for trial.

99 R.94 at 2.
100 *Id. at 14-17*.
101 *Id. at 16*.
102 *Id. at 30*.

D. Witnesses Testifying at Trial

During the four-day trial, from May 24, 2016, through May 28, 2016, the parties presented their cases through eight witnesses. Some of the testimony of the witnesses involved in the passage of Act 43 has been set forth above, so it is not necessary to summarize it again here. An overview of the remaining testimony is set forth below.[103]

103 A more complete treatment of the experts'

opinions are set forth in Parts IV and V.

1. William Whitford

First to testify was William Whitford, one of the plaintiffs in this litigation and a resident of the 76th Assembly District.[104] Professor Whitford testified to his long-time affiliation with the Democratic Party. He related that he consistently has voted for Democratic candidates, has made donations to Democratic Assembly candidates outside of his own district, has raised money on their behalf, and has donated to the Assembly [*40] Democratic Campaign Committee.[105] According to Professor Whitford, given Wisconsin's caucus system, "[t]he only practical way to accomplish [his] policy objectives is to get a majority of the Democrats in the Assembly and the Senate," which is "virtually impossible under this apportionment [plan]."[106]

104 R.147 at 29.
105 *Id. at 31, 39*.
106 *Id. at 33-34*.

2. Ronald Keith Gaddie

Professor Gaddie was deposed by the plaintiffs on March 9, 2016, and a video of that deposition was admitted into evidence and played at trial. As explained in some detail above,[107] Professor Gaddie testified that he was retained by Michael Best & Friedrich on April 11, 2011, to "serv[e] as an independent advisor on the appropriate racial and/or political make-up of legislative and congressional districts in Wisconsin."[108] In particular, Professor Gaddie took "the electoral data ... and constructed a regression analysis ... in order to create an estimate of the vote performance of every district."[109] He explained that this analysis "could be used to create a set of visual aids to demonstrate the partisan structure of Wisconsin politics."[110]

107 *See supra at 7-10, 12-14*.
108 Tr. Ex. 169, at 1; *see also* Tr. Ex. 161 (Gaddie Dep.), at 69-70.
109 Tr. Ex. 161 (Gaddie Dep.), at 98.
110 *Id.*

As noted above, Professor Gaddie's regression analysis was employed to confirm [*41] the validity of the composite measure developed by Foltz, Ottman, and Handrick. Professor Gaddie also used his regression analysis to assess each of the drafters' proposed maps and to create "S" curves to illustrate how the Republican seat share would change based on changes in the party's statewide vote share.[111] In Professor Gaddie's words, the "S" curves were "designed to tease out a potential estimated vote for the legislator in the district and then allow you to also look at that and say, okay, what if the Democrats have a good year? What if the Republicans have a good year? How does it shift?"[112] At least some of the "S" curves were printed and kept in the map room at Michael Best & Friedrich; in print form, the "S" curves were large enough to "cover half th[e] table."[113]

111 *See id. at 101*. Specifically, the "S" curves give a visual depiction of how each party's vote share (on the x axis) relates to the number of Assembly seats that party likely will secure (on the y axis). *See supra at 12* (discussing "S" curves in detail) and *infra* at Appendix 1 (depicting partial "S" curve).
112 *Id.*
113 *Id. at 107*.

3. Adam Foltz

Foltz worked as a legislative aide for Speaker Fitzgerald and served as one of the primary drafters of Act 43.[114] One additional [*42] aspect of Foltz's testimony at trial, however, is worthy of note. His testimony revealed a shortcoming in the drafters' composite partisan measure. Specifically, the composite score likely was skewed to show a greater Republican advantage because of an error in the data for the 2006 Governor's race (one of the components of the composite score). As a result of this error, the partisan estimates in the drafters' spreadsheets were distorted and differed from the estimates reached by Professor Gaddie in his "S" curves. Foltz testified that he had not noticed this discrepancy at the time of drafting. He explained that, at the time, he "didn't spend a whole lot of time with" Professor Gaddie so he "[did]n't really understand the nuts and bolts" of the "S" curves.[115]

114 *See supra at 7-15*.
115 R.147 at 65-66.

4. Tad Ottman

Ottman testified to his involvement in the drafting and passage of Act 43.[116]

116 *See supra at 7-15*. The third individual

involved in the drafting process, Joseph Handrick, did not testify at trial and was not deposed by counsel in this case. However, Handrick was deposed multiple times in *Baldus v. Members of the Wisconsin Government Accountability Board, 849 F. Supp. 2d 840 (E.D. Wis. 2012)*, and his depositions were admitted into the record here. Handrick is a former state legislator who was involved in Wisconsin's reapportionment [*43] in 1991, 2001, and 2011--first as a staffer to the assemblyman chairing the committee, then as an independent consultant, and, in 2011, as an employee of the law firm of Reinhart Boerner Van Dueren, which was retained by Michael Best & Friedrich.

Handrick's deposition testimony largely conforms with the trial testimony of Foltz and Ottman, with a few notable exceptions. Handrick described himself as a "nonpartisan consultant," Tr. Ex. 311 (Handrick Dep. 2/1/12), at 351, and denied seeking to achieve any partisan advantage in the drafting process, Tr. Ex. 290 (Handrick Dep. 12/20/11), at 125. Handrick did not recall being provided with any data on voting results from past elections. Tr. Ex. 311, at 332. He testified instead that his role was limited to evaluating completed maps solely on the bases of "[p]opulation[] deviation, municipal splits, [and] contiguity." Tr. Ex. 290, at 57.

Notably, Handrick was presented with an account of his role in previous Wisconsin redistricting cycles in a book written by Professor Gaddie. The book described Handrick as a "talented artisan of electoral maps" who "was contracted as an independent consultant, working through the law firm representing the assembly in [*44] redistricting, to develop legislative maps that would stand up to a high degree of scrutiny by the courts and that would also be favorable to Republicans." *Id. at 73-74*. When asked if he agreed with this description, Handrick responded, "I don't disagree." *Id. at 74*. Similarly, Handrick was asked about a particular quote attributed to him in the book: "When they sat me down at the [computer] terminal, I just had a knack for being able to see how to craft the kind of districts they wanted, with the right political skew and in a fashion that would be attractive to a court." *Id. at 71*. Handrick was asked if this quotation was accurate, to which he responded, "I presume it is." *Id.*

5. Kenneth Mayer

Kenneth Mayer, a professor of political science at the University of Wisconsin, served as an expert witness for the plaintiffs. His ultimate goal was to design an alternative districting plan to Act 43 "that had an efficiency gap as low to zero as I could get it" while also complying with traditional districting criteria to the same extent as Act 43.[117] He first created a regression model that estimated partisanship for each geographic area, so that he could compare his plan to Act 43. To ensure the model was accurate, Professor [*45] Mayer compared the predictions made by his regression model to the actual results in 2012. Once he was confident in his model, Professor Mayer "used a GIS redistricting program called *Maptitude* ... to ... complete the task of actually drawing the Assembly district map."[118]

117 R.148 at 146.
118 *Id. at 151*; *see also infra* at 107-08.

Professor Mayer's alternative "Demonstration Plan" yields a 2.2% EG in favor of the Republicans, compared to an 11.69% EG yielded by Act 43.[119] According to Professor Mayer, "[o]n all constitutional requirements, the Demonstration Plan is comparable to Act 43."[120] On cross-examination, however, the defendants pointed out that Professor Mayer did not take account of incumbents when drawing the plan.[121] As a result, his plan paired a greater number of incumbents than Act 43, including one pairing in a majority-minority district.[122] Further, Professor Mayer had not drawn any Senate districts, and therefore had not taken account of disenfranchisement.[123]

119 R.148 at 180-81. Professor Mayer and Professor Jackman calculate the EG in different ways. Professor Jackman's analysis is a "simplified method," *see supra* note 88, which looks at the percentage of vote and the percentage of seats. Alternatively, Professor Mayer calculates [*46] the EG by "generat[ing] estimates for the number of Democratic and Republican votes that were cast in each district and ... used that to calculate the number of surplus and lost votes." R.148 at 179. The differences in these calculations will be discussed in more detail *infra* at IV.B.3.

120 Tr. Ex. 2, at 38.
121 R.149 at 112.
122 *Id. at 113*.
123 *Id. at 118-19*. As explained by the Court in *Baldus v. Members of Wisconsin Government Accountability Board, 849 F. Supp. 2d 840, 852 (E.D. Wis. 2012)*, disenfranchisement occurs because,

> [p]ursuant to *Wisconsin Constitution Article IV, section 5*, state senators serve four-year, staggered terms with half of the senators elected in presidential years and the other half during midterm years. The redistricting plan shifts voters among senate districts in a manner that causes certain voters who previously resided in an even-number district (which votes in presidential years) to be moved to an odd-numbered district (which votes in mid-term years); this shift means that instead of voting for a state senator in 2012, as they would have done, they must wait until 2014 to have a voice in the composition of the State Senate.

In addition to discussing the Demonstration Plan, Professor Mayer responded to points made by the defendants' experts in their reports. Specifically, Professor Mayer testified that he had conducted a sensitivity analysis to address concerns about [*47] the effect of "wave" elections--elections that that dramatically favor one party--on the EG calculations for both the Demonstration Plan and Act 43. He first looked over the last twenty years of elections in Wisconsin and found the greatest and smallest statewide vote shares for each party.[124] Using these vote shares as the likely electoral spectrum, he performed a swing analysis where the Democrats received an additional 3% of the statewide vote (compared to their 2012 share) and the Republicans received an additional 5% of the statewide vote (again compared to their 2012 share) "to see what effect that would have on [his] efficiency gap calculations for the Demonstration Plan."[125] Professor Mayer's analysis revealed that the Demonstration Plan's EG remained below 4%, regardless of the swing.[126] Act 43's EG, however, increased during a Democratic swing but significantly decreased during a Republican swing. Professor Mayer noted that this is because "we've swung the Republican vote percentage up to 54 percent" but "[t]he number of [Republican] seats doesn't change."[127] In Professor Mayer's view, the result "is a confirmation that the bias in Act 43 is about the maximum that you can get."[128]

124 R.148 at 225. [*48] "[T]he largest statewide vote share that the Democrats received in Assembly elections was in 2006 and it was 54.2 percent, 54--it was 54 and change. And the smallest statewide vote share that the Democrats received was about 46 percent and we saw that in 2010." *Id.*
125 *Id.*
126 *Id.* at 228.
127 *Id.* at 229.
128 *Id.*

6. Simon Jackman

Simon Jackman, a professor of political science and statistics at Stanford University, also served as an expert witness for the plaintiffs. Professor Jackman primarily testified about the reliability and practicability of the EG. He conducted a survey of 786 state legislative elections (under 206 different districting plans) in the United States between 1972 and the present day, in order to ascertain whether there was a baseline EG which should "trigger scrutiny" and also to compare Act 43 to other redistricting plans.[129]

129 R.149 at 150, 200.

Professor Jackman sought to determine how much the EG varied from election year to election year, and whether a districting plan had any impact on that EG. Professor Jackman presented a "scatterplot," which graphed the relationship between the EG in the first election year of a redistricting plan (set forth on the x axis) and the average EG over the lifetime of the plan (set [*49] forth on the y axis).[130] He found a "relatively strong predictive relationship," meaning that a high EG in the first year of a redistricting plan likely means that the EG will remain high for the lifetime of the plan.[131]

130 *Id. at 209-10*; Tr. Ex. 83, at 17.
131 R.149 at 210.

Based on his research, Professor Jackman proposed that an EG of 7% or higher should be legally significant:

> I arrived at 7 percent because that seemed to be a reasonable threshold for saying yes, if the first election under a plan produces an efficiency gap score at least that big, then you can be confident now that you've seen not just a one-off, but something that's going to persist over the life of the plan as a signal of -- a reliable signal as to the set of efficiency gap scores and the average efficiency gap score you might see if the plan were allowed to run.[132]

In other words, an EG of 7% in favor of one party in the first election year of a plan almost certainly means that the EG will favor that same party in each subsequent election year under that plan.

132 *Id. at 209*.

Professor Jackman noted that the EGs for the 2012 and 2014 races in Wisconsin--13% and 10%, respectively--were particularly high by historical levels. The EG in 2012 was, according to Professor [*50] Jackman, "among the largest scores we've seen anywhere" and "in the top 3 percent in terms of magnitude."[133] Act 43's average EG ranked fifth out of the 206 plans that Professor Jackman surveyed.[134] He testified that he was "virtually certain" that "Act 43 will exhibit a large and durable advantage in favor of Republicans over the rest of the decade."[135]

133 *Id.* at 225.
134 *Id.* at 227.
135 *Id.* at 233.

7. Sean Trende[136]

136 Mr. Trende's report and testimony was the subject of a motion in limine. We address this motion in Part V of our opinion.

Sean Trende, Senior Elections Analyst for the website RealClearPolitics, served as an expert witness for the defendants. Mr. Trende primarily testified on the political geography of Wisconsin and its potential effect on the EG.

Mr. Trende explained that, as a general matter, political geography of the United States currently favors Republicans. In his view, the Democratic coalition has contracted geographically and is now concentrated heavily in urban areas. This concentration, in turn, has hurt the Democratic Party in congressional elections, which tend to favor parties with wider geographic reach.[137]

137 Mr. Trende demonstrated this theory using color-coded maps illustrating the 1996, 2004, and 2008 presidential [*51] vote results by county in Texas, Oklahoma, Arkansas, Louisiana, Mississippi, Alabama, Tennessee, Kentucky, and Virginia. Tr. Ex. 547, at 17. Over the three election cycles, the number of counties shaded blue (indicating that a majority of the county voted for the Democratic presidential candidate) decreased, and the number of red counties increased. *See id.*

Mr. Trende also testified to the political geography of Wisconsin itself, which he analyzed using a measure called the "partisan index" ("PI"). The purpose of the PI is "to determine the partisan lean of political units,"[138] in order to "compare results across elections."[139] Mr. Trende explained that the county and ward PI values within Wisconsin have shifted such that the Democratic Party's influence was strengthening in areas "that already leaned Democratic," but was contracting geographically.[140]

138 R.150 at 19.
139 Tr. Ex. 547, at 20.
140 *Id. at 26*.

Mr. Trende then applied his PI analysis to Wisconsin's wards in what he referred to as a "nearest neighbor" analysis, which assessed the median distance between heavily Democratic wards compared to the median distance between heavily Republican wards.[141] From this analysis, Mr. Trende concluded that it has "become[] [*52] progressively harder to draw ... Democratic districts elsewhere in the state," which in his view explained at least some of the EG.[142] However, he did not determine exactly how much of the EG was attributable to geography.[143]

141 R.150 at 60.
142 *Id. at 64*.
143 *Id. at 98*.

8. Nicholas Goedert

Nicholas Goedert, a visiting professor of political science at Lafayette College, was retained by the defendants to offer opinions on using the EG to measure partisan gerrymandering.

Professor Goedert's main objection to the EG was its perceived volatility. In Professor Goedert's view, "wave elections are the norm," meaning that "much more often than not one party wins by 5 percent or more" of the vote.[144] Therefore, relying on an EG from one election year, which might have taken place during a close election, might not be reliable. Professor Goedert opined that, "at a very minimum, ... you need to have some sort of robust sensitivity testing that would be codified if you were going to use the efficiency gap in any way."[145]

144 *Id. at 175*.
145 *Id. at 176*.

Professor Goedert also raised a series of policy concerns. First, he pointed out that the EG measure arguably rests on a "2-to-1" vote-to-seats ratio and therefore a certain standard of proportionality.[146] He also noted that [*53] there are "normatively good reasons why a state might cho[ose] to draw a map in a certain way and even under these normatively good reasons we could and actually do observe very high efficien[cy] gaps."[147] For example, Professor Goedert noted that some states may wish to create a more proportional system or encourage competitive elections.[148] In his view, states might be discouraged from pursuing these policy goals if the court adopted the EG as the standard for partisan gerrymandering.

146 *Id. at 163-64*; *see also infra* at 82 (explaining 2-to-1 ratio).
147 *Id. at 162-63*.
148 *Id. at 165-70*.

E. Post-Trial Briefing

Both parties filed post-trial briefs, which summarized their views of the case in light of the evidence presented at trial. The plaintiffs contended that they satisfied their proposed three-part test by proving discriminatory intent, discriminatory effect, and an absence of a justification for that effect. On intent, the plaintiffs focused in particular on the alternative maps that the drafters rejected, the "S" curves drawn by Professor Gaddie, and memos written by Foltz and Ottman. On effect, the plaintiffs stressed that the EG was not only likely to favor Republicans for the lifetime of the plan, but that it also was likely to stay relatively high. The plaintiffs [*54] also highlighted the sensitivity testing that had been conducted by Professors Jackman and Mayer. On justification, the plaintiffs pointed out that the previous Assembly maps in Wisconsin, the alternative plans drafted by the defendants, and Professor Mayer's Demonstration Plan all exhibited lower EGs while arguably complying as well with traditional districting criteria.[149]

149 The plaintiffs also discussed alternative maps drawn by Professor Jowei Chen, who wrote an article that the plaintiffs have moved to admit into evidence. The defendants have challenged the admissibility of Professor Chen's article on hearsay grounds. We shall address those arguments *infra* note 350.

In response, the defendants contended that "a plan that complies with all neutral districting criteria, and whose efficiency gap is consistent with prior court-drawn plans" cannot be unconstitutional.[150] The defendants noted that Act 43's districts were congruent, compact, and fairly equal in population. Further, much of the secrecy surrounding Act 43's enactment was consistent with how bills typically are enacted in Wisconsin. The defendants also pointed to evidence that the political geography in Wisconsin favors Republicans, [*55] which they contend explains the trend in EGs towards that party over the past two decades. In the defendants' view, this evidence also illustrates the unreliability of the EG. The defendants concluded that the plaintiffs had not presented enough of a reason for a court to intervene in the redistricting process.

150 R.153 at 1.

We express our appreciation to both parties for their thorough and informative presentation, and now turn to the legal principles that must guide our analysis of the case.

III

THE LEGAL LANDSCAPE

The plaintiffs' claim is that Act 43 violates their *First* and *Fourteenth Amendment* rights because it discriminates against Democratic voters by diminishing

the strength of their votes in comparison to their Republican counterparts.

We note, as a prefatory matter, that we have acknowledged, throughout this litigation, that the plaintiffs' standing to maintain a cause of action is a threshold issue. *See, e.g., Tierney v. Advocate Health and Hosps. Corp., 797 F.3d 449, 450 (7th Cir. 2015)*. Indeed, in our disposition of the defendants' motion to dismiss, we addressed extensively standing and "conclude[d] that plaintiffs' alleged injury [wa]s sufficiently concrete and particularized under current law to satisfy *Lujan* [*v. Defenders of Wildlife, 504 U.S. 555 (1992),*] with respect to a statewide challenge to the districting plan."[151] "We reach[ed] the same [*56] conclusion with respect to [*Lujan*'s] second and third elements of standing, which are causation and redressability."[152] We noted, though, that the "defendants [we]re free to raise this issue again on a more developed record."[153]

151 R.43 at 11.
152 *Id. at 14*.
153 *Id. at 15*.

Lujan explains that, because the elements of standing "are not mere pleading requirements but rather an indispensable part of the plaintiff's case, each element must be supported in the same way as any other matter on which the plaintiff bears the burden of proof, i.e., with the manner and degree of evidence required at the successive stages of the litigation." *504 U.S. at 561*. Our assessment of the evidence, as well as our elucidation of the political gerrymandering cause of action, therefore will inform our standing analysis. Consequently, we postpone a plenary discussion of standing until we fully have set forth the evidence as well as the constitutional standard.[154] As a precursor, however, we conclude that the plaintiffs have established a concrete and particularized injury: "[a]s a result of the statewide partisan gerrymandering, Democrats do not have the same opportunity provided to Republicans to elect representatives of their choice to the Assembly. As a result, the electoral [*57] influence of plaintiffs and other Democratic voters statewide has been unfairly [and] disproportionately ... reduced" for the life of Act 43.[155] Additionally, the plaintiffs have shown causation: Act 43 was designed with the purpose of solidifying Republican control of the legislature for the decennial period and, indeed, has had that effect. Finally, the plaintiffs have established that their injury is redressable: adopting a different statewide districting map would redress the constitutional violation by removing the state-imposed impediment on Democratic voters.[156]

154 *See infra* Part VI.
155 R.1 at 6-7, ¶ 16; *see also infra* at 112-13.
156 *See infra* at 113.

In resolving the plaintiffs' claim, we face a significant analytical problem. Although the Supreme Court's political gerrymandering cases establish that "an excessive injection of politics is unlawful," *Vieth, 541 U.S. at 293* (plurality opinion) (emphasis removed), the Court has not come to rest on a single, judicially manageable or discernible test for determining when the line between "acceptable" and "excessive" has been crossed. Indeed, a signature feature of these cases is that no single opinion has garnered a majority of the Court.

But the absence of a well-trodden path does not relieve us [*58] of the obligation to render a decision. True, we cannot anticipate that the Court will alter course from the decisional law, however sparse, that currently exists. *See State Oil Co. v. Khan, 522 U.S. 3, 20 (1997)* (noting that lower courts should apply outstanding precedent until explicitly overruled by the Supreme Court). Nor can we cobble together the opinions of the various Justices who have written on the matter and call the resulting amalgam binding precedent. *See Rodriguez de Quijas v. Shearson/American Exp., Inc., 490 U.S. 477, 484 (1989)* (noting that lower courts should follow precedent despite expressed dissatisfaction by various members of the Court until the precedent is overruled explicitly). Nevertheless, understanding that we are in an area where the navigational signs are not yet well-placed, we must decide the case before us and satisfy our "duty ... to say what the law is," *Marbury v. Madison, 5 U.S. (1 Cranch) 137, 177 (1803)*, or at least what we believe it to be.

We begin by examining the cases that set forth the constitutional principles which later informed the Court's political gerrymandering decisions.

A. The Foundational Case Law

1.

Over half a century ago, the Supreme Court recognized that the constitutionality of legislative apportionments is governed by the *Equal Protection Clause of the Fourteenth Amendment*. *See Reynolds v.*

Sims, 377 U.S. 533 (1964). *Reynolds* was not a political gerrymandering case, but addressed allegations [*59] that an outdated apportionment scheme resulted in "serious discrimination with respect to the allocation of legislative representation" in violation of the *Equal Protection Clause*. *Id. at 540*. Nevertheless, the Supreme Court spoke to the importance and nature of the right to vote in terms that also inform our consideration of the plaintiffs' claims.

The Court first observed that the right to vote "is a fundamental matter in a free and democratic society. Especially since the right to exercise the franchise in a free and unimpaired manner is preservative of other basic civil and political rights, any alleged infringement of the right of citizens to vote must be carefully and meticulously scrutinized." *Id. at 561-62*. The Court explained that "[m]ost citizens" exercise their "inalienable right to full and effective participation in the political process" by voting for their elected representatives. *Id. at 565*. "Full and effective participation by all citizens in state government requires, therefore, that each citizen have an equally effective voice in the election of members of his state legislature." *Id.* Moreover,

> the concept of equal protection has been traditionally viewed as requiring the uniform treatment of persons standing in the same relation [*60] to the governmental action questioned or challenged. With respect to the allocation of legislative representation, all voters, as citizens of a State, stand in the same relation regardless of where they live.

Id.

The Court explained, however, that the requirement of equal treatment was not limited to where a voter resided. Instead, "*[a]ny* suggested criteria for the differentiation of citizens are insufficient to justify any discrimination, as to the weight of their votes, unless relevant to the permissible purposes of legislative apportionment." *Id.* (emphasis added). The Court therefore concluded that,

> [s]ince the achieving of fair and effective representation for all citizens is concededly the basic aim of legislative apportionment, ... the *Equal Protection Clause* guarantees the opportunity for equal participation by all voters in the election of state legislators. Diluting the weight of votes because of place of residence impairs basic constitutional rights under the *Fourteenth Amendment* just as much as invidious discriminations based upon factors such as race or economic status.

Id. at 565-66 (citations omitted).[157]

157 In *Reynolds v. Sims, 377 U.S. 533, 577 (1964)*, the Court required "that a State make an honest and good faith effort to construct districts ... as nearly of equal population as is practicable." [*61] Later cases set a 10% threshold: an apportionment plan with a maximum population deviation between the largest and smallest district of 10% is presumptively constitutional; larger disparities create a prima facie case of discrimination, and the State must justify its plan. *See Evenwel v. Abbott, 136 S. Ct. 1120, 1124 (2016)*; *Mahan v. Howell, 410 U.S. 315, 329 (1973)* (approving an apportionment plan with a deviation of 16% in light of the State's interest in "maintaining the integrity of political subdivision lines").

Reynolds therefore establishes that, in electing state representatives, the votes of citizens must be weighted equally. If an apportionment scheme violates the principle of one-person, one-vote, it must be justified on the basis of other, permissible, legislative considerations.

2.

The Court soon had the opportunity to apply the principles set forth in *Reynolds* to allegations of vote-dilution brought by racial minorities. In *Fortson v. Dorsey, 379 U.S. 433 (1965)*, the Court considered the constitutionality of an apportionment scheme which included traditional single-member districts and multimember districts, where citizens reside in a comparatively larger district and vote for multiple representatives. Voters alleged that these multimember districts were "defective because county-wide voting in [*62] multi-district counties could, as a matter of mathematics, result in the nullification of the unanimous choice of the voters of a district." *Id. at 437*. The district

court granted summary judgment to the plaintiffs, finding that the statute was unconstitutional on its face.

The Supreme Court disagreed that such districts were unconstitutional per se, and it declined to strike the plan. The Court acknowledged, however, that "[i]t might well be that, designedly or otherwise, a multi-member constituency apportionment scheme, under the circumstances of a particular case, would operate to *minimize or cancel out the voting strength of racial or political elements of the voting population*." *Id. at 439* (emphasis added). The Court, therefore, remanded for factfinding to determine whether the plaintiffs could meet this burden.

Following *Fortson*, the Court has held that multimember districts violate the Constitution when the plaintiffs have produced evidence that an election was "not equally open to participation by the group in question--that its members had less opportunity than did other residents in the district to participate in the political processes and to elect legislators of their choice." *White v. Regester, 412 U.S. 755, 766 (1973)*.

Later cases refined [*63] the methodology by which courts evaluate claims of vote dilution. In *Rogers v. Lodge, 458 U.S. 613 (1982)*, Burke County, Georgia, employed an at-large system of elections to determine its Board of Commissioners, rather than dividing the county into districts and allowing each district to choose a commissioner. *Id. at 615*. African-American citizens in that county brought an action in which they alleged that the county's system of at-large elections violated their *First*, *Thirteenth*, *Fourteenth*, and *Fifteenth Amendment* rights by diluting their voting power. The district court held that, although the at-large electoral system was neutral in origin, it was being maintained for invidious purposes and therefore ordered the county to be divided into districts for purposes of electing commissioners.

The Supreme Court affirmed. It explained that districts violate the *Equal Protection Clause* when "'conceived or operated as purposeful devices to further racial discrimination' by minimizing, cancelling out or diluting the voting strength of" minority populations. *Id. at 617*. These cases "are thus subject to the standard of proof generally applicable to *Equal Protection Clause* cases," specifically the "'quality of a law claimed to be racially discriminatory must ultimately be traced to a racially discriminatory purpose.'" *Id.* (quoting *Washington v. Davis, 426 U.S. 229, 240 (1976))*. Discriminatory [*64] intent, however, "need not be proved by direct evidence," but may be "'inferred from the totality of the relevant facts.'" *Id. at 618* (quoting *Washington, 426 U.S. at 242*).

Applying this standard, the Court "decline[d] to overturn the essential finding of the District Court ... that the at-large system ... ha[d] been maintained for the purpose of denying blacks equal access to the political processes in the county." *Id. at 627*. Evidence of discriminatory purpose included the fact that no African American ever had been elected despite "overwhelming evidence of bloc voting along racial lines." *Id. at 623-24*. There also was evidence of historical discrimination in the form of literacy tests, poll taxes, and school segregation, *id. at 624-25*; of a disparity in socio-economic status that "result[ed] in part from the lingering effects of past discrimination," *id. at 626* (internal quotation marks omitted); and of county elected officials' unresponsiveness and insensitivity to African-American constituents, *see id. at 625-26*.[158]

158 Shortly after the Court's decision in *Rogers v. Lodge, 458 U.S. 613 (1982)*, Congress amended *Section 2* of the Voting Rights Act to prohibit apportionment schemes that result in the dilution of the voting strength of minorities, regardless of intent. *52 U.S.C. § 10301*. Consequently, the Court now addresses vote dilution through the Voting Rights Act [*65] rather than the Constitution. *See, e.g., LULAC*, 548 U.S. at 423-35; *Voinovich v. Quilter, 507 U.S. 146, 155 (1993)*; *Thornburg v. Gingles, 478 U.S. 30, 34 (1986)*. However, the Court still recognizes the validity of *Fortson* and its progeny. *See, e.g., Shaw v. Reno, 509 U.S. 630, 649 (1993)* (noting that it has "considered the constitutionality of" multimember districting and at-large voting systems and has "required plaintiffs to demonstrate that the challenged practice has the purpose and effect of diluting a racial group's voting strength").

Although focused on racially discriminatory apportionment schemes, *Fortson* and subsequent vote-dilution cases establish that Equal Protection concerns arise when apportionment plans "minimize or cancel out the voting strength" either of racial minorities or, as we have here, "*political elements* of the voting population." *379 U.S. at 439* (emphasis added).

Moreover, they instruct that vote-dilution cases are governed by the same standards as other equal-protection claims, namely the plaintiffs must establish both a discriminatory intent and a discriminatory effect.

B. Present Supreme Court Precedent

1.

The Court drew heavily from the *Fortson* line of cases in resolving the political gerrymandering claim asserted in *Gaffney v. Cummings, 412 U.S. 735 (1973)*. In *Gaffney*, the Connecticut Apportionment Board created a redistricting plan designed to yield Democratic [*66] and Republican seats in proportion to the statewide vote. A three-judge district court invalidated the plan on the ground that the deviations from equality of population in both houses were not "justified by any sufficient state interest," "[m]ore particularly, ... that the policy of partisan political structuring ... cannot be approved as a legitimate reason for violating the requirement of numerical equality of population in districting." *Id. at 740* (internal quotation marks omitted).

The Supreme Court reversed. In its analysis, the Supreme Court acknowledged that "[s]tate legislative districts may be equal or substantially equal in population and still be vulnerable under the *Fourteenth Amendment*"; it stated:

> A districting plan may create multimember districts perfectly acceptable under equal population standards, but invidiously discriminatory because they are employed "to minimize or cancel out the voting strength of racial or political elements of the voting population." We must, therefore, respond to appellees' claims in this case that even if acceptable populationwise, the Apportionment Board's plan was invidiously discriminatory because a "political fairness principle" was followed in making up the districts in both [*67] the House and Senate.

Id. at 751-52 (citations omitted).

The Court, however, was "unconvinced" that the plan violated the *Fourteenth Amendment*. *Id. at 752*. The Court observed that Connecticut's Apportionment Board had sought to "achieve a rough approximation of the statewide political strengths of the Democratic and Republican parties," by implementing a "political fairness" plan. *Id.* (internal quotation marks omitted). The Court saw no constitutional impediment to the State's considering partisan interests in this way. *Id. at 752-53*.

The Court made clear, however, that the drawing of legislative districts along political lines "is not wholly exempt from judicial scrutiny under the *Fourteenth Amendment*." *Id. at 754*. Relying on its vote-dilution cases, it gave as an example "multimember districts [that] may be vulnerable" to constitutional challenges "if racial or political groups have been fenced out of the political process and their voting strength invidiously minimized." *Id.* "Beyond this," the Court continued, it had "not ventured far or attempted the impossible task of extirpating politics from what are the essentially political processes of the sovereign States." *Id.*

In closing, however, the Court was careful to distinguish the plan before it, which employed political [*68] classifications for benign--even salutary--purposes, with plans that did not have proportional representation as their aim:

> [N]either we nor the district courts have a constitutional warrant to invalidate a state plan, otherwise within tolerable population limits, because it undertakes, *not to minimize or eliminate the political strength of any group or party, but to recognize it and, through districting, provide a rough sort of proportional representation* in the legislative halls of the State.

Id. (emphasis added).

In sum, the Court reiterated that its concern was *invidious* discrimination by the State; absent the plaintiffs' establishing an intent to dilute the strength of a particular group or party, the *Equal Protection Clause* was not offended.

2.

The Court next addressed partisan gerrymandering in *Davis v. Bandemer, 478 U.S. 109 (1986)*. Because *Bandemer* was the first case in which a party directly raised, and the Court squarely addressed, a claim that a

legislative redistricting plan invidiously discriminated against members of a political party, we treat it in some depth.

In *Bandemer*, Indiana Democrats challenged the 1981 state reapportionment plan passed by a Republican-controlled legislature. Specifically, they alleged that the plan was intended to disadvantage [*69] Democrats in electing representatives of their choosing, in violation of the *Equal Protection Clause* under the *Fourteenth Amendment*. In November 1982, before the case went to trial, elections were held under the new plan. The district court had "sustained an equal protection challenge to Indiana's 1981 state apportionment on the basis that the law unconstitutionally diluted the votes of Indiana Democrats," *id. at 113* (plurality opinion), but the Supreme Court reversed. A majority of the Court[159] first concluded that the issue before the Court, like those in the one-person, one-vote cases and in the vote-dilution cases, "is one of representation" and "decline[d] to hold that such claims [we]re never justiciable." *Id. at 124*. "As *Gaffney* demonstrates," the Court continued, the fact that a "claim is submitted by a political group, rather than a racial group, does not distinguish it in terms of justiciability." *Id. at 125*. That the complaining group does not share an "immutable" characteristic or otherwise "has not been subject to the same historical stigma may be relevant to the manner in which the case is adjudicated, but these differences do not justify a refusal to entertain such a case." *Id.*

159 The majority consisted of the Justices in the plurality (White, Brennan, Marshall, [*70] and Blackmun) and Justices Powell and Stevens, who concurred in part and dissented in part.

Turning to the standard to be applied, a majority of the Court agreed that the "plaintiffs were required to prove both intentional discrimination against an identifiable political group and an actual discriminatory effect on that group." *Id. at 127*.[160] A majority of the Court also believed that the first requirement--intentional discrimination against an identifiable group--had been met. *See id.* (citing *Mobile v. Bolden, 446 U.S. 55, 67-68 (1980))*.[161] Indeed, it observed that, "[a]s long as redistricting is done by a legislature, it should not be very difficult to prove that the likely political consequences of the reapportionment were intended." *Id. at 129*.

160 Justices Powell and Stevens concurred in this aspect of the plurality's opinion. *See Davis v. Bandemer, 478 U.S. 109, 161 (1986)* (Powell, J., concurring in part and dissenting in part).

161 Justice Powell described the process that led the Court to this conclusion:

> In 1981, the Republican Party controlled both houses of the Indiana General Assembly, and its candidate held the Governor's seat. Pursuant to the requirements of the State Constitution, the General Assembly undertook legislative redistricting based on 1980 census data. A Conference Committee, all of whose [*71] members were Republicans, was assigned the task of drawing district maps with the assistance of a private computer firm. The information fed into the computer primarily concerned the political complexion of the State's precincts. The redistricting process was conducted in secret. Democratic legislators were not afforded *any* participation in designing the district maps that were adopted. There were no hearings where members of the public were invited to express their views. The Republican Committee revealed its proposed redistricting plan two days before the end of the legislative session, and the Democrats hurriedly presented an alternative plan. On the last day of the session, the Republican plan was adopted by party line vote in both Houses of the General Assembly. The Governor signed the plan into law.

Id. at 162-63 (Powell, J., concurring in part and dissenting in part).

The plurality, however, rejected "the District Court's legal and factual bases for concluding that the 1981 Act visited a sufficiently adverse effect on the appellees' constitutionally protected rights to make out a violation of the *Equal Protection Clause*." *Id. at 129*. It was not the case that "*any* apportionment scheme that purposely

prevents proportional representation [*72] is unconstitutional." *Id. at 129-30* (emphasis added). Indeed, the plurality noted that precedent "clearly foreclose[d] any claim that the Constitution requires proportional representation or that legislatures in reapportioning must draw district lines to come as near as possible to allocating seats to the contending parties in proportion to what their anticipated statewide vote will be." *Id. at 130* (first citing *Whitcomb v. Chavis, 403 U.S. 124, 153 (1971)*; then citing *White, 412 U.S. at 765-68*).

Moreover, the plurality held "that a particular apportionment scheme makes it more difficult for a particular group in a particular district to elect the representatives of its choice" also did "not render that scheme constitutionally infirm." *Id. at 131*. In reaching this conclusion, it noted that the Court had refused to approve the use of multimember districts "[o]nly where there [wa]s evidence that excluded groups ha[d] 'less opportunity to participate in the political processes and to elect candidates of their choice.'" *Id.* (quoting *Rogers, 458 U.S. at 624*). It emphasized that "unconstitutional discrimination occurs only when the electoral system is arranged in a manner that will consistently degrade a voter's or a group of voters' influence on the political process as a whole":

> [A]n equal protection violation may be found only where the electoral [*73] system substantially disadvantages certain voters in their opportunity to influence the political process effectively. In this context, such a finding of unconstitutionality must be supported by evidence of continued frustration of the will of a majority of the voters or effective denial to a minority of voters of a fair chance to influence the political process.

Id. at 132-33.

Applying this standard to the facts before them, the plurality concluded that "this threshold condition" had not been met. *Id. at 134*. It observed that the district court had relied "primarily on the results of the 1982 elections" in which Democratic candidates had garnered "51.9% of the votes cast statewide," but secured only 43 seats. *Id.* Republicans, however, had received only "48.1% ... yet, of the 100 seats to be filled, Republican candidates won 57." *Id.*[162] "Relying on a single election to prove unconstitutional discrimination," however, was "unsatisfactory." *Id. at 135*. The plurality specifically noted a lack of evidence that (1) the 1981 Act prevented the Democrats from "secur[ing] ... sufficient vote[s] to take control of the assembly"; (2) "the 1981 reapportionment would consign the Democrats to a minority status in the Assembly throughout the 1980's"; [*74] or (3) "the Democrats would have no hope of doing any better in the reapportionment that would occur after the 1990 census." *Id. at 135-36*. "Without findings of this nature," the plurality stated, "the District Court erred in concluding that the 1981 Act violated the *Equal Protection Clause*." *Id. at 136*.

> 162 "In the Senate, 53.1% of the votes were cast for Democratic candidates and 46.9% for Republicans; of the 25 Senate seats to be filled, Republicans won 12 and Democrats 13." *Id. at 134* (plurality opinion). The district court also had "relied upon the use of multimember districts in Marion and Allen Counties, where Democrats or those inclined to vote Democratic in 1982 amounted to 46.6% of the population of those counties but Republicans won 86%-18 of 21--seats allocated to the districts in those counties." *Id.*

The plurality then addressed a few aspects of Justice Powell's opinion. "[T]he crux of [his] analysis" was that--"at least in some cases--the intentional drawing of district boundaries for partisan ends and for no other reason violates the *Equal Protection Clause*." *Id. at 138*. It disagreed that "the specific intention of disadvantaging one political party's election prospects," standing alone, established a constitutional violation. *Id. at 139*. Instead, invidious intent must be coupled [*75] with evidence that "the redistricting d[id] in fact disadvantage [a party] at the polls," and the disadvantage must be more than "a mere lack of proportionate results in one election." *Id.* The plurality, however, acknowledged that "election results" were "relevant to a showing of the effects required to prove a political gerrymandering claim under our view. And the district configurations may be combined with vote projections to predict future election results," which also would be relevant to showing discriminatory effects. *Id. at 141*.

The plurality recognized that its own test "may be difficult of application." *Id. at 142*. "Nevertheless," it concluded, the test "recognizes the delicacy of intruding

on this most political of legislative functions and is at the same time consistent with our prior cases regarding individual multimember districts, which have formulated a parallel standard." *Id. at 143*.

Justice O'Connor, joined by Chief Justice Burger and Justice Rehnquist, concurred in the judgment, but wrote separately. Justice O'Connor took issue with the plurality's reliance on both the "one-person, one-vote" principle and the Court's vote-dilution cases. *Id. at 146-55* (O'Connor, J., concurring). In her view,

> *Reynolds* makes plain [*76] that the one person, one vote principle safeguards *the individual's* right to vote, not the interests of political groups: "To the extent that a citizen's right to vote is debased, he is that much less a citizen. The fact that an individual lives here or there is not a legitimate reason for overweighting or diluting the efficacy of his vote."

Id. at 149-50 (quoting *Reynolds, 377 U.S. at 567*) (emphasis added). Justice O'Connor also viewed political gerrymandering as distinct from racial gerrymandering. She explained that, "where a racial minority group is characterized by 'the traditional indicia of suspectness' and is vulnerable to exclusion from the political process, individual voters who belong to that group enjoy some measure of protection against intentional dilution of their group voting strength by means of racial gerrymandering." *Id. at 151* (citations omitted). "[M]embers of the Democratic and Republican Parties," however, did not constitute "a discrete and insular group vulnerable to exclusion from the political process by some dominant group: these political parties *are* the dominant groups, and the Court has offered no reason to believe that they are incapable of fending for themselves through the political process." *Id. at 152* (emphasis in [*77] original).

In an opinion concurring in part and dissenting in part, Justice Powell, joined by Justice Stevens, concluded that a redistricting plan violated the Constitution when it served "no purpose other than to favor one segment--whether racial, ethnic, religious, economic, or political--that may occupy a position of strength at a particular time, or to disadvantage a politically weak segment of the community." *Id. at 164* (internal quotation marks omitted) (quoting *Karcher v. Daggett, 462 U.S. 725, 748 (1983)* (Stevens, J., concurring in part and dissenting in part)). He believed that this conclusion followed from the principles articulated in *Reynolds*, namely "that equal protection encompasses a guarantee of equal *representation*, requiring a State to seek to achieve through redistricting 'fair and effective representation for all citizens.'" *Id. at 166* (quoting *Reynolds, 377 U.S. at 565-66*). He further explained that

> [t]he concept of "representation" necessarily applies to groups: groups of voters elect representatives, individual voters do not. Gross population disparities violate the mandate of equal representation by denying voters residing in heavily populated districts, *as a group*, the opportunity to elect the number of representatives to which their voting strength otherwise [*78] would entitle them. While population disparities do dilute the weight of individual votes, their discriminatory effect is felt only when those individual votes are combined. Thus, the fact that individual voters in heavily populated districts are free to cast their ballot has no bearing on a claim of malapportionment.

Id. at 167 (emphasis in original).

Applying these standards, Justice Powell believed that the "case present[ed] a paradigm example of unconstitutional discrimination against the members of a political party that happened to be out of power" and would have found that Indiana's redistricting plan violated the *Equal Protection Clause*. *Id. at 185*.

Although history would establish that the plurality correctly predicted that its *test* for political gerrymandering was, in fact, "difficult of application," *id. at 142* (plurality opinion), *Bandemer* nevertheless provides some meaningful guidance. First, the Court's one-person, one-vote and vote-dilution cases provide the foundation for evaluating claims of political gerrymandering. Second, that a "claim is submitted by a political group rather than a racial group, does not distinguish it in terms of justiciability." *Id. at 125*. And, third, a successful political gerrymandering claim must include a showing [*79] of both discriminatory intent and discriminatory effect.

3.

The Court revisited the issue of political gerrymandering in *Vieth v. Jubelirer, 541 U.S. 267 (2004)*. In *Vieth*, the Court addressed an action filed by Democratic voters in Pennsylvania that challenged the state legislature's new congressional districting plan. Justice Scalia, writing for a plurality, began with a critique of the standard articulated in *Bandemer*:

> Over the dissent of three Justices, the Court held in *Davis v. Bandemer* that, since it was "not persuaded that there are no judicially discernible and manageable standards by which political gerrymander cases are to be decided," *478 U.S., at 123*, such cases *were* justiciable. ... There was no majority on that point. Four of the Justices finding justiciability believed that the standard was one thing, see *id., at 127* (plurality opinion of White, J., joined by Brennan, Marshall, and Blackmun, JJ.); two believed it was something else, see *id., at 161* (Powell, J., joined by STEVENS, J., concurring in part and dissenting in part). The lower courts have lived with that assurance of a standard (or more precisely, lack of assurance that there is no standard), coupled with that inability to specify a standard, for the past 18 years.

Id. at 278-79 (plurality opinion) [*80] (emphasis in original). In the plurality's view, "[e]ighteen years of judicial effort with virtually nothing to show for it justif[ied] ... revisiting the question whether the standard promised by *Bandemer* exists." *Id. at 281*. It concluded that "no judicially discernible and manageable standards for adjudicating political gerrymandering claims have emerged. Lacking [such standards]," it concluded, "political gerrymandering claims are nonjusticiable and ... *Bandemer* was wrongly decided." *Id.*

The plurality turned first to the shortcomings of the test proposed by the plaintiffs:

> To satisfy appellants' intent standard, a plaintiff must "show that the mapmakers acted with a *predominant intent* to achieve partisan advantage," which can be shown "by direct evidence or by circumstantial evidence that other neutral and legitimate redistricting criteria were subordinated to the goal of achieving partisan advantage." ... As compared with the *Bandemer* plurality's test of mere intent to disadvantage the plaintiff's group, this proposal seemingly makes the standard more difficult to meet--but only at the expense of making the standard more indeterminate.

Id. at 284. The plurality determined that, in a statewide plan, there was no principled [*81] way to discern predominant intent.

The test also included an "effects" prong: "The requisite effect is established when '(1) the plaintiffs show that the districts systematically "pack" and "crack" the rival party's voters, *and* (2) the court's examination of the "totality of circumstances" confirms that the map can thwart the plaintiffs' ability to translate a majority of votes into a majority of seats.'" *Id. at 286-87* (footnote omitted). According to the plurality, this aspect of the test also was not judicially discernible because there is no constitutional right to proportional representation: the Constitution "guarantees equal protection of the law to persons, not equal representation in government to equivalently sized groups." *Id. at 288*. Nor, in the plurality's opinion, was the proposed test judicially manageable because there was no reliable method to establish "a party's majority status" or for "ensur[ing] that that party wins a majority of seats--unless we radically revise the States' traditional structure for elections." *Id. at 288-89*.

The plurality then critiqued the standards proposed by the dissenting Justices. Contrary to the view held by other members of the Court, the plurality did not believe that the "one-person, [*82] one-vote cases" had any "bearing upon this question," either "in principle" or "in practicality." *Id. at 290* (first citing *Reynolds, 377 U.S. 533*; then citing *Wesberry v. Sanders, 376 U.S. 1 (1964))*.

> Not in principle, because to say that each individual must have an equal say in the selection of representatives, and hence that a majority of individuals must have a majority say, is not at all to say that each discernible group, whether farmers or

> urban dwellers or political parties, must have representation equivalent to its numbers. And not in practicality, because the easily administrable standard of population equality adopted by *Wesberry* and *Reynolds* enables judges to decide whether a violation has occurred (and to remedy it) essentially on the basis of three readily determined factors--where the plaintiff lives, how many voters are in his district, and how many voters are in other districts; whereas requiring judges to decide whether a districting system will produce a statewide majority for a majority party casts them forth upon a sea of imponderables, and asks them to make determinations that not even election experts can agree upon.

Id. at 290.

Turning first to Justice Stevens's view, the plurality agreed that "severe partisan gerrymanders" were "incompatib[le] ... with democratic [*83] principles." *Id. at 292*. It could not agree, however, that political gerrymandering should be treated equivalently to racial gerrymandering. *Id. at 293-95*. In the plurality's view, "[a] purpose to discriminate on the basis of race receives the strictest scrutiny under the *Equal Protection Clause*, while a similar purpose to discriminate on the basis of politics does not." *Id. at 293*. The plurality was unpersuaded by Justice Stevens's reference to political patronage cases, contending that "the underlying rights, and consequently constitutional harms, are not comparable." *Id. at 294*.

The plurality also rejected Justice Souter's multi-factor test, which was "loosely based in form on [the Court's] Title VII cases." *Id. at 295*. According to the plurality, this test was "doomed to failure" because "[n]o test--yea, not even a five-part test--can possibly be successful unless one knows what he is testing *for*. In the present context, the test ought to identify deprivation of that minimal degree of representation or influence to which a political group is constitutionally entitled." *Id. at 297*. Although Justice Souter "vaguely describe[d] the harm he is concerned with as vote dilution, a term which usually implies some actual effect on the weight of a vote," no element of his test measured this [*84] effect. *Id.* Consequently, the plurality was unsure of "the precise constitutional deprivation his test [wa]s designed to identify and prevent." *Id.*

Addressing Justice Breyer's dissent, the plurality agreed "that our Constitution sought to create a basically democratic form of government," but found that this was "a long and impassable distance away from the conclusion that the Judiciary may assess whether a group (somehow defined) has achieved a level of political power (somehow defined) commensurate with that to which they would be entitled absent *unjustified* political machinations (whatever that means)." *Id. at 299* (internal quotation marks omitted) (citations omitted).

The plurality concluded, therefore, that the *Equal Protection Clause* did not "provide[] a judicially enforceable limit on the political considerations that the States and Congress may take into account when districting." *Id. at 305*.

Justice Kennedy concurred in the judgment. He agreed that "[a] decision ordering the correction of all election district lines drawn for partisan reasons would commit federal and state courts to unprecedented intervention in the American political process." *Id. at 306* (Kennedy, J., concurring in the judgment). "The Court," he stated, was "correct [*85] to refrain from directing this substantial intrusion into the Nation's political life." *Id.* Furthermore, "[w]hile agreeing with the plurality that the complaint the appellants filed in the District Court must be dismissed, and while understanding that great caution is necessary when approaching this subject, [he] would not foreclose all possibility of judicial relief if some limited and precise rationale were found to correct an established violation of the Constitution in some redistricting cases." *Id.*

Justice Kennedy believed that

> [a] determination that a gerrymander violates the law must rest on something more than the conclusion that political classifications were applied. It must rest instead on a conclusion that *the classifications, though generally permissible, were applied in an invidious manner* or in a way unrelated to any legitimate legislative objective.

Id. at 307 (emphasis added). In this case, Justice Kennedy explained, the plaintiffs had not overcome the dual

hurdles of discernibility and manageability:

> The fairness principle appellants propose is that a majority of voters in the Commonwealth should be able to elect a majority of the Commonwealth's congressional delegation. There is no authority [*86] for this precept. Even if the novelty of the proposed principle were accompanied by a convincing rationale for its adoption, there is no obvious way to draw a satisfactory standard from it for measuring an alleged burden on representational rights. The plurality demonstrates the shortcomings of the other standards that have been considered to date. See *ante*, at Parts III and IV (demonstrating that the standards proposed in *Davis v. Bandemer, 478 U.S. 109 (1986)*, by the parties before us, and by our dissenting colleagues are either unmanageable or inconsistent with precedent, or both).

Id. at 308.

However, Justice Kennedy was not willing to go so far as the plurality and hold partisan gerrymanders nonjusticiable. Although agreeing that there were "weighty arguments for holding cases like these to be nonjusticiable" and acknowledging that "those arguments may prevail in the long run," it was Justice Kennedy's view that "the arguments [we]re not so compelling that they require us now to bar all future claims of injury from a partisan gerrymander." *Id. at 309*. According to Justice Kennedy, the Court's "willingness to enter the political thicket of the apportionment process with respect to one-person, one-vote claims ma[de] it particularly difficult to justify [*87] a categorical refusal to entertain claims against this other type of gerrymandering." *Id. at 310*.

Justice Kennedy noted specifically that, in the end, it may be the *First Amendment*, not the *Equal Protection Clause*, which provides the framework within which political gerrymandering claims should be analyzed. *See id. at 314*. "After all," he explained, "these allegations involve the *First Amendment* interest of not burdening or penalizing citizens because of their participation in the electoral process, their voting history, their association with a political party, or their expression of political views. Under general *First Amendment* principles those burdens in other contexts are unconstitutional absent a compelling government interest." *Id.* (citing *Elrod v. Burns, 427 U.S. 347 (1976)* (plurality opinion)). Moreover, a "'[r]epresentative democracy ... is unimaginable without the ability of citizens to band together in promoting among the electorate candidates who espouse their political views.'" *Id.* (quoting *California Democratic Party v. Jones, 530 U.S. 567, 574 (2000))*. According to Justice Kennedy, these precedents demonstrate that

> *First Amendment* concerns arise where a State enacts a law that has the purpose and effect of subjecting a group of voters or their party to disfavored treatment by reason of their views. In the context of partisan gerrymandering, that means that *First Amendment* concerns arise where an [*88] apportionment has the purpose and effect of burdening a group of voters' representational rights.

Id.

Justice Kennedy disagreed with the plurality that application of a *First Amendment* standard would render invalid "all consideration of political interests in an apportionment." *Id. at 315*. He explained:

> The inquiry is not whether political classifications were used. The inquiry instead is whether political classifications were used to burden a group's representational rights. If a court were to find that a State did impose burdens and restrictions on groups or persons by reason of their views, there would likely be a *First Amendment* violation, unless the State shows some compelling interest.

Id. Because "[t]he *First Amendment* analysis concentrates on whether the legislation burdens the representational rights of the complaining party's voters for reasons of ideology, beliefs, or political association," Justice Kennedy suggested that "[t]he analysis allows a pragmatic or functional assessment that accords some latitude to the States." *Id.*

Justice Stevens dissented. Drawing both on the

Court's racial gerrymandering cases, *see id. at 322-23* (Stevens, J., dissenting) (citing, among other authorities, *Shaw v. Reno, 509 U.S. 630 (1993))*, and the Court's political patronage cases, *see id. at 324* (citing *Elrod, 427 U.S. 347*)), Justice [*89] Stevens believed that the plaintiffs had standing, presented a redressable claim, and were entitled to relief. Specifically, he observed that "political belief and association constitute the core of those activities protected by the *First Amendment*" and that government employment decisions that burden these interests are subject to strict scrutiny. *Id.* (quoting *Elrod, 427 U.S. at 356* (plurality opinion)). "Thus," he continued, "unless party affiliation is an appropriate requirement for the position in question, government officials may not base a decision to hire, promote, transfer, recall, discharge, or retaliate against an employee, or to terminate a contract, on the individual's partisan affiliation or speech." *Id.* (citing, among other sources, *O'Hare Truck Service, Inc. v. City of Northlake, 518 U.S. 712, 716-17 (1996))*. Justice Stevens concluded that "[i]t follows" therefore "that political affiliation is not an appropriate standard for excluding voters from a congressional district." *Id. at 325*.[163]

> 163 Justice Stevens made it clear in his dissent that "purpose [w]as the ultimate inquiry." *Vieth, 541 U.S. at 321* (Stevens, J., dissenting). He noted that there have been "ready standards for testing the lawfulness of a gerrymander," *id.*; included among these were "configurations of the districts," *id. at 322* (quoting *Bandemer, 478 U.S. at 165* (Powell, J., dissenting)). Among [*90] other indicators of intent were "contemporaneous statements and press accounts, demonstrating that the architects of the districts were motivated solely by partisan considerations." *Id.* (internal quotation marks omitted). Thus, to Justice Stevens, irregular shapes were not the *sine qua non* of a gerrymander, *see* Dissent at 129, but only one possible indicator.

Justice Souter wrote a dissenting opinion, joined by Justice Ginsburg, which rested on the "one-person, one-vote" principle. *Id. at 343* (Souter, J., dissenting) (citing *Reynolds, 377 U.S. 533*). According to Justice Souter:

> Creating unequally populous districts is not, however, the only way to skew political results by setting district lines. The choice to draw a district line one way, not another, always carries some consequence for politics, save in a mythical State with voters of every political identity distributed in an absolutely gray uniformity. The spectrum of opportunity runs from cracking a group into impotent fractions, to packing its members into one district for the sake of marginalizing them in another. However equal districts may be in population as a formal matter, the consequence of a vote cast can be minimized or maximized, and if unfairness is sufficiently [*91] demonstrable, the guarantee of equal protection condemns it as a denial of substantial equality.

Id. (citation omitted). Justice Souter acknowledged the Court's prior struggles in articulating a workable test for political gerrymandering. Accordingly, he suggested preserving the holding in *Bandemer* that political gerrymandering was justiciable, but "otherwise start[ing] anew." *Id. at 346*. Specifically, he suggested using a burden-shifting test similar to that in *McDonnell Douglas Corp. v. Green, 411 U.S. 792 (1973)*, "calling for a plaintiff to satisfy elements of a prima facie cause of action, at which point the State would have the opportunity not only to rebut the evidence supporting the plaintiff's case, but to offer an affirmative justification for the districting choices, even assuming the proof of the plaintiff's allegations." *Vieth, 541 U.S. at 346*.[164]

> 164 The factors proposed by Justice Souter were: 1) the plaintiff belonged to a cohesive political group; 2) the plaintiff's district of residence "paid little or no heed to ... traditional districting principles"; 3) there were "specific correlations between the district's deviations from traditional districting principles and the distribution of the population of his group"; 4) there is a "hypothetical district including [the [*92] plaintiff's] residence, one in which the proportion of the plaintiff's group was lower (in a packing claim) or higher (in a cracking one) and which at the same time deviated less from traditional districting principles than the actual district; and 5) "the defendants acted intentionally to manipulate the shape of the district in order to pack or crack his group." *Vieth, 541 U.S. at*

> *347-50* (Souter, J., dissenting). The goal of these factors was to discern whether "the defendant had chosen either to pack the group ... or to crack it ..., the ordinary methods of vote dilution." *Id. at 349*. Although a "bizarre shape," Dissent at 129, would be evidence of the second factor, Justice Souter did not propose it as a requirement.

Justice Breyer, also in dissent, opined that "the workable democracy that the Constitution foresees" must include "a method for transforming the will of the majority into effective government." *Id. at 356* (Breyer, J., dissenting). In his view, this method could be harmed by "the *unjustified* use of political factors to entrench a minority in power." *Id. at 360*. Justice Breyer quoted extensively from *Reynolds* to support his view that "[t]he democratic harm of unjustified entrenchment is obvious":

> "Logically, in a society ostensibly grounded on [*93] representative government, it would seem reasonable that a majority of the people of a State could elect a majority of that State's legislators. ... Since legislatures are responsible for enacting laws by which all citizens are to be governed, they should be bodies which are collectively responsive to the popular will." *Reynolds, 377 U.S. at 565*.

> Where unjustified entrenchment takes place, voters find it far more difficult to remove those responsible for a government they do not want; and these democratic values are dishonored.

Id. at 361. Consequently, "gerrymandering that leads to entrenchment amounts to an abuse that violates the *Constitution's Equal Protection Clause*." *Id. at 362*.

Although the test articulated in *Bandemer* proved unworkable, *Vieth* has placed district courts in an even greater quandary. For all its shortcomings, the *Bandemer* decision at least set forth a test for district courts to apply. In *Vieth*, however, the members of the Court were unanimous only in their willingness to jettison the test set forth in *Bandemer*. We conclude, therefore, that the *specific test* for political gerrymandering set forth in *Bandemer* no longer is good law. Moreover, any attempt to craft a new test ought to avoid those shortcomings in the *Bandemer* test specifically identified [*94] by the members of the Court.

4.

The Supreme Court's most recent case on partisan gerrymandering, *League of United Latin American Citizens v. Perry* ("*LULAC*"), *548 U.S. 399 (2006)*, gives little more in the way of guidance. Nevertheless, we set forth those aspects of the decision that may be useful in evaluating the plaintiffs' claims.

In the 1990s, the Democrats controlled both houses of the Texas legislature and the statehouse and enacted what was "later described as the shrewdest gerrymander of the 1990s." *Id. at 410* (internal quotation marks omitted). Following the 2000 census, Texas was entitled to two additional congressional seats. However, the legislature now was split politically between a Republican Senate and a Democratic House of Representatives. "As so constituted, the legislature was unable to pass a redistricting scheme," resulting in a court-ordered plan which left "[t]he 1991 Democratic Party gerrymander largely in place as a 'legal' plan." *Id. at 411-12* (alteration in original). In 2002, however, Republicans gained control of both houses of the legislature and enacted legislation that re-drew congressional districting lines; these new districts resulted in the Republicans securing 21 seats with 58% of the vote in statewide [*95] races, compared to the Democrats' 11 seats with 41% of the vote.

Shortly after the plan was enacted, some Texas voters mounted both statutory and constitutional challenges to it. In the constitutional challenge, the plaintiffs claimed that a decision to enact a new redistricting plan mid-decade, "when solely motivated by partisan objectives, violates equal protection and the *First Amendment* because it serves no legitimate public purpose and burdens one group because of its political opinions and affiliation." *Id. at 416-17*. The Supreme Court disagreed.

Justice Kennedy, joined by Justices Souter and

Ginsburg, opined that "a successful claim attempting to identify unconstitutional acts of partisan gerrymandering must do what appellants' sole-motivation theory explicitly disavows: show a burden, as measured by a reliable standard, on the complainants' representational rights." *Id. at 418* (opinion of Kennedy, J.). Moreover, Justice Kennedy was concerned that the plaintiffs' proposed test would exempt from constitutional scrutiny other, more serious examples of partisan gerrymandering:

> The text and structure of the Constitution and our case law indicate there is nothing inherently suspect about a legislature's decision to replace [*96] mid-decade a court-ordered plan with one of its own. And even if there were, the fact of mid-decade redistricting alone is no sure indication of unlawful political gerrymanders. Under appellants' theory, a highly effective partisan gerrymander that coincided with decennial redistricting would receive less scrutiny than a bumbling, yet solely partisan, mid-decade redistricting. More concretely, the test would leave untouched the 1991 Texas redistricting, which entrenched a party on the verge of minority status, while striking down the 2003 redistricting plan, which resulted in the majority Republican Party capturing a larger share of the seats. A test that treats these two similarly effective power plays in such different ways does not have the reliability appellants ascribe to it.

Id. at 418-19. Justice Kennedy also noted that the current Texas map could "be seen as making the party balance more congruent to statewide party power." *Id. at 419*. "To be sure," Justice Kennedy continued,

> there is no constitutional requirement of proportional representation, and equating a party's statewide share of the vote with its portion of the congressional delegation is a rough measure at best. Nevertheless, a congressional [*97] plan that more closely reflects the distribution of state party power seems a less likely vehicle for partisan discrimination than one that *entrenches* an electoral minority.

Id. at 419 (emphasis added).

Justice Kennedy also commented on a submission by an amicus which "propose[d] a symmetry standard that would measure partisan bias by 'compar[ing] how both parties would fare hypothetically if they each (in turn) had received a given percentage of the vote.'" *Id. at 419*. He stated:

> *Amici*'s proposed standard does not compensate for appellants' failure to provide a reliable measure of fairness. The existence or degree of asymmetry may in large part depend on conjecture about where possible vote-switchers will reside. Even assuming a court could choose reliably among different models of shifting voter preferences, we are wary of adopting a constitutional standard that invalidates a map based on unfair results that would occur in a hypothetical state of affairs. Presumably such a challenge could be litigated if and when the feared inequity arose. More fundamentally, the counterfactual plaintiff would face the same problem as the present, actual appellants: providing a standard for deciding how much partisan dominance is too much. [*98] *Without altogether discounting its utility* in redistricting planning and litigation, I would conclude asymmetry *alone* is not a reliable measure of unconstitutional partisanship.

Id. at 420 (citation omitted) (emphasis added). Justice Kennedy thus concluded that "a legislature's decision to override a valid, court-drawn plan mid-decade" is not "sufficiently suspect to give shape to a reliable standard for identifying unconstitutional political gerrymanders." *Id. at 423*. Consequently, he concluded that the petitioners had not established a "legally impermissible use of political classifications" and had not stated a claim on which relief could be granted. *Id.*

Justice Stevens, in a separate opinion joined by Justice Breyer, reiterated the view of impartiality that he had articulated in *Vieth*. He observed that "the *Fourteenth Amendment's* prohibition against invidious discrimination[] and the *First Amendment's* protection of citizens from official retaliation based on their political

affiliation" "limit the State's power to rely exclusively on partisan preference in drawing district lines." *Id. at 461* (Stevens, J., concurring in part and dissenting in part). He explained:

> The equal protection component of the *Fourteenth Amendment* requires actions taken by the sovereign to be supported [*99] by some legitimate interest, and further establishes that a bare desire to harm a politically disfavored group is not a legitimate interest. Similarly, the freedom of political belief and association guaranteed by the *First Amendment* prevents the State, absent a compelling interest, from "penalizing citizens because of their participation in the electoral process, ... their association with a political party, or their expression of political views." These protections embodied in the *First* and *Fourteenth Amendments* reflect the fundamental duty of the sovereign to govern impartially.

Id. at 461-62 (citations omitted) (quoting *Vieth, 541 U.S. at 314* (Kennedy, J., concurring in the judgment)). Justice Stevens also set forth some of the representational harms engendered by political gerrymanders. Specifically, he noted that, "in addition to the possibility that a representative may believe her job is only to represent the interests of a dominant constituency, a representative may feel more beholden to the cartographers who drew her district than to the constituents who live there." *Id. at 470*.

Justice Breyer, in addition to joining Justice Stevens's opinion, wrote separately to describe why he believed that the plan violated the Constitution:

> [B]ecause the plan entrenches the Republican [*100] Party, the State cannot successfully defend it as an effort simply to *neutralize* the Democratic Party's previous political gerrymander. Nor has the State tried to justify the plan on nonpartisan grounds, either as an effort to achieve legislative stability by avoiding legislative exaggeration of small shifts in party preferences or in any other way.
>
> In sum, "the risk of entrenchment is demonstrated," "partisan considerations [have] render[ed] the traditional district-drawing compromises irrelevant," and "no justification other than party advantage can be found." The record reveals a plan that overwhelmingly relies upon the unjustified use of purely partisan line-drawing considerations and which will likely have seriously harmful electoral consequences. For these reasons, I believe the plan in its entirety violates the *Equal Protection Clause*.

Id. at 492 (Breyer, J., concurring in part and dissenting in part) (quoting *Vieth, 541 U.S. at 359, 367* (Breyer, J., dissenting)) (emphasis in original) (citations omitted).

Justices Souter and Ginsburg adhered to their view, set forth in *Vieth*, as to the proper test for political gerrymandering, but concluded that there was "nothing to be gained by working through these cases on th[at] standard" because, like in *Vieth*, [*101] the Court "ha[d] no majority for any single criterion of impermissible gerrymander." *Id. at 483* (Souter, J., concurring in part and dissenting in part). Chief Justice Roberts, joined by Justice Alito, agreed with Justice Kennedy "that appellants ha[d] not provided a reliable standard for identifying unconstitutional political gerrymanders," but took no position as to "whether appellants ha[d] failed to state a claim on which relief can be granted, or ha[d] failed to present a justiciable controversy." *Id. at 492-93* (Roberts, C.J., concurring in part, concurring in the judgment in part, and dissenting in part) (internal quotation marks omitted). Finally, Justices Scalia and Thomas reiterated their view that the voters' political gerrymandering claims were nonjusticiable. *See id. at 511* (Scalia, J., concurring in the judgment in part and dissenting in part).

5.

In its consideration of the reapportionment issue, the Court has acknowledged that the appropriate analysis is grounded not only in its jurisprudence of equal protection, but also its jurisprudence of associational rights under the *First Amendment*. The gravamen of an equal protection claim is that a state has burdened artificially a voter's ballot so that it has less weight than another person's [*102] vote. A year after *Reynolds*, the

Court again articulated this concept in *Fortson v. Dorsey, 379 U.S. 433 (1965)*, when it evaluated whether multimember legislative districts had a constitutionally impermissible impact on the weight of African-American voters. There, the Court reiterated its concern that voters' ability to participate in the electoral process was unequal. While declining to hold multimember districts were unconstitutional per se, it noted that "designedly or otherwise, a multi-member constituency apportionment scheme, under the circumstances of a particular case, [might] operate to minimize or cancel out the voting strength of racial or political elements of the voting population." *Id. at 439*. Again, in *White v. Register, 412 U.S. 755 (1973)*, the Court held that certain multimember districts were violative of the Constitution when the plaintiffs produced evidence that an election was not "equally open to participation by the group in question--that its members had less *opportunity* than did other residents in the district to participate in the political processes and to elect legislators of their choice." *Id. at 766* (emphasis added). In *Gaffney, 412 U.S. at 754*, the Court again noted that apportionment plans that "invidiously minimize[]" the voting strength of "political groups" "may be [*103] vulnerable" to constitutional challenges.

In these cases, the Court's emphasis on ensuring that an individual's vote receive the same weight as every other person's vote necessarily implicates that individual's associational rights. The Court previously has observed the link between the right to vote and the right to associate in its ballot-access cases. One of the foundational ballot-access cases, *Anderson v. Celebrezze, 460 U.S. 780 (1983)*, involved a challenge to a state law which required independent candidates to file their nominating petitions seventy-five days before the primary election in order to qualify for the general election ballot. *Id. at 804-06*. The Court observed that the statute in question implicated both the "right to vote" and "freedom of association": "Each provision of these schemes, whether it governs the registration and qualifications of voters, the selection and eligibility of candidates, or the voting process itself, inevitably affects--at least to some degree--the individual's right to vote and his *right to associate with others for political ends*." *Id. at 788* (emphasis added).

The Court then outlined the analysis a court must undertake in considering a challenge to a state's election law:

> It must first consider the character [*104] and magnitude of the asserted injury to the rights protected by the *First* and *Fourteenth Amendments* that the plaintiff seeks to vindicate. It then must identify and evaluate the precise interests put forward by the State as justifications for the burden imposed by its rule. In passing judgment, the Court must not only determine the legitimacy and strength of each of those interests, it also must consider the extent to which those interests make it necessary to burden the plaintiff's rights. Only after weighing all these factors is the reviewing court in a position to decide whether the challenged provision is unconstitutional.

Id. at 789. Applying these steps, the Court determined that the early filing deadline at issue in *Anderson* placed a burden on independent parties and that "it is especially difficult for the State to justify a restriction that limits political participation by an identifiable political group." *Id. at 793*. After considering the state's interests in keeping voters well-educated about the candidates, being fair to the parties who hold primaries, and ensuring political stability, the Court held that there was an unconstitutional burden on "the interests of the voters *who chose to associate together to express* [*105] *their support for [an independent's] candidacy and the views he espoused*." *Id. at 806* (emphasis added). The Court also noted that, in reaching its conclusion, it was relying "directly on the *First* and *Fourteenth Amendments*" and was "not engag[ing] in a separate *Equal Protection Clause* analysis." *Id. at 786-87 n.7*. It had relied, however,

> on the analysis in a number of our prior election cases resting on the *Equal Protection Clause of the Fourteenth Amendment*. These cases, applying the "fundamental rights" strand of equal protection analysis, have identified the *First* and *Fourteenth Amendment* rights implicated by restrictions on the eligibility of voters and candidates, and have considered the degree to which the State's restrictions further legitimate state interests.

Id.

Since *Anderson*, the Court has continued to assess election laws through the lens of the *First* and *Fourteenth Amendments*, without explicit reference to the *Equal Protection Clause*. In evaluating election laws, the Court employs a multi-step process that looks at the totality of the circumstances:

> When deciding whether a state election law violates *First* and *Fourteenth Amendment* associational rights, we weigh the character and magnitude of the burden the State's rule imposes on those rights against the interests the State contends justify that burden, and consider the extent to which the State's concerns make the burden necessary. Regulations imposing [*106] severe burdens on plaintiffs' rights must be narrowly tailored and advance a compelling state interest. Lesser burdens, however, trigger less exacting review, and a State's important regulatory interests will usually be enough to justify reasonable, nondiscriminatory restrictions. No bright line separates permissible election-related regulation from unconstitutional infringements on *First Amendment* freedoms.

Timmons v. Twin Cities Area New Party, 520 U.S. 351, 358-59 (1997) (internal quotation marks omitted) (citations omitted).

Nevertheless, the close relationship between equal protection and associational rights is clear. For example, in *Williams v. Rhodes, 393 U.S. 23 (1968)*, one of the equal protection cases relied upon in *Anderson*, the Court considered the constitutionality of a law which required new political parties to obtain the signatures of electors equaling 15% of the number of ballots cast in the preceding gubernatorial election. It stated:

> [W]e have ... held many times that "invidious" distinctions cannot be enacted without a violation of the *Equal Protection Clause*. In determining whether or not a state law violates the *Equal Protection Clause*, we must consider the facts and circumstances behind the law, the interests which the State claims to be protecting, and the interests of those who are disadvantaged by the classification. In the [*107] present situation the state laws place burdens on two different, although overlapping, kinds of rights--*the right of individuals to associate for the advancement of political beliefs*, and *the right of qualified voters, regardless of their political persuasion, to cast their votes effectively*. Both of these rights, of course, rank among our most precious freedoms. We have repeatedly held that freedom of association is protected by the *First Amendment*. And of course this freedom protected against federal encroachment by the *First Amendment* is entitled under the *Fourteenth Amendment* to the same protection from infringement by the States. Similarly we have said with reference to the right to vote: "No right is more precious in a free country than that of having a voice in the election of those who make the laws under which, as good citizens, we must live. Other rights, even the most basic, are illusory if the right to vote is undermined."

Id. at 30-31 (emphasis added) (citations omitted). The Court held that the law in question was unconstitutionally burdensome on new political parties. *Id. at 34*.[165]

> 165 In subsequent cases, the Court similarly assessed claims under the *Equal Protection Clause*. *See, e.g., Am. Party of Texas v. White, 415 U.S. 767, 788-89 (1974)* (holding that a requirement that minor parties obtain signatures equivalent to 1% [*108] of the votes in the previous election was not unconstitutional); *Storer v. Brown, 415 U.S. 724, 733-34 (1974)* (holding that a law which required an independent candidate to not have been affiliated with a political party for a year for before the party "involves no discrimination" and was not unconstitutional); *Bullock v. Carter, 405 U.S. 134, 149 (1972)* (holding that the imposition of filing fees in order to seek the nomination of a party constituted a constitutional violation).

We therefore believe that there is a solid basis for

considering the associational aspect of voting in assessing the gravamen of the harm allegedly suffered by the plaintiffs. Indeed, in this case, the associational harm is especially important to the analysis because the testimony of the defendants' witnesses as well as the plaintiffs' demonstrate that, given the legislative practice and custom of Wisconsin, legislative action is controlled, as a practical matter, solely by the majority caucus. In such a circumstance, when the state places an artificial burden on the ability of voters of a certain political persuasion to form a legislative majority, it necessarily diminishes the weight of the vote of each of those voters when compared to the votes of individuals favoring another view. The burdened [*109] voter simply has a diminished or even no opportunity to effect a legislative majority. That voter is, in essence, an unequal participant in the decisions of the body politic.

On the facts presented in past cases, some members of the Supreme Court have expressed the view that judicial enforcement of the principle that each voter has a right to have his vote treated equally must be limited to situations where the dilution is based on classifications such as race and population. These reservations have been grounded in the concern that distinguishing between legitimate and illegitimate political motivations is not a task to be undertaken by judges. In their view, moreover, there are insurmountable problems in formulating manageable standards. *See Bandemer, 478 U.S. at 147* (O'Connor, J., concurring in the judgment); *Vieth, 541 U.S. at 288* (plurality opinion). Other Justices have not accepted such a limitation. *See, e.g., Vieth, 541 U.S. at 306-17* (Kennedy, J., concurring in the judgment). As we shall discuss at greater length later, however, this case does not present these conundrums. We are not presented with the problem of distinguishing between permissible and impermissible political motivations. We have a far more straight-forward situation. The plaintiffs [*110] have established, on this record, that the defendants intended and accomplished an entrenchment of the Republican Party likely to endure for the entire decennial period. They did so when the legitimate redistricting considerations neither required nor warranted the implementation of such a plan.

IV

ELEMENTS OF THE CAUSE OF ACTION

As our description of the case law reveals, the law governing political gerrymandering, still in its incipient stages, is in a state of considerable flux. We must, however, accept that situation and seek in these authorities a solution to the case before us. Therefore, while not discounting the difficulty of the task before us, we now identify the guideposts available to us.

We begin with a principle that is beyond dispute. State legislative apportionment is the prerogative and therefore a duty of the political branches of the state government. We must "recognize[] the delicacy of intruding on this most political of legislative functions." *Bandemer, 478 U.S. at 143*.[166] We also know that we cannot rely on the simple finding "that political classifications were applied." *Vieth, 541 U.S. at 307* (Kennedy, J., concurring in the judgment). Similarly, "the mere lack of proportional representation will not be sufficient [*111] to prove unconstitutional discrimination." *Bandemer, 478 U.S. at 132* (plurality opinion).

166 *Cf. Vieth, 541 U.S. at 306* (Kennedy, J., concurring in the judgment) (cautioning against "the correction of all election district lines drawn for partisan reasons" because that course "would commit federal and state courts to unprecedented intervention in the American political process").

It is clear that the *First Amendment* and the *Equal Protection Clause* protect a citizen against state discrimination as to the weight of his or her vote when that discrimination is based on the political preferences of the voter.[167] This principle applies not simply to disparities in raw population, but also to other aspects of districting that "operate to minimize or cancel out the voting strength of racial or political elements of the voting population." *Fortson, 379 U.S. at 439*. Specifically, apportionment plans that "invidiously minimize[]" the voting strength of "political groups" "may be vulnerable" to constitutional challenges, *Gaffney, 412 U.S. at 754*, because "each political group in a State should have the same chance to elect representatives of its choice as any other political group," *Bandemer, 478 U.S. at 124*.

167 *Cf. Reynolds, 377 U.S. at 565* ("Any suggested criteria for the differentiation of citizens are insufficient to justify any discrimination, as to the weight of their votes, unless [*112] relevant to the permissible purpose of legislative apportionment.").

We conclude, therefore, that the *First Amendment* and the *Equal Protection clause* prohibit a redistricting scheme which (1) is intended to place a severe impediment on the effectiveness of the votes of individual citizens on the basis of their political affiliation, (2) has that effect, and (3) cannot be justified on other, legitimate legislative grounds.

A. Discriminatory Intent or Purpose

The Supreme Court has stressed the "basic equal protection principle that the invidious quality of a law ... must ultimately be traced to a discriminatory purpose." *Washington v. Davis, 426 U.S. 229, 240 (1976)*; *see also Vill. of Arlington Heights v. Metro. Hous. Dev. Corp., 429 U.S. 252, 265 (1977)* ("Proof of ... discriminatory intent or purpose is required to show a violation of the *Equal Protection Clause*."). A legislature's discriminatory intent also factors into a *First Amendment* analysis. *Timmons, 520 U.S. at 358-59* (considering whether a state has imposed "reasonable, *nondiscriminatory* restrictions" on *First Amendment* associational rights (emphasis added)); *see also Wash. State Grange v. Wash. State Republican Party, 552 U.S. 442, 452 (2008)* (same); *Ashcroft v. Iqbal, 556 U.S. 662, 676 (2009)* ("Where the claim is invidious discrimination in contravention of the First ... Amendment[], our decisions make clear that the plaintiff must plead and prove that the defendant acted with discriminatory purpose.").

The Court explicitly has held that equal protection challenges to redistricting plans require a [*113] showing of discriminatory purpose or intent. *See Rogers, 458 U.S. at 617* (explaining that cases involving allegations of vote-dilution on the basis of race "are ... subject to the standard of proof generally applicable to *Equal Protection Clause* cases" including a showing of a "'a racially discriminatory purpose'" (quoting *Washington, 426 U.S. at 240*)). This requirement applies with equal force to cases involving political gerrymanders. *See Bandemer, 478 U.S. at 127* (stating that plaintiffs who bring a claim of partisan gerrymandering "[a]re required to prove ... *intentional* discrimination against an identifiable political group" (emphasis added)).

1.

When considering the level of partisan intent necessary to establish a political-gerrymandering claim, our first task is to determine what kind of partisan intent offends the Constitution. The plurality in *Bandemer* simply required a plaintiff to show any level of "intentional discrimination against an identifiable political group." *478 U.S. at 127*; *see also Vieth, 541 U.S. at 284* (plurality opinion) (describing the *Bandemer* plurality's standards as "mere intent to disadvantage the plaintiff's group"). It suggested that "[a]s long as redistricting is done by a legislature, it should not be very difficult to prove that the likely political consequences of the reapportionment were [*114] intended." *Bandemer, 478 U.S. at 129*. A majority of the Court in *Vieth*, however, rejected the *Bandemer* plurality's test, which included this standard of intent. *Vieth, 541 U.S. at 284* (plurality opinion) ("declin[ing] to affirm [the *Bandemer* test] as a constitutional requirement"); *id. at 308* (Kennedy, J., concurring in the judgment) (noting that "[t]he plurality demonstrates the shortcomings of the other standards that have been considered to date" and specifically identifying "the standards proposed in *Davis v. Bandemer*").

At the outset, we note that the Court recently has acknowledged that the constitutionality of partisan favoritism in redistricting is an open question. *See Harris v. Arizona Indep. Redistricting Comm'n, 136 S. Ct. 1301, 1310 (2016)* ("assuming, without deciding, that partisanship is an illegitimate redistricting factor"). Nevertheless, we know that legislatures may employ *some* political considerations when making redistricting decisions; considerations such as achieving "political fairness," *Gaffney, 412 U.S. at 752*, and "avoiding contests between incumbent[s]," *Bush v. Vera, 517 U.S. 952, 964 (1996)* (internal quotation marks omitted) (quoting *Karcher v. Daggett, 462 U.S. 725, 740 (1983))* (alteration in original), are permissible.

That *some* political considerations may intrude into the redistricting process without running afoul of the Constitution, however, does not answer the question whether partisan *favoritism* is permissible. [*115] The Court's members appear to acknowledge that some level of partisanship is permissible, or at least inevitable, in redistricting legislation. The plurality in *Vieth*, for instance, noted that "partisan districting is a lawful and common practice." *541 U.S. at 286*. In his opinion, Justice Kennedy observed that political classifications are "generally permissible." *Id. at 307* (Kennedy, J., concurring in the judgment). Justices Souter and Breyer, dissenting in *Vieth*, expressed the view that partisan favoritism in some form was inevitable, if not necessarily

desirable. *See id. at 344* (Souter, J., dissenting) ("[S]ome intent to gain political advantage is inescapable whenever political bodies devise a district plan ...."); *id. at 360* (Breyer, J., dissenting) ("[T]raditional or historically based boundaries are not, and should not be, 'politics free.' ... They ... represent an uneasy truce, sanctioned by tradition, among different parties *seeking political advantage*." (emphasis added)).

Other justices, however, have not acknowledged that political affiliation is "an appropriate standard for excluding voters from a congressional district." *Id. at 325* (Stevens, J., dissenting). Even so, these justices have proposed tests that "cover only a few meritorious claims" [*116] and "preclude extreme abuses" of the districting process. *Id. at 339.*[168]

> 168 To address the inevitability of partisan favoritism, Justice Souter, like Justice Stevens, proposed a more rigorous "effects" analysis. *Vieth, 541 U.S. at 347-50* (Souter, J., dissenting) (observing that "under a plan devised by a single major party, proving intent" under his test "should not be hard, ... politicians not being politically disinterested or characteristically naïve."). Alternatively, Justice Breyer proposed a standard that addressed "circumstance[s] where use of purely political boundary-drawing factors can amount to a serious, and remediable abuse." *Id. at 360* (Breyer, J., dissenting).

As a starting point, it is safe to say that this concept of abuse of power seems at the core of the Court's approach to partisan gerrymandering. In *Arizona State Legislature v. Arizona Independent Redistricting Commission, 135 S. Ct. 2652, 2658 (2015),* the Court defined partisan gerrymandering as "the drawing of legislative district lines to subordinate adherents of one political party and entrench a rival party in power." Justice Kennedy noted in *Vieth* that a claim of partisan gerrymandering "must rest ... on a conclusion that [political] classifications ... were applied in an *invidious manner* or in a way *unrelated to any legitimate legislative objective*." *541 U.S. at 307* (Kennedy, J., concurring [*117] in the judgment) (emphasis added). The plurality, as well, acknowledged that "an *excessive* injection of politics is *un*lawful." *Id. at 293* (plurality opinion). And Justice Breyer in dissent observed that there was "at least one circumstance where use of purely political boundary-drawing factors can amount to a serious, and remediable, abuse, namely, the *unjustified* use of political factors to entrench a minority in power." *Id. at 360* (Breyer, J., dissenting) (emphasis in original).[169]

> 169 *See also LULAC*, 548 U.S. at 419 (opinion of Kennedy, J.) (observing that "a congressional plan that more closely reflects the distribution of state party power seems a less likely vehicle for partisan discrimination than one that entrenches an electoral minority").

When "acceptable"--or at least tolerable--crosses a line to become "excessive," however, remains unclear. Moreover, as Justice Kennedy warns, a standard of excessiveness has its drawbacks:

> [C]ourts must be cautious about adopting a standard that turns on whether the partisan interests in the redistricting process were excessive. Excessiveness is not easily determined. Consider these apportionment schemes: In one State, Party X controls the apportionment process and draws the lines so it captures every [*118] congressional seat. In three other States, Party Y controls the apportionment process. It is not so blatant or egregious, but proceeds by a more subtle effort, capturing less than all the seats in each State. Still, the total effect of party Y's effort is to capture more new seats than Party X captured. Party X's gerrymander was more egregious. Party Y's gerrymander was more subtle. In my view, however, each is culpable.

Id. at 316 (Kennedy, J., concurring in the judgment).

"Excessiveness" does not need to be defined simply in terms of raw seat tallies. The danger with *extreme* partisan gerrymanders is that they entrench a political party in power, making that party--and therefore the state government--impervious to the interests of citizens affiliated with other political parties. This imperviousness *may* be achieved by manipulating a map to achieve a supermajority. But it also may be achieved by "lock[ing]-in" or creating the requisite "safe seats" such that legislators "elected from such safe districts need not worry much about the possibility of shifting majorities" and "have little reason to be responsive to the political

minorities within their district." *LULAC*, 548 at 470-71 (Stevens, J., concurring [*119] in part and dissenting in part).

When a party is "locked-in" through the intentional manipulation of legislative districts, "representational harms" to those affiliated with the "out"-party necessarily ensue. *See id. at 470*. Specifically, "in addition to the possibility that a representative may believe her job is only to represent the interests of a dominant constituency, a representative may feel more beholden to the cartographers who drew her district than to the constituents who live there." *Id.* The result is a system that assigns different weights to the votes of citizens and accords to those citizens different levels of legislative responsiveness based on the party with which they associate. *See Reynolds, 377 U.S. at 565*.

Whatever gray may span the area between acceptable and excessive, an intent to entrench a political party in power signals an excessive injection of politics into the redistricting process that impinges on the representational rights of those associated with the party out of power. Such a showing, therefore, satisfies the intent requirement for an equal protection violation.[170]

170 The intent we require, therefore, is not simply an "intent to act for political purposes," Dissent at 120, but an intent to make the political [*120] system systematically unresponsive to a particular segment of the voters based on their political preference.

2.

A "'discriminatory purpose' ... implies more than intent as volition or intent as awareness of consequences. It implies that the decisionmaker ... selected or reaffirmed a particular course of action at least in part, 'because of,' not merely 'in spite of,' its adverse effects upon an identifiable group." *Pers. Admin. of Mass. v. Feeney, 442 U.S. 256, 279 (1979)*; *see also Chavez v. Ill. State Police, 251 F.3d 612, 645 (7th Cir. 2001)* (quoting same). The plaintiffs therefore must show that the intent to entrench the Republican Party in power was "a motivating factor in the decision." *Arlington Heights, 429 U.S. at 265-66*. It need not be the "sole[]" intent or even "the 'dominant' or 'primary' one." *Id. at 265*.[171] Indeed, it rarely can "be said that a legislature or administrative body operating under a broad mandate made a decision motivated by a single concern." *Id.* This is certainly true in redistricting legislation where the Court has identified "traditional districting principles such as compactness, contiguity, and respect for political subdivisions" that legitimately may inform drafters in the drawing of district lines. *Shaw v. Reno, 509 U.S. 630, 647 (1993)*.

171 In an "analytically distinct" line of cases, the Supreme Court has required that plaintiffs establish that the discriminatory [*121] motive be the legislature's "predominant" intent. *Miller v. Johnson, 515 U.S. 900, 911, 917 (1995)*. These cases, beginning with *Shaw v. Reno, 509 U.S. 630 (1993)*, concern the use of racial classifications in the drawing of district lines. Specifically, in *Shaw*, the plaintiffs had "alleged that the General Assembly deliberately 'create[d] two Congressional Districts in which a majority of black voters was concentrated along racial lines'" and "to assure the election of two black representatives to Congress." *Id. at 637*. The Court held that such classifications were subject to strict scrutiny. Although these voting schemes did not dilute the voting strength of racial minorities, they nevertheless resulted in "special harms that are not present in ... vote-dilution cases," which "warrant[ed] [a] different analysis." *Id. at 649-50*. In the Court's view, classifying voters on the basis of race "reinforce[d] racial stereotypes and threaten[ed] to undermine our system of representative democracy by signaling to elected officials that they represent a particular racial group rather than their constituency as a whole." *Id. at 650*.

In *Miller*, the Court reiterated the special harms in such cases:

> Just as a State may not ... segregate citizens on the basis of race in its public parks, so ... it may not separate its citizens into different voting districts [*122] on the basis of race. ... Race-based assignments "embody stereotypes that treat individuals as the product of their race, evaluating their thoughts and efforts--their very worth as citizens--according to a criterion barred to the Government by history and the Constitution."

> *515 U.S. at 911-12* (citations omitted). To establish this kind of equal protection claim, the Court continued, the "plaintiff's burden is to show ... that race was the predominant factor motivating the legislature's decision to place a significant number of voters within or without a particular district." *Id. at 916*.
>
> The *Shaw* line of cases does not speak directly to the political gerrymandering case before us. In those cases, the Court particularly was concerned about "racial stereotypes," *Shaw, 509 U.S. at 647-48*; *Miller, 515 U.S. at 911-12*, which are not present here. Relatedly, applying a "special harms" analysis to the partisan gerrymandering context would call into question bipartisan districting plans designed to create parity between the parties; the Court, however, clearly has held that "partisan fairness" is a legitimate consideration in crafting legislative districts. *See supra at 34-36* (discussing *Gaffney, 412 U.S. 735*). Finally, the Court has rejected the "predominant intent" standard in the context of political gerrymandering [*123] claims. *See supra at 40-42* (discussing plurality opinion in *Vieth, 541 U.S. at 284-86*) and 43-45 (discussing Justice Kennedy's concurrence in *Vieth, 541 U.S. at 306-08*).

Relying on traditional districting principles, defendants propose a novel rule: a redistricting plan that "is consistent with, and not a radical departure from, prior plans with respect to traditional districting principles" cannot, as a matter of law, evince an unconstitutional intent.[172] In other words, compliance with traditional districting principles necessarily creates a constitutional "safe harbor" for state legislatures.

> 172 R.153 at 5; *see also* R.156 at 1 ("[A] democratically-enacted districting plan ... is entirely lawful when it complies with traditional districting principles.").

The defendants' approach finds no support in the law. It is entirely possible to conform to legitimate redistricting purposes but still violate the *Fourteenth Amendment* because the discriminatory action is an operative factor in choosing the plan. Indeed, the Court rejected a similar claim in *Fortson*: while acknowledging that there was no "mathematical disparity" that violated the principle of "one-person, one-vote," it did not rule out the possibility that a districting plan, which included multimember districts, could [*124] "operate to minimize or cancel out the voting strength of racial or political elements of the voting population." *379 U.S. at 439*. Similarly, in *Gaffney*, the Court observed that "[s]tate legislative districts may be equal or substantially equal in population and still be vulnerable under the *Fourteenth Amendment*." *412 U.S. at 751*.

Moreover, the Court has made clear that "traditional districting principles" are not synonymous with equal protection requirements. Instead, they "are objective factors that may serve to defeat a claim that a district has been gerrymandered." *Shaw, 509 U.S. at 647* (citing *Gaffney, 412 U.S. at 752 n.18*). In other words, they are constitutionally permissible, but not "constitutionally required." *Id.* Individual Justices also have noted that a map's compliance with traditional districting principles does not necessarily speak to whether a map constitutes a partisan gerrymander:

> [E]ven those criteria that might seem promising at the outset (*e.g.*, contiguity and compactness) are not altogether sound as independent judicial standards for measuring a burden on representational rights. They cannot promise political neutrality when used as the basis for relief.

Vieth, 541 U.S. at 308 (Kennedy, J., concurring in the judgment); *see also id. at 366* (Breyer, J., dissenting) (opining that a map where "no radical departure [*125] from traditional districting criteria is alleged" but an unjustified partisan result occurs in two elections "would be sufficient to support a claim of unconstitutional entrenchment"). Highly sophisticated mapping software now allows lawmakers to pursue partisan advantage without sacrificing compliance with traditional districting criteria. A map that appears congruent and compact to the naked eye may in fact be an intentional and highly effective partisan gerrymander. When reviewing intent, therefore, we cannot simply ask whether a plan complied with traditional districting principles. Therefore, the defendants' contention--that, having adhered to traditional districting principles, they have satisfied the requirements of equal protection--is without merit.[173]

> 173 The Dissent relies on the opinion of Justice Stevens concurring in the summary affirmance in

Cox v. Larios, 542 U.S. 947 (2004), to "reinforce[]," Dissent at 131, its conclusion that oddly shaped districts are a necessary component of a claim that a partisan gerrymander violates the Constitution. Respectfully, that reliance is misplaced. *Cox* is, as the Dissent notes, a malapportionment case, and it was affirmed because, as the district found, and Justice Stevens repeated, "[t]he numbers [*126] largely speak for themselves." *542 U.S. at 948* (alteration in original) (internal quotation marks omitted). The unusual shapes in the map "supplied further evidence," *id.*, but were by no means essential to the result.

Moreover, the two Justices concurring in the summary affirmance went on to note that the map's "selective incumbent protection" and related incumbent pairings, done for partisan gain, would have violated any partisan gerrymandering standard the Court could have adopted in *Vieth*, where the gerrymander was "visible to the judicial eye." *Id. at 949-950*. Read in context, we believe this language refers clearly to the concerning feature of intentional incumbent pairings, not the shape of the districts.

In any event, the Justices continued, "[d]rawing district lines that have no neutral justification in order to place two incumbents of the opposite party in the same district is probative of the same impermissible intent" as prior case involving oddly shaped districts. *Id. at 950*. Plainly, this language does not make odd shapes a necessary part of a claim; it merely shows that it is a permissible way for a plaintiff to show intent. Indeed, we read this passage not to confirm, as the Dissent does, a shape-based analysis, but [*127] to confirm a separate point disputed by the Dissent: that intent is a requirement of a unconstitutional gerrymandering claim. True enough, a case involving odd shapes presents an easier claim, both to prove and to adjudicate. But the complexities of proving a case without these shapes are not fatal to the claim.

We therefore must confront the question of how we are to discern whether, in creating the map that became Act 43, the drafters employed an impermissible intent--cutting out for the longterm those of a particular political affiliation. In assuming this task, we are mindful that "[i]nquiries into congressional [and other legislative bodies'] motives or purposes are a hazardous matter." *United States v. O'Brien, 391 U.S. 367, 383 (1968)*. When the issue is one of "mixed intent" as it is here, "[e]valuating the legality of acts ... can be complex ... . When the actor is a legislature and the act is a composite of manifold choices, the task can be even more daunting." *LULAC*, 548 U.S. at 418 (opinion of Kennedy, J.). "Determining whether invidious discriminatory purpose was a motivating factor demands a sensitive inquiry into such circumstantial and direct evidence of intent as may be available," including (1) "[t]he impact of the official action" as "an important starting point"; [*128] (2) "the historical background of the decision"; (3) "[t]he specific sequence of events leading up to the challenged decision"; (4) "[d]epartures from the normal procedural sequence"; (5) "legislative or administrative history ... , especially ... contemporary statements by members of the decisionmaking body, minutes of its meetings, or reports." *Arlington Heights, 429 U.S. at 266-68*; *see also Miller, 515 U.S. at 913-14*.

However, discerning the intent of a legislative body can be less daunting in some cases than in others. In some cases, the legislature is aware that a distinction is constitutionally impermissible and surreptitiously attempts to create legislation on the basis of that distinction. These cases require that we engage in a careful inquiry of circumstantial evidence, because the drafters' intent often is hidden from the casual observer.[174] In other cases, a legislature seems unaware that a distinction is constitutionally impermissible and deliberately enacts legislation on the basis of that distinction. This situation typically arises in periods before the Supreme Court has illuminated the full meaning of a constitutional right.[175] In these cases, courts are able to discern the legislature's intent more easily and less intrusively because the evidence is [*129] far more direct.

174 *See, e.g., Rogers, 458 U.S. at 623-25* (relying on circumstantial evidence of intent in a case of racial voting dilution and noting that "the evidence shows that discriminatory practices were commonly utilized, that they were abandoned when enjoined by courts or made illegal by civil rights litigation, and that they were replaced by laws and practices which, though neutral on their face, serve to maintain the status quo").

175 *See, e.g., Miller, 515 U.S. at 918* (noting that the State had conceded that it had drawn lines on the basis of race and concluding that the district court therefore "had little difficulty" determining the legislature's intent).

This case falls more in the latter category. The Court never has invalidated a redistricting plan on the ground of partisan gerrymandering, and the Court's recent pronouncements have caused some district courts to question the viability of the cause of action.[176] Here, the record demonstrates that, although the drafters were aware of *some* constitutional limits on the degree to which they could neutralize the political power of the opposition party, those limits were not firmly established.

176 *See, e.g., Radogno v. Illinois St. Bd. of Elections*, No. 1:11-cv-04884, 2011 WL 5025251, at *4-6 (N.D. Ill. Oct. 21, 2011) (recounting district [*130] courts' approaches to political gerrymandering claims).

We therefore turn to the sequence of events that led to the enactment of Act 43 to discern whether one purpose behind the legislation was to entrench a political party in power.

3.

a. Evidence of intent

The evidence at trial establishes that one purpose of Act 43 was to secure the Republican Party's control of the state legislature for the decennial period. The drafters' concern with the durable partisan complexion of the new Assembly map was present from the outset of the legislative process. Ottman, Foltz,[177] and Handrick began drafting the map that would become Act 43 in April 2011.[178] One of their first orders of business was to develop a composite partisan score that accurately reflected the political makeup of population units, which would allow them to assess the partisan make-up of the new districts.[179] When they came up with a composite of "all statewide races from [20]04 to 2010" that "seem[ed] to work well," they sent it to Professor Gaddie.[180]

177 With some limited exceptions, we find Ottman to be a credible witness. We have less confidence in Foltz's testimony, which appeared to us rehearsed and guarded. Throughout our discussion, we will note [*131] those areas of testimony which we find unworthy of credence.

178 *See* R.148 at 68.

179 *See* Tr. Ex. 175, at 1-2.

180 *Id. at 2*.

Professor Gaddie,[181] the "advisor on the appropriate racial and/or *political make-up* of legislative ... districts,"[182] "buil[t] a regression model ... to test the partisan makeup and performance of districts as they might be configured in different ways."[183] Professor Gaddie then tested the drafters' composite measure against his model and confirmed that their measure was "almost a perfect proxy for the open seat vote, and the best proxy you'll come up with."[184] Professor Mayer testified that the drafters' composite measure correlated very strongly with his own measure of partisanship, which led him to conclude that "they knew exactly what they were doing, that they had a very accurate estimate of the underlying partisanship of the Act 43 maps."[185]

181 As noted earlier, Professor Gaddie's testimony was offered through a video deposition. We find his testimony credible.

182 Tr. Ex. 169 (emphasis added).

183 Tr. Ex. 161 (Gaddie Dep.), at 46.

184 Tr. Ex. 175, at 1.

185 R.148 at 192; *see also id. at 207-09*.

Once Ottman, Foltz, and Handrick received Professor Gaddie's imprimatur on their composite measure, they employed this measure "to assess the partisan impact of [*132] the map[s] that [they] drew."[186] We find that the maps the drafters generated, as well as the statistical comparisons made of the various maps, reveal that a focal point of the drafters' efforts was a map that would solidify Republican control. The maps often bore names that reflected the level of partisan advantage achieved. For instance, maps labeled "aggressive" referenced "a more aggressive map with regard to GOP leaning."[187] When producing these more advantageous maps, the drafters did not abandon traditional districting criteria;[188] to the contrary, the maps complied with traditional districting criteria while also ensuring a significant partisan advantage.

186 *See* R.147 at 61; R.148 at 15-16.

187 R.147 at 65. Also during the drafting process, Ottman met with individual senators to review with them the census numbers and to obtain general information about their districts. One senator suggested to Ottman how her district

could be re-drawn to take the seat away from a Democratic member of the Assembly: "If you need a way to take the Staskunas seat, put a little bit of my Senate seat into New Berlin (2-3 wards could make that a GOP Assembly seat)." Tr. Ex. 239.

188 *See supra at 10*.

The drafters also created spreadsheets [*133] that collected the partisan scores, by district, for each of the map alternatives. For each spreadsheet, there was a corresponding table that listed the number of "Safe" Republican seats, "Lean" Republican seats, "Swing" seats, "Safe" Democratic seats, and "Lean" Democratic seats; these figures also were compared to the number of seats in each category under the Current Map, the map drawn by the court in *Baumgart v. Wendelberger*, Nos. 01-C-0121 & 02-C-0366, 2002 WL 34127471 (E.D. Wis. May 30, 2002), *amended by* 2002 WL 34127473 (E.D. Wis. July 11, 2002).[189]

189 *See, e.g.*, Tr. Ex. 364.

The process of drafting and evaluating these alternative district maps spanned several months. In April, the drafters produced a document comparing the partisan performance of the Current Map to two early draft maps: Joe's Basemap Basic and Joe's Basemap Assertive.[190] Under the Current Map, the drafters anticipated that the Republicans would win 49[191] Assembly seats.[192] This number increased to 52 under the Joe's Basemap Basic map and to 56 under the Joe's Basemap Assertive map.[193] The number of safe and leaning Republican seats increased from 40 under the Current Map to 45 under the Joe's Basemap Basic map and 49 under the Joe's Basemap Assertive map; the number of swing seats decreased from 19 to 14 to [*134] 12.[194] The number of safe and leaning Democratic seats, however, remained roughly the same under all three maps, hovering between 38 and 40.[195]

190 Tr. Ex. 465.

191 *Id.* These consisted of the "strong gop" seats, the "lean gop" seats, and approximately one-half of the "toss up" seats.

192 *Id.*

193 *Id.*

194 *Id.*

195 *Id.* On the "Tale of the Tape," *see* Tr. Ex. 283, the drafters did note that "Criteria to Monitor" included total population deviation, split municipalities, split counties, incumbent pairings, and senate disenfranchisement. Additionally, Ottman created some spreadsheets that looked at disenfranchisement. *See* Tr. Ex. 225 (WRK32587 Responsive Spreadsheets). However, the defendants have not pointed to any evidence in the record that suggests that measures of traditional districting criteria were being scrutinized on a regular basis or with the intensity that partisan scores were being evaluated.

The drafters prepared and evaluated the partisan performance of at least another six statewide alternative maps.[196] Each of these maps improved upon the anticipated pro-Republican advantage generated in the initial two draft plans. The total number of expected Republican seats now ranged between 57 and 60, and the number of swing [*135] seats was diminished to between 6 and 11.[197] The number of Democratic seats again remained about the same under each draft map.[198]

196 These were: Milwaukee_Gaddie_4_16_11_V1_B (Tr. Ex. 172, at 1); Statewide2_Milwaukee_Gaddie_4_16_V1_B (Tr. Ex. 172, at 2); Tad MayQandD (Tr. Exs. 364, 477); Joe Assertive (Tr. Exs. 366, 478); Tad Aggressive (Tr. Ex. 283); and Adam Aggressive (Tr. Ex. 283).

197 Tr. Exs. 172, 364.

198 Tr. Exs. 364, 366.

The drafters sent their completed draft maps to Professor Gaddie, who created a visual "S" curve for each map.[199] These "S" curves show how each map would operate within an array of electoral outcomes.[200] To produce the "S" curves, Professor Gaddie calculated the expected partisan vote shares for each district.[201] He then shifted the vote share of each district ten points in either direction, from 40% to 60%, and assigned a color to districts that "lean[ed]" towards, or were "safe" seats for that party.[202] Professor Gaddie explained that his analysis "was designed to tease out a potential estimated vote" under a range of electoral scenarios, when either "the Democrats have a good year" or "the Republicans have a good year."[203] At bottom, the "S" curves--at least some of which were printed in large [*136] format and kept in the map room--allowed a non-statistician, by mere visual inspection, to assess the partisan performance of a particular map under all likely electoral scenarios. On one occasion, Professor Gaddie showed the "S" curves to

Senator Fitzgerald and explained to the Senator "how to interpret" them.[204]

199 Tr. Ex. 134; *see* Tr. Exs. 263-82.
200 Tr. Ex. 161 (Gaddie Dep.), at 45.
201 *Id. at 44*.
202 *Id. at 150-51*.
203 *Id. at 101*.
204 *Id. at 75*.

Over several days in early June, the drafters presented a selection of regional maps drawn from their statewide drafts, approximately three to four per region, to the Republican leadership. Along with these regional alternatives, the leadership "saw the partisan scores for the maps that [the drafters] presented to them in those alternatives."[205] Foltz testified during his deposition that although he could not recall a particular example, he was sure that he was asked by the leadership about the partisan performance of the various regional options.[206]

205 R.148 at 20.
206 Tr. Ex. 191 (Foltz Dep.), at 106.

Following this meeting, the drafters amalgamated the regional alternatives chosen by the leadership. Foltz testified that "the draft map called team map emerged as a result of the ... leadership's choices at those meetings."[207] Under the Team Map, which was also referred [*137] to as the "Final Map,"[208] the Republicans could expect to win 59 Assembly seats, with 38 safe Republican seats, 14 leaning Republican, 10 swing, 4 leaning Democratic, and 33 safe Democratic seats.[209] In the Tale of the Tape, the drafters compared the partisan performance of the Team Map directly to the Current Map on each of these criteria.[210] They highlighted specifically that under the Current Map, "49 seats are 50% or better," but under the Team Map, "59 Assembly seats are 50% or better."[211]

207 R.147 at 80.
208 As we noted earlier, Foltz testified that if the "Team Map" was not "the final one that was pushed, put forward in the public domain, it was very close to it, and it was the result of that mashing process of taking the various regional alternatives and putting them all together." *Id. at 165*. He further explained that the "Final Map" was the one "after the leaders got together and made the regional decisions and they were then merged together." *Id. at 62*. If it was not identical to the map that "ultimately became Act 43, it[wa]s probably fairly close." *Id.*; *see also* Tr. Ex. 172, at 3-4; *supra* note 56.
209 The drafters in fact produced and evaluated several distinct versions of the Team Map, but each rendition is virtually [*138] identical. *See* Tr. Ex. 172, at 3-4 (Final Map); Tr. Ex. 467, at 1 (Team Map (Joe Aggressive)); *id.* at 2 (Team Map Ranking (Joe Aggressive 2)); *id. at 3* (Team Map (6-15-11)).
210 Tr. Ex. 283.
211 *Id.*

The Team Map underwent even more intense partisan scrutiny in a document identified as "summary.xlsx."[212] The drafters divided the new Team Map districts into six categories of partisan performance, listing beside each district its "new incumbent" and its Republican vote share under the Current Map and the Team Map; the change in Republican vote share was the district's "improvement" under the new plan.[213] The drafters considered five districts to be "Statistical Pick Up[s]," meaning they were currently held by a Democratic incumbent but "move[d] to 55% or better" in Republican vote share under the new Team Map.[214] Fourteen districts were grouped under the heading "GOP seats strengthened a lot," meaning they were "[c]urrently held GOP seats that start[ed] at 55% or below that improve[d] by at least 1%" in Republican vote share.[215] Eleven districts were "GOP seats strengthened a little," meaning they "improve[d] less than 1%."[216] Only three districts were labeled "GOP seats weakened a little," meaning they had "start[ed] at 55% or below" but "decline[d]" slightly in Republican vote share.[217] Another three [*139] districts were "GOP seats likely lost," meaning they had "drop[ped] below 45%" Republican vote share under the Team Map.[218] Finally, the drafters noted four districts where Democrats were "weakened," which were districts with "45% or better" Democratic vote share "that bec[a]me more GOP" under the Team Map.[219] The drafters also identified twenty Republican Assembly members who enjoyed sufficiently comfortable partisan scores such that they could become "GOP donors to the team."[220] These were members of the Assembly who had partisan scores of 55% or greater and, therefore, could spread their partisan voting strength to politically weaker colleagues.[221]

212 Tr. Ex. 284, at 1.
213 *Id.*

214 *Id.*
215 *Id.*
216 *Id.*
217 *Id.*
218 *Id.*
219 *Id. at 1-2*.
220 *Id. at 1*. In his testimony concerning his post-drafting meetings with individual senators, *see supra at 15*, Ottman did not identify any senators who were reluctant to be "donors to the team."
221 *See supra at 14*. In his testimony, Ottman stated that the "GOP donor" designation "simply indicate[d] a seat that had a lower percentage under that partisan metric than it started with." R.148 at 29. We do not believe that this answer can be reconciled fully with the information on the spreadsheet. Specifically, the spreadsheet states that donors are "[i]ncumbents with numbers above 55% that [*140] donate to the team."

Tr. Ex. 284, at 1. The inclusion, on the spreadsheet, of the strength of the donors' numbers, strongly suggest that they had political strength to spare and to share with other, perhaps more vulnerable, districts.

The Team Map also was sent to Professor Gaddie. The "S" curve demonstrates that this map would allow the Republicans to maintain a comfortable majority under likely voting scenarios; their statewide vote share could fall to 48%, and they still would preserve a 54 seat majority in the Assembly. The Democrats, by contrast, would need 54% of the statewide vote to capture a simple majority of Assembly seats.[222]

222 *See* Tr. Ex. 282. Professor Mayer also conducted a swing analysis that evaluated the outcome of Act 43 under likely electoral scenarios. He, like Professor Gaddie, concluded that, under Act 43, "even when the Democrats receive 54 percent of the statewide vote, they still aren't even close to a majority of the Assembly." R.148 at 229.

Once the map had been finalized, Foltz presented each Republican member of the Assembly with information on his or her new district. These memos provided a "[c]omparison of [k]ey [r]aces" in the new districts compared to the old.[223] Specifically, the memoranda [*141] detailed what percentage of the population in the old and new districts voted for Republican candidates in representative statewide and national elections held since 2004. Importantly, the memoranda did not provide the individual legislators with any information about contiguity, compactness, or core population.

223 Tr. Ex. 342.

Additionally, Ottman made a presentation to the Republican caucus that highlighted the long-term effects of Act 43, as reflected in his prepared notes: "The maps we pass *will determine who's here 10 years from now*," and "[w]e have an *opportunity* and an obligation to draw these maps that Republicans haven't had in decades."[224]

224 Tr. Ex. 241, at 1 (emphasis added). Similarly, Ottman created talking-points memos for his meetings with Republican members of the Senate. These memos included information about population, where changes in the district's population had occurred, and the geography of the new district, *see, e.g.*, Tr. Ex. 242, at 1 ("Added East Troy and part of the town, as well as Mukwonago."). Importantly, these also contained information on how the re-configured district had voted in national and statewide elections. *See id.* (noting, for example, that "Scott Walker [*142] won this new seat with 64.2%," "McCain won with 51.5%," and "Van Hollen 06 won with 59.4%").

At trial, counsel for the plaintiffs cross-examined Ottman on statements that he had made during the joint public hearing on Act 43, which was held on July 13, 2011. *See* R.148 at 44-45. Plaintiffs' counsel subsequently offered the transcript of the public hearing, *see* Tr. Ex. 353, into evidence, *see* R.148 at 45. The transcript includes testimony by Ottman and Foltz (although, in the transcript, he is identified as Holtz), as well as the statements and questions of several members of the Wisconsin Assembly and Senate. Counsel for the defendants made no objection to the admission of Ottman's testimony from the public hearing, and we initially admitted that transcript for that limited purpose. Counsel for the plaintiffs, however, asked that the entire transcript be admitted; counsel for the defendants objected to its admission on the ground that it contained numerous statements from members of

the Wisconsin legislature that were hearsay. *See id. at 45*. In response, plaintiffs' counsel asserted that "it's a public record. It's an exception to the hearsay rule. It's part of the legislative history of Act [*143] 43." *Id. at 46*.

The transcript does not fall neatly within the public record exception to hearsay set forth in *Federal Rule of Evidence 803(8)*. Namely, it is not the "record or statement of a *public office*," and it does not set forth "the office's activities" or "a matter observed while under a legal duty." *Id.* (emphasis added).

The second possible basis for its admission--that the transcript is "part of the legislative history of Act 43"--is somewhat more persuasive. The transcript provides useful background information on Act 43's path to enactment and on the types of concerns voiced by the legislators. In this way, it is not being offered "to prove the truth of the matter[s] asserted in the statement[s]" of the individuals participating in the hearing. Consequently, it falls outside the definition of hearsay set forth in *Federal Rule of Evidence 801(c)*.

In sum, from the outset of the redistricting process, the drafters sought to understand the partisan effects of the maps they were drawing. They designed a measure of partisanship and confirmed the accuracy of this measure with Professor Gaddie. They used this measure to evaluate regional and statewide maps that they drew. They labeled their maps by reference to their partisanship scores, they evaluated partisan outcomes of [*144] the maps, and they compared the partisanship scores and partisan outcomes of the various maps. When they completed a statewide map, they submitted it to Professor Gaddie to assess the fortitude of the partisan design in the wake of various electoral outcomes.

The map that emerged from this process reduced markedly the possibility that the Democrats could regain control of the Assembly even with a majority of the statewide vote. The map that would become Act 43 had a pickup of 10 Assembly seats compared to the Current Map.[225] As well, if their statewide vote fell below 48%, the design of Act 43 ensured that the Republicans would maintain a comfortable majority.[226]

225 *See* Tr. Ex. 283.

226 *See* Tr. Ex. 282 (Gaddie "S" curve predicting Republicans would win 54 seats with 48% of the vote).

Finally, it is clear that the drafters were concerned with, and convinced of, the *durability* of their plan. Professor Gaddie confirmed the staying power of the Republican majority under the plan, and Ottman emphasized to the Republican caucus the long-term consequences of enacting the plan.[227]

227 The plaintiffs argue that the "[s]ecret [d]rafting" of Act 43 and the "[e]xclusion of Democrats" from the drafting process are further evidence of illicit intent. [*145] *See* R.155 at 4-5. We find this evidence less probative of whether Act 43 was intended to entrench the Republicans in power. Witnesses for both the plaintiffs and the defendants testified concerning the strength and operation of the caucus system in Wisconsin, and there appears to be very little effort to woo colleagues from "across the aisle" either to sponsor or to support legislation originating with the other party. *See, e.g.*, R.147 at 33 (Whitford explaining that "it's extremely difficult to put together a bipartisan coalition to pass something in either ... the Assembly or the Senate"); R.148 at 51 (Ottman describing the process of drafting legislation and noting that "[u]sually it's developed among members of your own party"). Although we might find the Wisconsin legislature's procedures to be counterproductive, the actions on which the plaintiffs rely appear simply to be par for the legislative course. We do not discount the possibility, however, that, in some other states, these actions may suggest a deviation from regular procedures from which an inference of discriminatory intent may arise.

Finally, the plaintiffs believe that the defendants' actions in "requiring municipalities to [*146] design wards that followed the new districts' boundaries" is further evidence of an unconstitutional motive. R.155 at 5. Although Wisconsin never has passed legislation reversing the order in which wards are drawn, this idea is not a new one. At trial, the defendants presented undisputed evidence that, following the 2000 census, Democratic Senate Majority Leader Chvala "drafted a bill that ... made changes that

would allow the state to act earlier [to draw wards] or put a deadline for municipalities to act." R.148 at 94.

We conclude, therefore, that the evidence establishes that one of the purposes of Act 43 was to secure Republican control of the Assembly under any likely future electoral scenario for the remainder of the decade, in other words to entrench the Republican Party in power.

b. Alleged shortcomings in the evidence

The defendants point to the miscalculation of the composite measure, to limitations of the composite measure itself, and to the drafters' lack of reliance on Professor Gaddie's analysis as evidence that they did not have the requisite intent to subjugate the voting strength of Democrats. The defendants first note that the drafters' partisan score "was not even correct." [*147] [228] Because of an error in the data for the 2006 Governor's race--one of the components for their composite measure--the drafters' numbers were skewed, and the resulting partisan scores were more pro-Republican than if the scores had been calculated with the correct data.[229] However, as the plaintiffs note, these errors may diminish the reliability of the composite measure, but they are irrelevant to the drafters' intent.[230]

228 R.153 at 8; *see supra at 9-10*.
229 *See* R.153 at 8.
230 *See* R.155 at 10. Professor Mayer also testified that, regardless of the drafters' calculation errors, the partisan measure still correlated highly with Professor Gaddie's regression model. *See* R.148 at 209.

After Professor Mayer had offered this testimony, counsel for the defendants interposed an objection that Professor Mayer's testimony was not "based on firsthand knowledge and [it was] not in his report." *Id. at 210*. We reserved ruling and allowed counsel for the plaintiff to continue this line of questioning. Professor Mayer answered only two additional questions on the subject following the objection. At the time counsel objected, he admitted that he already had let related questioning "go on for a while," *id.*; indeed, Professor Mayer had given four [*148] pages of testimony on the subject prior to counsel's objection. Because the bulk of Professor Mayer's testimony on the calculation errors was offered prior to counsel's objection, we now overrule counsel's objection as untimely.

The defendants also disparage the notion that "the partisan scores were a crystal ball with predictive powers ensuring that Act 43 would lock Democrats out from seats that leaned Republican."[231] They contend that their composite did not have a "forward-looking component," but was simply "an average of past elections applied to the new districts."[232] We reject as not worthy of belief the assertion that the drafters would have expended the time to calculate a composite score for each district on the statewide maps simply to gain an historical understanding of voting behavior. Their measure was only useful to them--and the exercise of calculating the composite was only worth the effort--if it helped them assess how Republican representatives in the newly created districts likely would fare in future elections.

231 R.153 at 8.
232 R.147 at 47.

Moreover, each completed map was submitted to Professor Gaddie, who then generated an "S" curve. The "S" curves were designed to discern "the [*149] political potential of the district."[233] Professor Gaddie explained that, when he used the term "potential," he meant "[i]f you had an election in the future, how might it turn out. So when I say potential ... this is our best estimate of what a non-incumbent election would look like given a particular set of circumstances, depending on whether one party is stronger or weaker."[234]

233 Tr. Ex. 161 (Gaddie Dep.), at 100.
234 *Id. at 100-01*.

According to the defendants, however, Professor Gaddie's "S" curves are irrelevant to the issue of intent because the drafters "didn't look at them much."[235] We cannot accept that estimation of the importance of Professor Gaddie's work to the drafters. The record makes clear that the drafters sent Professor Gaddie their completed maps for which he produced "S" curves. Both Ottman and Foltz testified that, when the "S" curves were generated, Professor Gaddie provided an explanation of what they showed.[236] That Ottman may not have used the "S" curves much once they were generated,[237] or that Foltz was not able to explain their full significance at trial, five years later,[238] does not diminish the fact that the drafters sought, and received, Professor Gaddie's expert analysis on how each map would behave under the

range [*150] of likely electoral scenarios.[239]

235 R.147 at 73.
236 *See* R.148 at 18; R.147 at 73.
237 *See* R.148 at 19.
238 *See* R.147 at 73.
239 In their post-trial reply brief, the defendants also attempt to discount the importance of Professor Gaddie's "S" curves by referencing his testimony that his "S" curves do not "provide any information on the durability of the districts over time." R.156 at 7 (quoting Tr. Ex. 161 (Gaddie Dep.), at 182). Defendants interpret this answer to mean that the "S" curves do not speak to the likely voting behavior, over time, of the newly created districts. We do not believe that this interpretation can be reconciled with the other, detailed testimony that Professor Gaddie provided concerning the purpose of the "S" curves. We believe a better reading--and one consistent with Professor Gaddie's other testimony--is that his "S" curves do not speak to how the districts' constituencies may change over time.

Finally, the defendants contend that the partisan intent shown by the evidence in this case cannot be considered invidious because Act 43's districts are consistent with traditional districting principles. However, as we have explained earlier, a plan that adheres to those principles can violate the *Equal Protection Clause*. Here, the evidence [*151] shows that one purpose of enacting Act 43 was to secure Republican control of the Wisconsin Assembly. In particular, the history of Act 43 reveals that the drafters created several alternatives that resulted in a less severe partisan outcome. Of the maps presented to them, the Republican leadership opted for a map that significantly increased the number of Republican-leaning districts compared to the Current Map. Further, the memos prepared for the Assembly members informed them whether the district number had changed, whether adjustment to the district population was necessary based on the census numbers, and provided a "[c]omparison of [k]ey [r]aces" in the new districts compared to the old, but provided little information regarding traditional districting factors.[240]

240 *See, e.g.*, Tr. Ex. 342, at 1. In the memos Foltz provided to members of the Assembly, he attached the maps of the new districts. *See, e.g., id. at 2*. In Ottman's talking-points memos for his meetings with members of the Senate, he sometimes, but not always, included a brief description of how the district had changed; for instance, the memo for Senate District 11 states: "Added East Troy and part of the town, as well as Mukwonago." Tr. Ex. 242, at 1. [*152] The legislators were not given compactness scores, core population numbers, or the number of municipal and county splits.

These facts, in tandem with the overwhelming number of reports and memoranda addressing the partisan outcomes of the various maps, lead us to conclude that, although Act 43 complied with traditional redistricting principles, it nevertheless had as one of its objectives entrenching the Republicans' control of the Assembly.[241]

241 We also do not believe that the record supports a conclusion that the drafters only wanted to improve their position incrementally. *See* Dissent at 125-26. Had this, indeed, been their purpose, they could have settled on one of the maps that provided a pickup of a smaller number of Republican seats. *See supra at 65-66*.

B. Discriminatory Effect of Act 43

Act 43 also achieved the intended effect: it secured for Republicans a lasting Assembly majority. It did so by allocating votes among the newly created districts in such a way that, in any likely electoral scenario, the number of Republican seats would not drop below 50%. Through the combination of the actual election results for 2012 and 2014, the swing analyses performed by Professors Gaddie and Mayer, as well as the plaintiffs' [*153] proposed measure of asymmetry, the efficiency gap (or "EG"), the plaintiffs have "show[n] a burden, as measured by a reliable standard, on [their] representational rights." *LULAC*, 548 U.S. at 418 (opinion of Kennedy, J.).

1.

It is clear that the drafters got what they intended to get. There is no question that Act 43 was designed to make it more difficult for Democrats, compared to Republicans, to translate their votes into seats. In the Tale of the Tape, the drafters compared the partisan performance of the Team Map directly to the Current Map.[242] Where the Current Map had only "49

[Assembly] seats" that were "50% or better" for Republicans, the Team Map increased that number by ten so that "59 Assembly seats" were designated as "50% or better" for Republicans.[243] Moreover, under the Team Map that became Act 43, Republicans expected the following seat distribution: 38 safe Republican seats, 14 leaning Republican, 10 swing, 4 leaning Democratic, and 33 safe Democratic seats.[244]

242 Tr. Ex. 283.
243 *Id.*
244 *Id.*

Professor Mayer explained the significance of this distribution at trial.[245] Using the baseline partisan measure that he used to create his Demonstration Plan,[246] Professor Mayer created a histogram that graphed the predicted percentage [*154] of Republican vote of each district (by 5% increments) on the x axis, and the number of districts that fell into each 5% increment on the y axis.[247] The graph reveals that Act 43 includes 42 districts with predicted Republican vote percentages of between 50 and 60%; only seventeen districts have predicted Democratic vote percentages of between 50 and 60%.[248] This demonstrates that, under Act 43, Republican voters are distributed over a larger number of districts so that they can secure a greater number of seats; in short, "Republicans are distributed in a much more efficient manner than Democrats."[249] Professor Mayer's graph also reveals that there are only 15 districts with a predicted Republican vote percentage of 60% or greater; this is compared to 25 districts that have a predicted Democratic vote percentage of 60% or greater. In other words, Democrats have been packed into "safe" Democratic districts.

245 *See* R.148 at 183-85.
246 *See supra at 24-25*; *see also infra* at 107-08.
247 *See* Tr. Ex. 15 (attached as Appendix 2 to this opinion); *see also* Tr. Ex. 107.
248 *See* Tr. Ex. 15.
249 R.148 at 184.

The 2012 and 2014 election results reveal that the drafters' design in distributing Republican voters to secure a legislative majority was, in fact, [*155] a success. In 2012, Republicans garnered 48.6% of the vote, but secured 60 seats in the Assembly.[250] In 2014, Republicans increased their vote percentage to 52 and secured 63 Assembly seats.[251]

250 R.125 (J. Final Pretrial Report containing J. Statement of Stipulated Facts) at 70, ¶ 289; *id. at 69*, ¶ 285.
251 *Id. at 70*, ¶ 290.

Moreover, Professors Gaddie and Mayer testified that, consistent with what actually occurred in 2012 and 2014, under any *likely* electoral scenario, the Republicans would maintain a legislative majority. After Professors Gaddie and Mayer developed their regression models to measure baseline partisanship,[252] each conducted a separate swing analysis to demonstrate this outcome. "What a swing analysis does," Professor Mayer explained, "is ask the question ... what might happen" under different electoral conditions.[253] To determine this, "the statewide vote percentage" is altered by a fixed amount, typically in one-percentage-point increments, across all districts.[254] "It's a way of, generally speaking, estimating what is a plausible outcome given a change in the statewide vote, which in this case a change in the statewide vote is a proxy for a different election environment, what might happen if there's a [*156] pro-Democratic swing or a pro-Republican swing."[255]

252 *See supra at 7-8*.
253 R.148 at 222.
254 *See id.*
255 *Id. at 223*. There was consensus among the experts--Professors Gaddie, Mayer, Jackman, and Goedert--that some type of swing analysis was the accepted method of testing how a particular map would fare under different electoral conditions. *See, e.g.*, R.149 at 216-17 (Professor Jackman testifying concerning the application of a uniform swing analysis); R.150 at 181 (Professor Goedert employing a uniform swing analysis).

Professor Gaddie's swing analysis is contained in his "S" curves. His "S" curves include the electoral outcome for each map based on Republican statewide vote percentage ranging from 40% to 60%. The "S" curve for the Team Map demonstrates that, to maintain a comfortable majority (54 of 99 seats), Republicans only had to maintain their statewide vote share at 48%.[256] The Democrats, by contrast, would need more than 54% of the statewide vote to obtain that many seats.[257]

256 *See* Tr. Ex. 282; R.125 (J. Final Pretrial Report containing J. Statement of Stipulated Facts) at 21, ¶ 70.
257 *See* Tr. Ex. 282. The following chart

summarizes how the "S" curve for the Team Map predicted how each party would fare under different electoral outcomes: [*157]

% vote received (D)	seats won (D)	% vote received (R)	seats won (R)
47	33	47	50
48	35	48	54
49	39	49	56
50	41	50	58
51	43	51	60
52	45	52	64
53	49	53	66
54	53	54	67

Id.; R.125 (J. Final Pretrial Report containing J. Statement of Stipulated Facts) at 70, ¶ 289; *id. at 69*, ¶ 285.

Professor Mayer's swing analysis did not include the wide-ranging electoral scenarios set forth in Professor Gaddie's "S" curves. Instead, Professor Mayer included only *likely* electoral scenarios in his analysis. He looked at the electoral outcomes dating back to 1992 and determined that the maximum statewide vote share the Democrats had received was 54% in 2006, or roughly 3% more than they had received in 2012.[258] The minimum statewide vote share Democrats had received was 46% in 2010, or roughly 5% less than they had received in 2012.[259] Professor Mayer's swing analysis, therefore, looked at how Act 43 would fare under these two scenarios--the Democrats receiving 46% of the vote, and the Democrats receiving 54% of the vote. Adjusting the Democratic vote share in each district by these amounts,[260] Professor Mayer predicted that a 5% decrease in Democratic vote share would have no effect on the allocation of legislative seats; the Republicans would keep the 60 seats [*158] they had, but would not increase their numbers.[261] When Democratic vote share increased by 3% to 54%, Professor Mayer predicted that the Democrats would secure only 45 seats.[262]

258 R.148 at 225.

259 *See id.*

260 Professor Mayer's goal was to "make a prospective estimate of what would happen in the subsequent election" to the 2012 races. R.149 at 77. He therefore based his analysis on the observed results in 2012, rather than a partisan baseline measure. R.148 at 226. He assumed that all members of the Assembly would run for re-election, because "we don't know where incumbents will or will not run and ... this is a uniform way" of accounting for an incumbency effect. R.149 at 91-92. To "calculate the incumbency advantage," Professor Mayer "us[ed] the underlying data" in each district, so that the effect was "not ... identical in every district." *Id. at 87*.

261 Professor Mayer's inference from the chart was "that the way in which Act 43 has been drawn has already secured what in practice amounts to the most you can practically do." R.148 at 229. Of course, in 2014, the Republican statewide vote percentage increased to 52%, and the number of seats that they secured was not stagnant.

262 *See* Tr. Ex. 117. Professor Jackman also presented [*159] a swing analysis that was specific to Wisconsin. R.149 at 243-48; Tr. Ex. 495. Professor Jackman did not provide this analysis during discovery, but we admitted the evidence after the defendants conceded that they had not been prejudiced by the delay. R.149 at 292.

Professor Jackman relied on the actual results from 2012 in each district in Wisconsin and then

adjusted the vote in each district based on a 5% swing in each party's vote share. R.149 at 243-49. He then calculated the EG for each of these vote-share levels. Professor Jackman observed the same trend as Professor Mayer: as the Republican vote share went down, the Republicans would not lose many seats; as the Republican vote share went up, the Republicans did not pick up many more seats (suggesting that the Republicans discovered a way to maximize the seats they had any potential of winning with the smallest possible percentage of the vote). Tr. Ex. 495.

After trial, the plaintiffs brought to our attention some discrepancies between our list of trial exhibits, *see* R.146, and the rulings that we had made during the course of trial. *See* R.151 (Motion to Admit Certain Trial Exhibits). For clarification, the following exhibits were [*160] admitted during trial: Tr. Ex. 122, *see* R. 150 at 291; Tr. Ex. 125, *see* R. 150 at 291; Tr. Ex. 486, *see* R.148 at 199; Tr. Ex. 487, *see* R.149 at 24; Tr. Ex. 488, *see* R.159 at 293; Tr. Exs. 492-495, *see* R. 149 at 293; and Tr. Ex. 581, *see* R.150 at 255.

However, both Professor Gaddie and Professor Mayer underestimated the strength of Act 43 when it came to securing and maintaining Republican control. When the Republican vote share dropped in 2012 to 48.6%, Republicans still secured 60 seats--10 more than what Professor Gaddie's "S" curve predicted.[263] Additionally, when the Republican vote share increased in 2014 to 52%, the Republicans increased the number of seats they held by 3, as opposed to their seat share being stagnant, as predicted by Professor Mayer.[264] In other words, the actual election results suggest that Act 43 is more resilient in the face of an increase in the statewide Democratic vote share, and is more responsive to an increase in the statewide Republican vote share, than either Professor Gaddie or Professor Mayer anticipated.

263 With respect to the Democratic wave election, therefore, it would seem that Professor Mayer's swing analysis correctly predicted that, even with 54% of [*161] the statewide vote share, the Democrats would not secure a majority in the Assembly.

264 At this end of the spectrum, Professor Gaddie's prediction was more accurate; his "S" curve predicted that a 52% vote share would translate into 64 Republican seats.

The fact that Democrats and Republicans were treated differently under Act 43 becomes even more stark when we examine the number of seats secured when the parties obtain roughly equivalent statewide vote shares. In 2012, the Democrats received 51.4% of the statewide vote, but that percentage translated into only 39 Assembly seats. A roughly equivalent vote share for Republicans (52% in 2014), however, translated into 63 seats--a 24 seat disparity. Moreover, when Democrats' vote share fell to 48% in 2014, that percentage translated into 36 Assembly seats. Again, a roughly equivalent vote share for Republicans (48.6% in 2012) translated into 60 seats--again a 24 seat disparity.[265] The evidence establishes, therefore, that, even when Republicans are an electoral minority, their legislative power remains secure.[266]

265 At trial, Foltz testified that the drafters' calculation of the composite partisanship measure, at least for some districts, was flawed because [*162] of data errors related to the 2006 Governor's race. We agree that these errors reduce the composite's reliability as a measure. However, in reaching our conclusion that the plaintiffs have met their evidentiary burden, we have not relied on the drafters' composite measure of partisanship, but on actual election results and analyses performed by Professors Gaddie and Mayer, which were not infected by the faulty data. Moreover, as explained in *supra* note 230, Professor Mayer testified that, regardless of the drafters' calculation errors, the partisan measure still correlated highly with Professor Gaddie's regression model. *See* R.148 at 209.

266 The Dissent questions whether the Republicans actually can entrench themselves in power given that a popularly elected Democratic governor could prevent the Republicans from enacting their agenda. *See* Dissent at 123. Although the governorship may be a check on Republican legislative efforts, it also cannot secure for Democrats the opportunity to pass an agenda consistent with their policy objectives.

The Dissent also doubts whether the plaintiffs have been damaged by their inability to secure a political majority. *See* Dissent at 145-46. According to the Dissent, Republican legislators

> [*163] who win by slimmer margins will be more receptive to the needs of their Democratic constituents. Although this argument might have some intuitive appeal in other political contexts, it is not supported by the record here, where there is evidence of a strong caucus system. *See supra* at 54*; infra* at 115.

2.

The record here is not plagued by the infirmities that have precluded the Court, in previous cases, from concluding that a discriminatory effect has been established. In *Bandemer*, the Court made clear that plaintiffs could not establish a constitutional violation based "on a single election." *478 U.S. at 135* (plurality opinion). This was because

> Indiana is a swing State. Voters sometimes prefer Democratic candidates, and sometimes Republican. The District Court did not find that because of the 1981 Act the Democrats could not in one of the next few elections secure a sufficient vote to take control of the assembly. ... The District Court did not ask by what percentage the statewide Democratic vote would have had to increase to control either the House or the Senate. The appellants argue here, without a persuasive response from the appellees, that had the Democratic candidates received an additional few percentage points of [*164] the votes cast statewide, they would have obtained a majority of the seats in both houses. Nor was there any finding that the 1981 reapportionment would consign the Democrats to a minority status in the Assembly throughout the 1980's or that the Democrats would have no hope of doing any better in the reapportionment that would occur after the 1990 census. Without findings of this nature, the District Court erred in concluding that the 1981 Act violated the *Equal Protection Clause*.

Id. at 135-36.

The record here answers the shortcomings that the *Bandemer* plurality identified. First, we now have two elections under Act 43. In 2012, the Democrats garnered 51.4% of the vote, but secured only 39 seats in the Assembly--or 39.3% of the seats.[267] In 2014, the Democrats garnered 48% of the vote and won only 36 seats--or 36.4% of the seats.[268] If it is true that a redistricting "plan that more closely reflects the distribution of state party power seems a less likely vehicle for partisan discrimination," *LULAC*, 548 U.S. at 419 (opinion of Kennedy, J.), then a plan that deviates this strongly from the distribution of statewide power suggests the opposite.

> 267 R.125 (J. Final Pretrial Report containing J. Statement of Stipulated Facts) at 52, ¶ 257.
> 268 *Id.*, ¶ 258.

Moreover, [*165] as described in some detail above, Professor Gaddie's "S" curve and Professor Mayer's swing analysis reveal that the Democrats are unlikely to regain control of the Assembly. And Act 43 has proven even more resistant to increases in Democratic vote share, and more responsive to increases in Republican vote share, than was predicted. Consequently, it is not the case that "an additional few percentage points of the votes cast statewide" for the Democrats will yield an Assembly majority. *Bandemer, 478 U.S. at 135* (plurality opinion).[269]

> 269 The Dissent notes that, in 2012, the seats-to-vote ratio under Act 43 was similar to that under the apportionment scheme in *Bandemer* and concludes, therefore, that our case cannot be distinguished from *Bandemer*. *See* Dissent at 119. As we have demonstrated in the above discussion, however, the Court's primary concern in *Bandemer* was not that the numbers were not sufficiently egregious, but that there was no evidence that the gerrymander was durable. Here we have two elections under Act 43, as well as swing analyses conducted by three experts, all of which support the conclusion that Act 43's partisan effects will survive all likely electoral scenarios, throughout the decennial period.

Furthermore, [*166] because we have the actual election results to confirm the reliability of Professor Gaddie's model and "S"-curve analysis, we are not operating only in the realm of hypotheticals--a prospect that at least one member of the Court in *LULAC* found troubling. In *LULAC*, Justice Kennedy commented on a

proposal by one of the amici to adopt a partisan-bias standard, which would compare how the two major parties "would fare hypothetically if they each (in turn) had received a given percentage of the vote." *548 U.S. at 419* (opinion of Kennedy, J.) (internal quotation marks omitted). Justice Kennedy explained that,

> [e]ven assuming a court could choose reliably among different models of shifting voter preferences, we are wary of adopting a constitutional standard that invalidates a map based on unfair results that would occur in a hypothetical state of affairs. Presumably such a challenge could be litigated if and when the feared inequity arose.

Id. at 420. Professor Gaddie's "S" curves and Professor Mayer's swing analysis, like a partisan-bias analysis, depend upon a hypothetical state of affairs: they assume a uniform increase or decrease in vote share across all districts--something that does not occur in actual elections. Here, [*167] however, the predictive work of the professors is combined with the results of *two actual elections* in which the feared inequity did arise.

3.

While the evidence we have just described certainly makes a firm case on the question of discriminatory effect, that evidence is further bolstered by the plaintiffs' use of the "efficiency gap," or EG for short, to demonstrate that, under the circumstances presented here, their representational rights have been burdened. We begin with an explanation of the EG. Because the EG is a new measure and was the focus of extensive testimony at trial, we believe it appropriate to examine its value and shortcomings in detail.

a.

The allegations in this case are that Act 43's drafters employed two of the traditional methods of gerrymandering in order to diminish the electoral power of Democratic voters in Wisconsin: "packing" and "cracking." Packing refers to the concentration of a party's voters in a limited number of districts; as a result, the party wins these packed districts by large margins.[270] Cracking, on the other hand, is the division of a party's voters across a number of districts such that the party is unable to achieve a majority in any.[271] The EG is [*168] a measure of the degree of *both* cracking and packing of a particular party's voters that exists in a given district plan, based on an observed electoral result.[272]

270 R.1 at 3, ¶ 5; s*ee supra at 17*.
271 R.1 at 3, ¶ 5.
272 *Id. at 15*, ¶¶ 49-50; R.149 at 170-71.

The EG calculation is relatively simple. First, it requires totaling, for each party, statewide, (1) the number of votes cast for the losing candidates in district races (as a measure of cracked voters), along with (2) the number of votes cast for the winning candidates in excess of the 50% plus one votes necessary to secure the candidate's victory (as a measure of packed voters).[273] The resulting figure is the total number of "wasted" votes for each party.[274] These wasted vote *totals* are not, of themselves, independently significant for EG purposes; rather, it is the comparative relationship of one party's wasted votes to another's that yields the EG measure.[275] The EG is the difference between the wasted votes cast for each party, divided by the overall number of votes cast in the election.[276] When the two parties waste votes at an identical rate, the plan's EG is equal to zero.[277] An EG in favor of one party (Party A), however, means that Party A wasted votes at a lower rate [*169] than the opposing party (Party B).[278] It is in this sense that the EG is a measure of efficiency: because Party A wasted fewer votes than Party B, Party A was able to translate, with greater ease, its share of the total votes cast in the election into legislative seats. Put simply, an EG in Party A's favor means it carried less electoral dead weight; its votes were, statistically, more necessary to the victories of its candidates, and, consequently, it secured a greater proportion of the legislative seats than it would have secured had Party A and Party B wasted votes at the same rate.

273 R.149 at 181-82.
274 The votes are "wasted" in the sense that votes cast for losing candidates do not help to generate seats for the party and that votes cast for winning candidates in excess of 50% plus one could have been deployed elsewhere to greater effect. *Id. at 182*; *see also supra* note 79.
275 R.149 at 171-72.
276 This can be expressed mathematically in the following formula:

$$EG = \underline{W}_B/n - \underline{W}_A/n$$

R.34 at 16; R.149 at 181-82.

277 R.149 at 181-82.

278 In some documents in the record, negative EG values indicate higher wasted vote rates for Democrats compared to Republicans (*i.e.*, a pro-Republican EG), and positive EG values indicate the opposite. [*170]

In a related sense, the EG can be viewed as a measure of the proportion of "excess" seats that a party secured in an election beyond what the party would be expected to obtain with a given share of the vote.[279] In a purely proportional representation system, a party would be expected to pick up votes and seats at a one-to-one ratio, *i.e.*, for every additional percentage of the statewide vote the party gains, it should also gain a percentage in the share of the seats.[280] Based on decades of observed historical data, however, the parties' experts agreed that with single-member, simple-plurality systems like Wisconsin's, we can expect that for every 1% increase in a party's vote share, its seat share will increase by roughly 2%.[281] Thus, a party that gets 52% of the statewide vote should be expected to secure 54% of the legislative seats. If the party instead translates its 52% of the vote into 58% of the seats, the district plan has demonstrated an EG of 4% in favor of that party (the difference between the expected seat share and the actual seat share).

279 Tr. Ex. 34, at 5.

280 *Id. at 11*.

281 R.125 (J. Final Pretrial Report containing J. Statement of Stipulated Facts) at 28, ¶¶ 105-06.

Both Professors Mayer and Jackman [*171] calculated the EG for the 2012 Assembly elections in Wisconsin. In his analysis, Professor Mayer employed the "full method," which requires aggregating, district-by-district, the wasted votes cast for each party. Applying this methodology, he determined that Act 43 yielded a pro-Republican EG of 11.69%.[282] Professor Jackman, however, used the "simplified method,"[283] that assumes equal voter turnout at the district level. His calculations estimated a pro-Republican EG of 13% for the 2012 election. Professor Jackman also calculated an EG for the 2014 election; that calculation resulted in a pro-Republican EG of 10%.[284]

282 *See* Tr. Ex. 2, at 46.

283 *See supra* note 88.

284 Tr. Ex. 34, at 5-6.

Professor Jackman also conducted an historical analysis of redistricting plans which compared the trends in efficiency gaps across a wide variety of states over the last forty years (a total of 786 state legislative elections).[285] He observed that an EG in the first year after a districting plan is enacted bears a relatively strong relationship to the efficiency gap over the life of a plan.[286] The party that "wastes" more votes in the first election year is likely to continue "wasting" more votes in future elections.

285 R.149 at 229-33. [*172]

286 *Id. at 233*. In his rebuttal report, Dr. Jackman notes that a plan with an initial pro-Republican efficiency gap of 7% will have a plan-average efficiency gap of approximately 5.3%. *See* Tr. Ex. 83 at 16.

Relatedly, Professor Jackman conducted two additional analyses which suggest that an efficiency gap above 7% in any districting plan's first election year will continue to favor that party for the life of the plan. First, Professor Jackman compared districting plans across a wide variety of states, and determined that over 95% of plans with an EG of at least 7% will never have an EG that favors the opposite party.[287] Second, Professor Jackman conducted a "swing analysis" of all redistricting plans since 2010 and determined that nearly all plans that resulted in a 7% efficiency gap favoring one party in the first election year will retain an efficiency gap that favors that same party, even when one adjusts a party's statewide vote share by five points.[288]

287 R.149 at 224-40.

288 Tr. Ex. 93; R.149 at 215-24. This was the basis for the plaintiffs' proposed threshold for liability. *See supra* notes 81 and 132, and accompanying text.

Professor Jackman then compared his EG estimates for Act 43 with the historical EG [*173] estimates from other states. Given historical trends and averages, he opined that Wisconsin's plan would have an average pro-Republican efficiency gap of 9.5% for the entire decennial period.[289] Therefore, in his expert opinion, Wisconsin Democrats would continue to have a less effective vote for the life of the plan.[290] Barring an "unprecedented political earthquake," Democrats would be at an electoral disadvantage for the duration of Act 43.[291]

289 Tr. Ex. 83, at 15-17; R.149 at 232 (describing Act 43's lifetime average efficiency gap as "in the neighborhood of negative ten percent").
290 R.149 at 233 (opining that he was "[v]irtually certain" of this outcome, "[v]irtually 100 percent").
291 *Id. at 232*.

Professor Jackman also presented a swing analysis that was specific to Wisconsin.[292] He relied on the actual results from 2012 in each district in Wisconsin and then adjusted the vote in each district based on a 5% swing in each party's vote share.[293] He then calculated the EG for each of these vote-share levels. Professor Jackman observed that, even with a 5% swing in the Democrats' favor, the EG would not drop below 7%.[294]

292 R.149 at 243-48; Tr. Ex. 495.
293 R.149 at 243-49.
294 Tr. Ex. 495.

As we already have seen, this more efficient distribution of Republican [*174] voters has allowed the Republican Party to translate its votes into seats with significantly greater ease and to achieve--and preserve--control of the Wisconsin legislature. In both elections held under Act 43, the Republicans obtained a far greater proportion of the Assembly's 99 seats than they would have without the leverage of a considerable and favorable EG. In 2012, the Republicans won 61% of Assembly seats with only 48.6% of the statewide vote, resulting in a 13% EG in their favor. In 2014, the Republicans garnered 52% of the statewide vote but secured 64% of Assembly seats, resulting in a pro-Republican EG of 10%.[295] Thus, the Republican Party in 2012 won about 13 Assembly seats in excess of what a party would be expected to win with 49% of the statewide vote, and in 2014 it won about 10 more Assembly seats than would be expected with 52% of the vote.

295 By way of comparison, if the EG had been 0, that is, the Republicans and Democrats had been wasting votes at the same rate, the Republicans would have secured approximately 47 seats with 48.6% of the vote and would have secured 53 seats with 52% of the vote.

Moreover, the expert testimony before us indicates that the Republican Party's [*175] comparative electoral advantage under Act 43 will persist throughout the decennial period; Democratic voters will continue to find it more difficult to affect district-level outcomes, and, as a result, Republicans will continue to enjoy a substantial advantage in converting their votes into seats and in securing and maintaining control of the Assembly.

b.

The defendants have made a number of legal, methodological, and policy-based attacks against judicial use of the EG as a measure of a district plan's partisan effect. We begin with their claim that use of the EG is foreclosed by Supreme Court precedent. The Supreme Court has made clear that the Constitution does not require that a map result in each party gaining a share of the legislative seats in proportion to their share of the statewide vote. *LULAC*, 548 U.S. at 419 (opinion of Kennedy, J.) ("To be sure, there is no constitutional requirement of proportional representation ...."),[296] The defendants have argued throughout this action that this precept forecloses the use of any metric that employs a votes-to-seats relationship as its starting point to measure a plan's partisan effect. The EG, they say, is rooted in a baseline requirement that a district plan [*176] deliver hyper-proportional representation in the form of the 2-to-1 seats-to-votes ratio described above and is therefore unavailable for use as a measure of discriminatory effect.[297]

296 *See also Vieth, 541 U.S. at 286-88* (plurality opinion) (stating that the proposed effects standard that a map not be able to "thwart [a party's] ability to translate a majority of votes into a majority of seats" "rests upon the principle that groups ... have a right to proportional representation" and observing that "the Constitution contains no such principle"); *id. at 308* (Kennedy, J., concurring in the judgment) ("The fairness principle appellants propose is that a majority of voters in the Commonwealth should be able to elect a majority of the Commonwealth's congressional delegation. There is no authority for this precept.").
297 *See supra* note 88 and at 82.

We cannot accept this argument. To say that the Constitution does not require proportional representation is not to say that highly *dis*proportional representation may not be evidence of a discriminatory effect. Indeed, acknowledging that the Constitution does not require

proportionality, Justice Kennedy observed in *LULAC* that "a congressional plan that more closely reflects the distribution [*177] of state party power seems a less likely vehicle for partisan discrimination than one that entrenches an electoral minority." *548 U.S. at 419* (opinion of Kennedy, J.).[298] We do not believe, therefore, that the Constitution precludes us from looking at the ratio of votes to seats in assessing a plan's partisan effect.[299]

298 According to the Dissent, saying that highly disproportional representation may be evidence of discriminatory intent is tantamount to making proportional representation a constitutional requirement. *See* Dissent at 138. The Dissent, however, is conflating the *evidence* of a constitutional violation with a violation itself. As we already have explained, in order to establish a constitutional violation a plaintiff must show that the drafters "place[d] a severe impediment on the effectiveness of the votes of individual citizens on the basis of their political affiliation." *See supra at 56*. Thus, a districting map that produces results significantly out of proportion with a party's voting strength is evidence that the drafters of the map have erected such an impediment.

299 This reading finds a constitutional analogue in the malapportionment context. *See Brown v. Thomson, 462 U.S. 835, 842-43 (1983)* (explaining that "minor deviations from mathematical equality among state legislative [*178] districts are insufficient to make out a prima facie case of invidious discrimination," but finding discriminatory effects in "plan[s] with larger disparities in population" (internal quotation marks omitted)). That population deviation is measured in relation to equal apportionment as a baseline--an outcome that the Constitution does not require in the state legislative context--does not make it any less a measure of discriminatory effect.

As it has been presented here, the EG does not impermissibly require that each party receive a share of the seats in proportion to its vote share. Rather, the EG measures the magnitude of a plan's deviation from the relationship we would expect to observe between votes and seats. We do not believe *Vieth* or *LULAC* preclude our consideration of the EG measure.[300]

300 We note that in *LULAC* a majority of the Justices discussed, with varying degrees of skepticism, another measure of asymmetry called "partisan bias." Justice Kennedy was particularly reluctant to endorse this measure because it might be used to invalidate a plan "based on unfair results ... in a hypothetical state of affairs" rather than in an observed electoral result. *LULAC*, 548 U.S. at 420 (opinion of Kennedy, J.). The EG, [*179] which is calculated using the results of *actual elections*, does not suffer from this drawback and, we conclude, does not raise the same concern articulated by Justice Kennedy.

We turn next to what are best described as methodological and operational critiques of the EG measure. First, the defendants point out that the plaintiffs have proposed two distinct methods for calculating the EG. The differing approaches can yield materially different EG values, which, in turn, will produce uncertainty in the maps that should be subject to judicial scrutiny. As explained previously, Professor Mayer employed the "full method," which included aggregating every district's wasted votes for each party. Professor Jackman used the "simplified method" that assumes equal voter turnout at the district level.[301] These two methods produce identical results when voter turnout is equal across districts; however, where voter turnout varies, as it does in Wisconsin, the EG measure will differ depending on the method used.

301 *See supra at 82-83*.

Although we view the full method as preferable because it accounts for the reality that voters do not go to the polls at equal rates across districts, we do not believe that this calls into [*180] question Professor Jackman's use of the simplified method in his analysis. Professor Goedert in his expert report described the simplified method as "an appropriate and useful summary measure" for calculating the EG,[302] and the parties have stipulated that the shortcut's implied 2-to-1 votes-to-seats relationship reflects the "observed average seat/votes curve in historical U.S. congressional and legislative elections."[303] Were there record evidence indicating that Professor Jackman's shortcut did not correlate highly with both the full method and electoral reality, we would have reason to doubt its validity. Because this is not the case here, we are not troubled by the existence of distinct methods of calculating the EG. Moreover, we are not

addressing a legislative plan that is at the statistical margins. In this case, both methods yield an historically large, pro-Republican EG.

302 Tr. Ex. 546, at 5.

303 *See* R.125 (J. Final Pretrial Report containing J. Statement of Stipulated Facts) at 28, ¶ 105; Tr. Ex. 546, at 6. The plaintiffs attribute the high correlation between the full and simplified methods to the fact that districts must be equal or nearly equal in population, which they say results [*181] in generally small and nonpartisan turnout deviations across districts. R.134 at 75.

The defendants also contend that the EG, as an indicator of partisan gerrymandering, is both overinclusive and underinclusive. They presented evidence that districting plans, which had been put in place by courts, commissions, or divided governments, sometimes register high EG values.[304] Conversely, the defendants pointed to several congressional districting plans that are commonly understood as partisan gerrymanders but registered low EG values or even EG values favoring the party that did not create the districting map. We do not share this particular concern. If a nonpartisan or bipartisan plan displays a high EG, the remaining components of the analysis will prevent a finding of a constitutional violation. *See, e.g., Arlington Heights, 429 U.S. at 264-65* ("[O]fficial action will not be held unconstitutional solely because it results in a racially disproportionate impact."); *Washington, 426 U.S. at 240* (stating the "basic equal protection principle that the invidious quality of a law ... must ultimately be traced to a racially discriminatory purpose"). For example, if a claim of partisan gerrymandering is brought against a court- or commission-drawn district plan with a high [*182] EG, it will stall when the plaintiffs attempt to make the necessary showing of discriminatory intent. In the same way, a challenge to a map enacted with egregious partisan intent but demonstrating a low EG also will fail because the plaintiffs cannot demonstrate the required discriminatory effect. The present case, of course, does not present either of these situations. Here, the plaintiffs have put forward sufficient evidence showing both that Act 43 was enacted with impermissible intent *and* that it demonstrates a large and durable EG value.

304 Tr. Ex. 34, at 55.

Lastly, the defendants argue that the EG measure is overly sensitive to small changes in voter preferences. At trial, Mr. Trende testified that the EG will vary depending on whether there is a national wave in the electorate favoring one party or the other. He described a hypothetical scenario in which a national pro-Republican wave resulted in an increase in Republican vote share in every district of two points above the otherwise expected Republican vote share. This slight change, Mr. Trende explained, could alter the outcomes in particularly close races and thus produce a significantly different EG value than if the national [*183] wave had not occurred. Professor Goedert raised a related point. He suggested that assessing a given plan based on the results of the first observed election under the plan is arbitrary and may yield problematic results if that first election happens to be a national wave election.

We acknowledge these as legitimate criticisms of the EG measure generally; however, they are less compelling in the context of this case. Both concerns are rooted in an EG being drawn from only a single election, which, for any number of reasons, may represent an electoral aberration.[305] Here we have the results of two elections under Act 43, one in which the Republicans failed to garner a majority of the statewide vote (2012), and one in which they exceeded it by two percentage points. Under both electoral scenarios, there was a sizeable pro-Republican efficiency gap: 13% in 2012 and 10% in 2014.[306]

305 For instance, the Dissent explicitly makes the point that 2012 was an electoral anomaly. *See* Dissent at 153-55.

306 By way of comparison, the average pro-Republican efficiency gap over the prior decade was 7.6%, R.125 (J. Final Pretrial Report containing J. Statement of Stipulated Facts) at 42, ¶ 194; in the two elections immediately prior [*184] to adoption of Act 43, however, the efficiency gaps were 5% (2008), and 4% (2010), *id. at 51*, ¶¶ 255-56.

Even in the absence of these results, however, there is evidence in the record that establishes the durability of Act 43's pro-Republican efficiency gap. Professor Jackman conducted an historical analysis of redistricting plans which compared the trends in efficiency gaps across a wide variety of states over the last forty years (totaling 786 state legislative elections).[307] Based on this

analysis, Professor Jackman estimated that Wisconsin's plan, with an initial pro-Republican efficiency gap of 13.3%, would have a plan average pro-Republican efficiency gap of 9.5%.[308] In other words, the Republicans' ability to translate their votes into seats will continue at a significantly advantageous rate through the decennial period.[309]

307 R.149 at 229-33.
308 Tr. Ex. 83, at 16; R.149 at 232.
309 R.149 at 233 (opining that he was "[v]irtually certain" of this outcome, "[v]irtually 100 percent").

Moreover, Mr. Trende himself attested to the durability of Act 43's EG in the face of a wave election. In his expert report, Mr. Trende observed that if the Democrats engaged in a "modestly better effort" to get out the vote, and secured just 600 more [*185] votes in Districts 1 and 94, the "EG falls by more than two points off these modest shifts, to 9.466."[310] Nevertheless, Mr. Trende conceded that, although such a shift might affect the EG's applications in other contexts, it "would not make a difference in terms of whether the Wisconsin map invited Court scrutiny" because the EG still was above the plaintiffs' proposed threshold of 7%.[311]

310 Tr. Ex. 547, at ¶ 147.
311 *Id.*, ¶ 148*; see supra* note 84 and at 26. The Dissent takes issue with the plaintiffs' proposed 7% threshold for liability as being too easy to meet. *See* Dissent at 157-59. Here, the efficiency gap for Act 43 in 2012 exceeds this baseline by 6%. Therefore, we need not reach the propriety of the 7% number.

The defendants also raise policy-based objections to the EG as a measure of discriminatory effect. First, they claim that the creation of many competitive districts, which may be a desirable and non-partisan policy choice, will result in a highly sensitive map in which the EG could swing rather wildly with even mild electoral shifts. We do not doubt this is the case.[312] However, as with some of the criticisms that we already have discussed, this concern is ameliorated by other aspects of the equal protection [*186] analysis. It would be difficult to establish that drafters who designed a map with many competitive districts had the requisite partisan intent to show a constitutional violation.

312 The Dissent makes a related point that, the more close races the Republicans win, the more Democratic votes are wasted, resulting in a large efficiency gap. *See* Dissent at 149.

The defendants similarly claim that identifying an EG of zero as the baseline or ideal would discourage states from enacting systems of proportional representation. *See Gaffney, 412 U.S. at 752* (upholding plan that sought to "achieve a rough approximation of the statewide political strengths of the Democratic and Republican parties"). Professor Goedert in particular noted that if a state successfully achieved proportional representation, the plan might fail an EG analysis because it fails to give a *hyper*proportional share to the party winning the majority of the statewide vote. Again, however, drafters who had the intent to create a proportional system hardly could be accused of harboring a discriminatory intent. Moreover, the defendants have offered no evidence that Act 43's drafters had any interest in hewing closely to proportional representation; *indeed*, the evidence [*187] is directly to the contrary. For these reasons, we are not persuaded that the policy objections to the EG bear any relationship to this case.[313] We further emphasize, in any event, that we have not determined that a particular measure of EG establishes presumptive unconstitutionality, which itself diminishes all of the defendants' policy-based arguments. Instead, we acknowledge that the expert opinions in this case have persuaded us that, on the facts before us, the EG is corroborative evidence of an aggressive partisan gerrymander that was both intended *and likely* to persist for the life of the plan.[314]

313 The Dissent also notes limitations in the EG's usefulness in evaluating a gerrymander where there is a 75-25 vote split between the candidates, *see* Dissent at 151; this also is not the case before us.
314 The Dissent also takes issue with the EG measure because it will not be known until after the first election, and, therefore, it is impossible for mapmakers to know in advance whether their plan will pass muster. *See* Dissent at 133-34. This is somewhat of a red herring. The level of the EG only will become an issue if the drafters have evinced an intent to entrench their party in power. Moreover, the drafters can assess the [*188] durability of their partisan maps, even absent an actual electoral outcome, by employing a swing analysis. *See supra* note 255.

In sum, we conclude that the plaintiffs have established, by a preponderance of the evidence, that Act 43 burdens the representational rights of Democratic voters in Wisconsin by impeding their ability to translate their votes into legislative seats, not simply for one election but throughout the life of Act 43. We therefore turn our attention to whether the burden is justified by some legitimate state interest.

V

JUSTIFICATION

In the initial stages of this litigation, the plaintiffs took the view that, should they successfully establish the intent and effects elements of their constitutional claim, the burden should then shift to the defendants to show that Act 43's unlawful effects were "'unavoidable' in light of the state's political geography and legitimate districting objectives."[315] In our summary judgment order, we noted that "some type of burden-shifting is appropriate," adding that "to the extent that plaintiffs have an initial burden to show that [Act 43] cannot be justified using neutral criteria," it was met at the summary judgment stage by their presentation [*189] of the Demonstration Plan.[316] We left open the question of which party ultimately should bear the burden of proving Act 43's legitimacy. However, we rejected definitively the plaintiffs' "unavoidable" standard as an "overstate[ment]" of the degree of the burden.[317]

315 R.94 at 30.
316 *Id. at 35*.
317 *Id. at 32, 35*.

In response, the plaintiffs reformulated the third step of their test to allow the defendants to avoid liability if they can *justify* Act 43's effects on the basis of legitimate districting goals or Wisconsin's natural political geography. They maintain, however, that it is the State's burden ultimately to prove that Act 43's effect is justified and not their burden to prove that it is not.

The defendants maintain that even this lesser showing is too demanding. They argue that because Act 43 complies with traditional districting objectives, its partisan effect is necessarily excusable as a matter of law and need not be explained by neutral considerations. We already have considered this argument in detail in our evaluation of the intent element of the plaintiffs' claim, and so we do not repeat that discussion here.[318]

318 *See supra at 61-62*.

In the absence of explicit guidance from the Supreme Court, we think that the most appropriate course in this context [*190] is to evaluate whether a plan's partisan effect is justifiable, *i.e.*, whether it can be explained by the legitimate state prerogatives and neutral factors that are implicated in the districting process. This approach allows us to hew as closely as possible to the Supreme Court's approach in analogous areas. As we observed in our summary judgment order, members of the Court have applied this formulation at several points throughout its political gerrymandering case law. *See Vieth, 541 U.S. at 307* (Kennedy, J., concurring in the judgment) ("A determination that a gerrymander violates the law must rest on something more than the conclusion that political classifications were applied. It must rest instead on a conclusion that [political] classifications ... were applied in ... a way unrelated to any legitimate legislative objective."); *id. at 351* (Souter, J., concurring in part and dissenting in part) (stating that, after the plaintiff has made a prima facie case, "I would then shift the burden to the defendants to justify their decision by reference to objectives other than naked partisan advantage"); *Bandemer, 478 U.S. at 141* (plurality opinion) ("The equal protection argument would proceed along the following lines: If there were a discriminatory [*191] effect and a discriminatory intent, then the legislation would be examined for valid underpinnings."). It is also consistent with the Court's approach in the state legislative malapportionment context. *See Voinovich v. Quilter, 507 U.S. 146, 161 (1993)* ("[A]ppellees established a prima facie case of discrimination, and appellants were required to justify the deviation."); *Brown v. Thomsen, 462 U.S. 835, 842-43 (1983)* (explaining that a plan with "large[] disparities in population ... creates a prima facie case of discrimination and therefore must be justified by the State").

The record before us does not require us to anticipate how the Supreme Court will resolve the allocations of proof on this issue. It is clear that the parties, recognizing the present ambiguity on this point, placed before us all the evidence they could in support of their respective positions. Assuming the plaintiffs have the ultimate burden of proof on the issue, they have carried that burden.

The evidence further makes clear that, although Wisconsin's natural political geography plays some role

in the apportionment process, it simply does not explain adequately the sizeable disparate effect seen in 2012 and 2014 under Act 43. Indeed, as we already noted and will discuss again, the defendants' own witnesses produced [*192] the most crucial evidence against justifying the plan on the basis of political geography. Their testimony credibly established that Act 43's drafters produced multiple alternative plans that would have achieved the legislature's valid districting goals while generating a substantially smaller partisan advantage. We therefore must conclude that, regardless where the burden lies, Act 43's partisan effect cannot be justified by the legitimate state concerns and neutral factors that traditionally bear on the reapportionment process.

A.

The defendants' primary argument is that Wisconsin's political geography naturally favors Republicans because Democratic voters reside in more geographically concentrated areas, particularly in urban centers like Milwaukee and Madison. For this reason, they submit, *any* districting plan in Wisconsin necessarily will result in an advantageous distribution of Republican voters statewide just as Act 43 does.

The plaintiffs have stressed, as a general matter throughout this litigation, that even if there were some inherent pro-Republican bias in Wisconsin, there is no evidence that such a bias could explain Act 43's large EG measures. They maintain that without [*193] such evidence, political geography cannot justify the burden that Act 43 places on Democratic voters in Wisconsin.

The bulk of evidentiary support for the defendants' political geography argument was presented through the testimony of Mr. Trende.[319] His overarching theory is that the Democratic coalition nationwide has become more liberal over the last several decades; as a result, it has contracted geographically and is now concentrated heavily in urban areas.[320] This concentration, in turn, has hurt the Democratic Party in congressional elections, which tend to favor parties with wider geographic reach.[321] Mr. Trende first demonstrated this theory using color-coded maps illustrating the 1996, 2004, and 2008 presidential vote results by county in Texas, Oklahoma, Arkansas, Louisiana, Mississippi, Alabama, Tennessee, Kentucky, and Virginia.[322] Over the three election cycles, the number of counties shaded blue (indicating that a majority of the county's votes in the presidential election were cast for the Democratic candidate) decreased, and the number of red counties (indicating that a majority of the county's votes in the presidential election were cast for the Republican candidate) increased. [*194] Mr. Trende testified that these maps supported his hypothesis that the Democratic coalition has shrunk over time.[323]

319 Prior to trial, the plaintiffs moved in limine to exclude Mr. Trende's report and testimony pursuant to *Federal Rule of Evidence 702* and *Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993)*. *See* R.71. The defendants filed a response, *see* R.78, and we heard argument on the motion at the summary judgment hearing, *see* R.89 at 35-42, 60-61. We reserved our ruling and permitted Mr. Trende to testify at trial. After carefully reviewing Mr. Trende's qualifications and submissions, and with the benefit of his trial testimony, we deny the plaintiffs' request to exclude Mr. Trende as an expert.

To begin, Mr. Trende is qualified to give expert testimony in this case. The plaintiffs maintain that Mr. Trende is not an expert because "he is neither a Ph.D. nor a political scientist, has no particular training in the kinds of issues involved in this case, and has *never* written a peer-reviewed article in political science or any other field ...." R.71 at 9-10. The plaintiffs further attack Mr. Trende's experience, skills, and knowledge. They emphasize his unfamiliarity with "the relevant literature regarding partisan gerrymandering and geographic clustering," as well [*195] as his lack of Wisconsin-specific experience. *Id. at 11-12*. We have explained, however, that neither *Daubert* nor *Rule 702* "require[] particular credentials" or "require that expert witnesses be academics or PhDs." *Tuf Racing Prods., Inc. v. Am. Suzuki Motor Corp., 223 F.3d 585, 591 (7th Cir. 2000)*. Indeed, "[a]nyone with relevant expertise enabling him to offer responsible opinion testimony helpful to judge or jury may qualify as an expert witness." *Id.* Although not a social scientist, Mr. Trende has studied, written on, and analyzed voting trends and political geography throughout the United States. He has developed an expertise in this area, and his opinions are informative to the issues before us and are helpful in conducting our analysis.

We further conclude that the principles and methodologies employed by Mr. Trende are sufficiently reliable. *See Fuesting v. Zimmer, Inc., 421 F.3d 528, 535-36 (7th Cir. 2005), vacated in part on other grounds, 448 F.3d 936 (7th Cir. 2006)*. In their motion in limine, the plaintiffs identified several purported flaws in the methodologies that Mr. Trende used to form his opinions, particularly those pertaining to his "partisan index" ("PI") and "nearest neighbor" analyses. R.71 at 13-27. As is evident throughout our discussion of Mr. Trende's testimony, *see infra* at 93-96, we believe that these criticisms, although valid, go to the weight of his opinions rather [*196] than to their admissibility. Moreover, having allowed Mr. Trende to testify at trial, we are able to consider his opinions with the benefits of "[v]igorous cross-examination" and the "presentation of contrary evidence," both of which "are ... traditional and appropriate means of attacking shaky but admissible evidence." *Daubert, 509 U.S. at 596*. Thus, we deny the plaintiffs' motion in limine to exclude Mr. Trende's testimony.

320 R.150 at 12.
321 *Id.*
322 *Id. at 45-47*.
323 *Id. at 46*.

We are skeptical that presidential voting trends at the county level in states other than Wisconsin bear directly on the determination that we must make about Wisconsin's political geography. Moreover, the color-coding of Mr. Trende's maps, although a useful demonstrative, purported to serve as a substitute for quantitative data on the margin of victory in each county. Without this information, we cannot know whether, for example, a county won by a Republican presidential candidate was deeply or narrowly Republican. Nor can we tell how the partisan breakdown of that county may have changed over time; as long as the county retained the same partisan majority, it remained the same color.[324] In our view, this evidence is worthy of little, if any, weight.

324 On cross-examination, Mr. Trende [*197] admitted that he did not know if any peer-reviewed study had ever attempted to analyze geographic clustering by studying trends in the counties won by presidential candidates.

The remainder of Mr. Trende's testimony concerned the political geography of Wisconsin itself, which he analyzed using a measure called the "partisan index" ("PI"). The PI, he explained, is the difference between a party's vote share at one electoral level and its vote share at a larger electoral level. For example, the Republican PI for the State of Wisconsin is "computed by subtracting the share of the state that voted for the Republican presidential candidate from the share of the nation that voted for the Republican presidential candidate."[325] The purpose of the PI is "to determine the partisan lean of political units"[326] in order to "compare results across elections."[327]

325 Tr. Ex. 547, at 19.
326 R.150 at 19.
327 Tr. Ex. 547, at 20.

Mr. Trende explained that Wisconsin's statewide PI, as compared to the national electorate, has remained stable since the 1980s; however, the county and ward PI values have shifted. He presented color-coded maps illustrating Wisconsin's presidential vote results by county in 1996, 2004, and 2012. Each [*198] county was colored a shade of blue or red depending on its degree of partisanship, *e.g.*, counties with large Democratic or Republican PI values were shaded dark blue or dark red, respectively. Although the maps did not contain the actual county PI values, Mr. Trende testified that the pro-Democratic PI values of Dane and Milwaukee Counties increased significantly between 1996 and 2012.[328] He also testified that the combined PI values of three of Wisconsin's reliably Democratic counties--Dane, Milwaukee, and Rock--nearly doubled between 1996 and 2012, despite the statewide Democratic vote share actually decreasing over that time.[329] On cross-examination, Mr. Trende conceded that the heavily Republican Ozaukee, Washington, and Waukesha Counties had Republican PI values as large as the Democratic PI values in Dane and Milwaukee Counties. However, the trial evidence also showed that the total number of votes cast for major-party candidates in the Republican counties were significantly smaller than their Democratic counterparts.

328 R.150 at 27-38.
329 *Id. at 40*.

Mr. Trende then applied the PI to Wisconsin's wards in what he referred to as a "nearest neighbor" analysis.[330] First, he calculated ward-level PI values in [*199] order

to determine the average partisan lean of Wisconsin's wards from 2002 to 2014. Mr. Trende testified that, based on his analysis, "over time, the average Democratic ward had become about two-and-a-half percent more Democratic than it was in 2002";[331] he did not, however, observe the same trend in Republican wards. Mr. Trende then grouped the wards into quantiles based on their degree of partisanship--the more heavily Democratic wards together with similarly Democratic wards and the same for Republican wards--and used a computer program to determine, for each ward in each grouping, the median distance between that ward and a ward of similar partisanship. Mr. Trende concluded that, over time, Democratic-leaning wards in each quantile had grown closer together but Republican-leaning wards actually had grown farther apart. In his view, this made it more difficult to draw a neutral districting plan that did not favor Republicans.[332]

330 Tr. Ex. 547, at 30.
331 R.150 at 51.
332 At trial, the defendants proffered several exhibits, Tr. Exs. 576-579, that contained revisions to Mr. Trende's ward-level analysis. The plaintiffs objected to these exhibits as untimely amendments to Mr. Trende's expert report. R.150 [*200] at 53-54, 72.

The revisions were prompted by criticisms levied by Professor Mayer in his own report, specifically that Mr. Trende should have used the governor's race, as opposed to the senator's race, in calculating the PI for 2006, and that, in his nearest neighbor analysis, Mr. Trende should have taken into account the fact that wards vary in size across the State of Wisconsin. *See id. at 52-53, 63*. The revisions also corrected an error that Mr. Trende had made in writing the computer program that yielded his PI values. *Id. at 56*. At no time prior to trial did the defendants file (with or without leave of court) a revised expert report for Mr. Trende containing these revisions. Nor did the plaintiffs have notice of Mr. Trende's revisions prior to trial. Moreover, the criticism and the error that prompted Mr. Trende's revisions did not come to light for the first time at trial, which may have justified their admission despite their lack of timeliness. We therefore sustain the plaintiffs' objections to these documents and we have not considered them in our analysis. Even if we had, they would not have affected our decision on liability.

Although Mr. Trende's report and testimony provides some helpful background [*201] information on political trends and political geography generally, they do not provide the level of analytical detail necessary to conclude that political geography explains Act 43's disparate partisan effects.[333] Mr. Trende's conclusions regarding the PI values of Wisconsin's counties were based largely on the shaded maps rather than quantitative data analysis. And although Mr. Trende did provide PI values for particular pro-Democratic counties, he conceded on cross-examination that several counties had pro-Republican PI values as large as the pro-Democratic numbers observed in Dane and Milwaukee counties.

333 The Dissent concedes this point, but observes that, even if political geography plays "a 'modest' role--for example three to six percent--it would seriously undermine the notion that the Republicans in this case engaged in a partisan gerrymander of historical proportions." Dissent at 157. However, on cross-examination, Mr. Trende could not give a precise estimate of the effect of Wisconsin's natural political geography on the efficiency gap; he thought it was "more than 0, but as far as ... putting it on the 1-to-100 percent spectrum, I haven't done that." R.150 at 98.

Additionally, we question how [*202] useful Mr. Trende's nearest neighbor analysis is in the context of this case. The significance of the distance between wards of similar partisanship is not clear given the restraints placed on the districting process in Wisconsin. Under the Wisconsin Constitution, Assembly districts must "be bounded by county, precinct, town or ward lines, to consist of contiguous territory and be in as compact form as practicable." *Wis. Const. art. IV, § 4*. Accordingly, the distance between wards of similar partisanship is relevant to reapportionment only to the extent that it is feasible that those wards be grouped together in one contiguous district. The nearest neighbor analysis, however, does not differentiate between those wards that realistically could be aggregated to form a lawful assembly district--wards that are physically adjacent (or at least near one another) and not separated by legally significant boundaries--and those that are not.

This problem is further compounded by Mr. Trende's use of the median distance between wards rather than the

mean distance. Although the average Republican ward is twice the size of the average Democratic ward, the undisputed trial evidence was that the median Republican ward is *six* [*203] *times* the size of the median Democratic ward. When the mean is used, however, Professor Mayer demonstrates that the distance between Democratic and Republican wards of similar partisanship "are exactly parallel," and the disparity between Republican- and Democratic-leaning wards and their closest neighboring ward of similar partisanship substantially decreases.[334]

334 R.148 at 294-95; *see* Tr. Ex. 106.

Like Mr. Trende, Professor Goedert testified that Wisconsin's political geography inherently favors Republicans. Using Wisconsin's 2012 Presidential election results, Professor Goedert employed a uniform swing to adjust the vote share in each ward and anticipate the results in an election where each party garnered 50% of the total statewide vote. He then assembled the wards into ten different groups based on this adjusted percentage of the Democratic vote share.[335] Professor Goedert's analysis showed that between seven and eight percent of Wisconsin's wards had a very high concentration of Democrats (more than eighty percent), while fewer than one percent of wards demonstrated a similar strength in Republican vote.[336] He testified that because significantly more wards in Wisconsin are narrowly Republican [*204] than are narrowly Democratic, it is "fairly easy" "to try to pack Democrats into a small number of districts," because "there are so many wards that are already so heavily packed."[337] For the same reasons, he explained, it is "easy" to "disperse" Republican voters.[338]

335 *See* Tr. Ex. 546, at 21-22.
336 R.150 at 184-85.
337 *Id. at 185*.
338 *Id. at 185-86*. At trial, the Court inquired whether data, specifically the Democratic vote share by ward, was "part of the record here." *Id. at 253*. Professor Goedert responded that "[t]hey should be publicly available." *Id.* The court then inquired whether counsel had "any objection to our taking notice of them if they're publicly available" because, as the court had "these graphic descriptions of actual votes," "[i]t might be helpful for us to see what the wards actually look like." *Id. at 253-54*. The plaintiffs then filed an unopposed stipulation regarding the 2008 and 2012 presidential vote totals by ward. *See* R.152. By submitting this data, the plaintiffs fulfilled the Court's request.

The plaintiffs subsequently sought leave for Professor Mayer to file a second declaration which, analytically and graphically, "compare[d] the vote distribution in 2000s wards to vote distributions in the post-Act 43 wards." R.154 at 4-5. The plaintiffs' [*205] submission is beyond the scope of the court's inquiries and is tantamount to additional testimony that has not been subject to the rigors of cross-examination. We therefore deny the plaintiffs' motion.

The persuasiveness of Professor Goedert's ward-level analysis was called into question at trial. To begin, the evidence showed that in the 2010 redistricting cycle Wisconsin's wards were, for the first time in the state's modern history, drawn *after* the Assembly district lines were created under Act 43. Professor Goedert admitted that he was unaware of this chronology when he conducted his analysis. The partisan imbalance in Act 43's district configuration therefore may have affected Professor Goedert's ward-level analysis. Furthermore, Professor Mayer testified that, in this context, the relevant geographic unit is not the ward but rather the district because, to create a district plan, wards ultimately must be aggregated into districts, at which point their biases may disappear. He also presented his own analysis illustrating that Wisconsin's ward distribution, although "not perfectly symmetrical," resembles a normal distribution (*i.e.*, a bell curve).[339] He testified that such a distribution [*206] is closer to what would be expected given a neutral political geography. When Professor Mayer aggregated the wards into Act 43's districts, however, the resulting distribution was skewed due to "an unusually large number of districts where the Democrats will receive between 40 and 50 percent" of the district vote.[340] In Professor Mayer's opinion, this incongruity between the distributions of Wisconsin's wards and its districts demonstrates that Act 43's partisan imbalance is caused by its district configuration; indeed, he characterized this distribution of districts as "the fingerprint of a gerrymander ... the absolute DNA of cracking."[341]

339 R.148 at 242.
340 *Id. at 244*; *see* Tr. Ex. 107 (figure

demonstrating distribution of wards compared to districts, arranged by Democratic vote share); *see also supra* note 247 and accompanying text (discussing Tr. Ex. 15, a histogram demonstrating distribution of Act 43 districts, arranged by Republican vote share).

341 R.148 at 243.

Professor Mayer also presented his own analysis of Wisconsin's political geography.[342] Specifically, he testified at length about measures known as the "Isolation Index" and "Global Moran's I," which he said are far more common in this area of academic [*207] study than the methods employed by the defendants' experts.[343] According to Professor Mayer, he used the Isolation Index to measure the extent to which the average Republican or Democratic voter lives in a ward that leans more heavily Republican or Democratic than the state as a whole.[344] Global Moran's I, he explained, was used to measure the likelihood that a Republican- or Democratic-leaning ward is adjacent to a similarly Republican- or Democratic-leaning ward.[345] Professor Mayer testified that both of these measures show that Wisconsin's political geography is neutral and does not inherently favor one party or the other.[346]

342 At trial, plaintiffs sought to introduce highlighted sections of twenty-three articles, ranging in length from two to fifty pages, as "Learned Treatises" under *Federal Rule of Evidence 803(18)*. *See* R.148 at 142; R.149 at 175. Counsel established that the Professors Mayer and Jackman considered these materials reliable and also had relied upon them, specifically the highlighted portions, for their expert opinions. *See* R.148 at 141; R.149 at 175. The highlighted portions of the articles were not read into evidence, and, in many cases, plaintiffs' counsel did not elicit further explanation of these articles [*208] during direct examination. Defense counsel objected to the admission of the highlighted sections of the articles on the ground that, under *Rule 803(18)*, "documents don't actually come into the evidence. The witness has to testify to the statement." R.149 at 175. We agree.

Federal Rule of Evidence 803 provides in relevant part:

> The following are not excluded by the rule against hearsay, regardless of whether the declarant is available as a witness:
>
> ...
>
> **(18) Statements in Learned Treatises, Periodicals, or Pamphlets**. A statement contained in a treatise, periodical, or pamphlet if:
>
> > **(A)** the statement is called to the attention of an expert witness on cross-examination or relied on by the expert on direct examination; and
> >
> > **(B)** the publication is established as a reliable authority by the expert's admission or testimony, by another expert's testimony, or by judicial notice.
>
> If admitted, the statement may be read into evidence but not received as an exhibit.

Fed. R. Evid. 803. The rule is straightforward. In order for this exception to apply, counsel first must either call the statement to the attention of the expert witness on cross or establish that the expert has relied upon the statement in his or her direct. Second, counsel must establish that the [*209] publication from which the statement came is reliable. When these requirements are met, the statement may be read into evidence; however, it may not be received as an exhibit. Every authority that we have located has confirmed this reading of the rule: when the prerequisites are met, the document containing the

statement *may not* be admitted into evidence; only the statement, on which the expert is relying, may be read into evidence. *See Finchum v. Ford Motor Co., 57 F.3d 526, 532 (7th Cir. 1995)* ("Under *Rule 803(18)*, statements contained in a published periodical which are relied upon by an expert witness may be admitted, *but they must be read into evidence* rather than received as exhibits." (emphasis added)); *Graham ex rel. Graham v. Wyeth Labs., 906 F.2d 1399, 1414 (10th Cir. 1990)* (quoting J. Weinstein & M. Berger, *4 Weinstein's Evidence* ¶803(18)[2] for the proposition that "the last paragraph of *Rule 803(18)* bars the admission of treatises as exhibits"); *Fisher v. United States, 78 Fed. Cl. 710, 714 (2007)* (sustaining objections to plaintiffs' proposed use of books and articles as exhibits and stating that, "[i]f plaintiff wishes to introduce at trial relevant statements from those learned treatises, plaintiff may do so, provided and to the extent they have been relied on by an expert witness in the formulation of his or her direct testimony, by instructing her witnesses to read the statements into the record" and further noting that "the treatises [*210] themselves may not be admitted into evidence as exhibits"); *see also* Jack B. Weinstein and Margaret Berger, *5 Weinstein's Federal Evidence §803.20[1]* (2d ed. 2016) ("Moreover, information that qualifies for this exception 'may be read into evidence but not received as an exhibit.' This limitation ensures that the jurors will not be unduly impressed by the treatise, and that they will not use the text as a starting point for conclusions untested by expert testimony." (footnote omitted)); Michael H. Graham, *Handbook of Federal Evidence §803(18)* at 472 (7th ed. 2012) ("A safeguard against jury misuse of the published authority is found in the final sentence of *Rule 803(18)* which provides that statements may be read into evidence, but not received as an exhibit and thus cannot [be] taken to the jury room.").

The plaintiffs maintain that the defendants' "interpretation and proposed application ... of *Rule 803(18)*," which matches our own, "is directly contradicted by the text of the Rule itself, defies common sense, and would displace the Court's discretion over the admission of evidence and how best to achieve the 'just, speedy, and inexpensive determination' of this action." R.161 at 2. They submit that that the defendants are attempting "to graft an additional [*211] requirement for the admissibility of statements in learned treatises that *Rule 803(18)* does not contain." *Id. at 5*. In plaintiffs' view, once the prerequisites set forth in subsections (A) and (B) are met, the statement is admitted for all purposes; the last statement simply indicates the proffering party's "*option* of reading it into the record." *Id.* (emphasis in original).

We do not believe that the plaintiffs' approach can be squared with the blanket prohibition, set forth explicitly in *Rule 803(18)*, that the statements in learned treatises may "not [be] received as an exhibit." Moreover, as we already have explained, their interpretation is at odds with the case law and commentary. Their position does not even find support in the one case that they cited in their submission, *DaGraca v. Laing, 672 A.2d 247 (N.J. Super. Ct. App. Div. 1996)*. *DaGraca* stands for the unexceptional proposition that learned-treatise statements may be introduced on cross-examination as long as they are established as reliable through some accepted means. *Id. at 299-300*. It does not speak to, and therefore does not support, the plaintiffs' contention that learned-treatise statements may be offered through documentary evidence.

For these reasons, we sustain the defendants' objections to the admission of the highlighted portions of exhibits [*212] 98-100, 102, 118-119, 131, 141, 148, 150-152, 333, 391, 394, 405-406, 408, 414-415, 417, and 498. We have considered, however, all statements from these authorities included within the testimony of Professors Mayer and Jackman.

343 R.149 at 5-23.
344 *Id. at 15, 17-18*.
345 *Id. at 6, 11-13*.
346 *Id. at 13-14, 21-22*.

We do not find these methods reliable as they have been applied in this context. Professor Mayer acknowledged on cross-examination that he had not heard of the Isolation Index before he was retained as an expert in this case.[347] Similarly, Professor Mayer testified that he had never calculated the Global Moran's I

measure before he was retained for this litigation.[348] Moreover, the defendants emphasized during trial that Professor Mayer relied on scholarly articles that either used a related measure known as Local Moran's I, or used Global Moran's I to study demographic groups.[349] He could not point to any peer-reviewed, scholarly article that had used either measure specifically on partisanship.[350]

347 *Id. at 28*.

348 *Id. at 40*. During his testimony, Professor Goedert also critiqued Professor Mayer's use of these measures. The plaintiffs objected to much of this testimony as outside the scope of Professor Goedert's expert report. R.150 at 191-92. We agree, sustain the objection, and [*213] therefore do not rely on Professor Goedert's testimony in reaching our conclusions about the infirmity of Professor Mayer's conclusions.

349 *See* R.149 at 41 (acknowledging that Chen and Rodden use "the Local Moran's I").

350 *Id. at 39*. ("Q. Okay. You say that the Glaeser article, that's the one example that we saw of this being used to determine the distribution of partisans? A. That's the example that I cited. ... Q. I believe you said this wasn't peer reviewed, was it? A. Not as far as I know.").

In addition to the testimony of their experts, the plaintiffs also ask us to consider a forthcoming article by Professor Jowei Chen analyzing Wisconsin's political geography. We decline to do so.

The defendants and their experts relied on previously published articles by Professor Chen, which included randomly simulated district maps for multiple states *other than Wisconsin*, to argue that Wisconsin's natural political geography favors Republican voters. *See* R.46 at 27; Tr. Ex. 547, at ¶¶ 89-90, 126; Tr. Ex. 136, at 18, 21; R.150 at 111-12, 243-44. On March 17, 2016, one week before the summary judgment hearing in this case, Professor Chen filed a motion for leave to participate as an amicus curiae, contending [*214] that the defendants and their experts had "misinterpreted and misapplied" his work to the facts of the present case. R.82-1 at 3. Attached to his motion, Professor Chen included an analysis applying the simulation methodology that he used in his published work to Wisconsin. R.82-2. We denied Professor Chen's request to participate because the timing left "the parties insufficient time to respond." R.85.

Professor Chen subsequently submitted his analysis of Wisconsin's political geography as an article for publication to the *Election Law Journal*, where it was accepted and is forthcoming in 2017. The plaintiffs requested that the article be admitted into evidence. At the conclusion of trial, we requested that the parties address the admissibility of Professor Chen's article in their post-trial briefs. In their post-trial brief, the plaintiffs maintain that we should admit Professor Chen's article to "correct[] defendants' misrepresentations of Professor Chen's work." R.155 at 26. As we have not relied on any of these "misrepresentations" in our analysis of the issues before us, we find it unnecessary to consider how Professor Chen's later scholarship might alter our views of either his [*215] original work or the defendants' interpretation of his work.

The plaintiffs also argue that the article should be admitted because "Professor Mayer relied on Professor Chen's article in formulating his own expert opinions." *Id. at 33-34*. There is no support for this assertion in the record. During his deposition, Professor Mayer responded "I did," to the following question: "Dr. Mayer, *subsequent to you preparing your rebuttal report*, did you receive and did you review a document entitled Dr. Joey Chen's Analysis of Wisconsin's Act 43?" R.99 at 36 (Mayer Dep. at 138) (emphasis added). Professor Mayer then stated that the article was "additional confirmation of my own analysis that indicated that there was no geographic clustering of ... Democrats and Republicans that would produce a natural pro-Republican gerrymander." *Id.* In sum, the article played no part in Professor Mayer's analysis and merely confirmed, *after the fact*, the analysis that he had conducted.

The timing and nature of Professor Chen's submission counsel against admitting it into evidence in this case. Professor Chen's analysis is highly technical in both methodology and substance; it is, in effect, an expert report prepared specifically [*216] for this litigation.

Under the Federal Rules of Civil Procedure, parties must "disclose to the other parties the identity of any witness it may use at trial to present" expert testimony. *Fed. R. Civ. P. 26 (a)(2)(A)*. Accompanying the disclosure of their identity, *Rule 26* further mandates, unless the court orders otherwise, that retained experts prepare and sign a written report stating and supporting their opinions. *Fed. R. Civ. P. 26(a)(2)(B)*. Here, we ordered that the plaintiffs disclose their experts and their reports by October 23, 2015, and the defendants by December 2, 2015. R.33 at 2. We also permitted rebuttal reports to be filed by December 16, 2015. *Id.* The plaintiffs did not disclose Professor Chen as an expert at either of these times. Indeed, the court was not made aware of Professor Chen's interest in this case until he filed his amicus brief on March 17, 2016, one week before the summary judgment hearing.

Moreover, because Professor Chen was not identified as an expert, he was not deposed and did not testify at trial. The admissibility of expert testimony in federal court is governed by *Federal Rule of Evidence 702* and *Daubert, 509 U.S. 579*. These authorities set forth guideposts designed to assist district courts, as "the gatekeeper[s] of expert testimony," in assessing and ensuring the reliability [*217] of an expert's principles and methods. *C.W. ex rel. Wood v. Textron, Inc., 807 F.3d 827, 834-35 (7th Cir. 2015)*; *see also Fed. R. Evid. 702*. In addition to our admissibility determination, "the normal adversarial process of '[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof,'" *Lees v. Carthage Coll., 714 F.3d 516, 526 (7th Cir. 2013)* (quoting *Daubert, 509 U.S. at 596*), is designed to test "[t]he reliability of data and assumptions used in applying [the expert's] methodology," *Manpower, Inc. v. Ins. Co. of Penn., 732 F.3d 796, 808 (7th Cir. 2013)*. Here, we are unable to examine properly the reliability of Professor Chen's methodologies, and we are without the benefits of adversarial scrutiny. We therefore cannot consider his submissions as part of the record before us. *Cf. Kitzmiller v. Dover Area Sch. Dist.*, No. 04CV2688, 2005 WL 2736500, at *1-2 (M.D. Pa. Oct. 24, 2005) (striking amicus brief because it was a "'back door' attempt to insert expert testimony into the record free of the crucible of trial and cross-examination"). We therefore sustain the defendants' objections to the admission of all exhibits related to Professor Chen's analysis of Wisconsin districting, Tr. Exs. 154-160. For the same reasons, we also disregard Professor Mayer's trial testimony regarding Professor Chen's Wisconsin-specific analysis, R.148 at 256-68; R.149 at 22-23.

Having carefully examined the evidence bearing on this issue, we find that substantial portions of the record indicate, at least [*218] circumstantially, that Wisconsin's political geography affords Republicans a modest natural advantage in districting. Indeed, the plaintiffs conceded as much in their closing argument when counsel stated that "there likely is some natural packing" of Democratic voters, "especially of minority voters in places like Milwaukee."[351] Several pieces of evidence lead us to this conclusion. The first, and most compelling, is Professor Mayer's analysis comparing the distributions of Wisconsin's wards and Act 43's districts by Democratic vote share. As Professor Mayer himself testified, the ward-level distribution is "not perfectly symmetrical."[352] In fact, the mean ward in the distribution--the highest point on the curve--is located left of the fifty percent line, which indicates that the average ward in Wisconsin leans slightly Republican. His analysis also shows that there are a substantial number of wards that are over eighty percent Democratic, but virtually no wards that are similarly Republican. We find these facts to be consistent with the notion that Democratic voters are uniquely packed in urban centers like Milwaukee and Madison.

351 R.150 at 267.
352 R.148 at 242; *see supra at 97*.

Moreover, Mr. Trende's testimony [*219] establishes that the counties with the highest Democratic PI values are far larger in population than counties with equivalent Republican PI values. This fact indicates that some of the most heavily Democratic areas in Wisconsin are more densely populated than their equally Republican counterparts. Again, we find this to be consistent with a modest Republican advantage in the State's political geography.

We also find it significant that Republican-leaning wards in Wisconsin tend to be twice the size of

Democratic-leaning wards. Indeed, when Professor Mayer conducted his own nearest neighbor analysis using the mean distances between wards, it became clear that this size differential exists at every level of partisanship.[353] We recognize that the impact of this disparity on the districting process arguably is negligible because districts must be approximately equal in population; ward size, therefore, does not directly bear on the creation of districts. Still, the tendency of Republican wards to be much larger than Democratic wards is consistent with the notion that Democratic voters on the whole are more likely than Republican voters to live in geographically concentrated areas. This, in [*220] turn, increases the prospect that heavily Democratic wards will exist within the same political boundary such that it is, at least somewhat, more difficult to draw politically competitive districts in that part of the state.

353 *See* Tr. Ex. 106.

Finally, it is undisputed that Professor Mayer's Demonstration Plan itself exhibited a slight pro-Republican bias despite his stated objective, reiterated at trial, of drawing an alternative to Act 43 that performed comparably on traditional districting objectives but "had an efficiency gap as low to zero as [he] could get it."[354] Under the Demonstration Plan, when the Republicans secure 48% of the statewide vote as they did in 2012, the plan still yields an EG of 2.2% in favor of the Republicans. This certainly is a far smaller advantage than the 11.69% pro-Republican EG generated under Act 43 in 2012,[355] but it nevertheless illustrates that even a neutrally drawn plan, crafted under conditions unimpeded by politics, imposes a slight burden on Democratic voters.

354 R.148 at 146. Professor Mayer also testified at trial that he "probably could have" achieved a lower EG in creating the Demonstration Plan but "when [he] got to the point where [he] had an efficiency [*221] gap of 2.2 and a map that was equivalent to Act 43, [he] stopped." *Id. at 185-86*. This statement, of course, contradicts his previous trial testimony that he was pursuing an EG of zero. It also contradicts his expert report, in which he stated that his objective was to design an alternative plan "that has an efficiency gap as close to zero as possible while complying with" traditional districting criteria as well as Act 43. R.54 at 2. In light of these statements, we discount Professor Mayer's attempt at trial to minimize the significance of the Demonstration Plan's 2.2% pro-Republican EG. We believe that the Demonstration Plan reflects Professor Mayer's stated goal of achieving an EG of zero and, therefore, that his failure to achieve that goal is a material fact in our evaluation of Wisconsin's political geography.

355 The Dissent pegs the EG for the Demonstration Plan, when adjusted for incumbency, as 4%. *See* Dissent at 136. This figure comes from Professor Mayer's swing analysis. To conduct that analysis, Professor Mayer accounted for incumbency, and, after that adjustment, the Demonstration Plan's EG rose to 3.89%. *See* Tr. Ex. 116. When he applied the same factor to Act 43, the EG for Act 43 rose to 14.15%. [*222] *See* Tr. Ex. 117.

For these reasons, we find that Wisconsin's political geography, particularly the high concentration of Democratic voters in urban centers like Milwaukee and Madison, affords the Republican Party a natural, but modest, advantage in the districting process.

B.

Because the evidence at trial establishes that Wisconsin has a modestly pro-Republican political geography, we now examine whether this inherent advantage explains Act 43's partisan effect. We conclude that it does not.

The record reveals that, before the legislature enacted Act 43, its drafters had produced several alternative district plans that performed satisfactorily on traditional districting criteria but secured a materially smaller partisan advantage when compared to the advantage produced by Act 43. Foltz and Ottman testified that, while drafting a particular map, they would remain attentive to various districting criteria--population equality, compactness, contiguity, and municipal and county splits--as well as where incumbents lived and levels of disenfranchisement.[356] When the drafters finalized a statewide map, they were able to generate various reports through the autoBound software that evaluated the plan [*223] on these different districting criteria.[357] In particular, once the drafters had "a statewide plan finalized, all 99 assembly districts," they would "take th[e] [partisan] composite column from auto[B]ound and then move it over into ... Excel

spreadsheets."[358] These spreadsheets evaluated a plan's expected district-by-district partisan performance, and the drafters exported and saved them for numerous statewide draft plans.

356 *See* R.147 at 154-60; R.148 at 83-90; *see also supra at 10*.
357 R.147 at 155-56; R.148 at 84, 102-05.
358 R.147 at 162; *see also id. at 51* (Foltz testifying that after a map was completed he "would export or copy and paste ... the data out of the auto[B]ound matrix, and then put it into an Excel file that summarized the partisan scores").

Although the autoBound software also enabled the drafters to generate reports on other districting criteria that they were considering, the defendants have not pointed us to any documents in the record that compare the various maps under consideration according to traditional district criteria.[359] It therefore is unclear precisely how the drafters' statewide maps performed on other districting criteria. Nevertheless, Foltz testified that the drafters "would pull regional alternatives from" the statewide [*224] maps they had finalized and evaluated.[360] These regional maps were then presented to the Republican leadership with the expectation that they ultimately would be a part of a final district plan.[361] Neither Foltz nor Ottman testified, and nothing in the record indicates, that any of these statewide plans performed unsatisfactorily on any other districting criteria. Indeed, had these maps demonstrated, for instance, insufficiently compact districts or an unacceptable number of municipal splits, the drafters would not have pulled regional alternatives from them to present to the legislative leadership. We therefore can infer that the finalized statewide plans for which we have partisan performance spreadsheets in the record complied satisfactorily with the other districting criteria that the drafters considered.

359 Ottman did create some spreadsheets on disenfranchisement. *See supra* note 195.
360 R.147 at 163.
361 *Id. at 163-64*; *id. at 176* (Foltz testifying that the drafters would "pull[] regional alternatives from within a broader statewide plan and present[] [them] to the leadership"); R.148 at 94-95 (Ottman testifying that "[a]fter [they] had made a number of draft maps and set up meetings for legislative leadership to come over, [*225] [the drafters] ... discussed how to kind of break up the state[] in regions to discuss with the legislative leadership, and then [they] each kind of printed off maps that [they] had been working on for those different regions").

The evidence also revealed that as the reapportionment process progressed and the drafters finalized and evaluated these statewide draft plans, the magnitude of the expected partisan advantage increased. In many instances, the names of these plan alternatives reflected the degree of partisan advantage that could be anticipated in the map, *e.g.*, "Assertive" or "Aggressive."[362] Each of the drafters' partisan score spreadsheets included a corresponding table comparing the partisan performance of the draft plan to the Current Map. These performance comparisons were made on the following criteria: "Safe" Republican seats, "Lean" Republican seats, "Swing" seats, "Safe" Democratic seats, and "Lean" Democratic seats.[363] Under the Current Map, the drafters anticipated that the Republicans would secure 49 Assembly seats,[364] with 40 districts safe or leaning Republican, 40 districts safe or leaning Democratic, and 19 swing districts.[365] However, by the time the drafters had solicited [*226] the preferences of the Republican legislative leadership and pieced together the Team Map--the closest version in the record to Act 43--the expected Republican seats had ballooned to 59.[366] The number of safe or leaning Republican districts had grown from 40 to 52, apparently at the expense of swing districts, which decreased from 19 to 10.[367] The number of safe or leaning Democratic districts also were reduced from 40 to 37.[368]

362 *See* R.148 at 19-21.
363 *See, e.g.*, Tr. Ex. 364; *see also* R.148 at 15 (Ottman testifying about these criteria).
364 *See* Tr. Ex. 283.
365 Tr. Ex. 364.
366 Tr. Ex. 283.
367 *Id.*
368 *Id.*

Careful review of the record convinces us that benign factors cannot explain this substantial increase in Republican advantage between the Current Map and the plan that would become Act 43. Rather, it is evident that the drafters achieved this end by making incremental "improvements" to their plan alternatives throughout the drafting process. For example, the Republican advantages

expected in the drafters' initial two draft plans, produced in early April 2011, were significantly smaller than the advantage anticipated in the Team Map. Under these draft plans--Joe's Basemap Basic and Joe's Basemap Assertive--the drafters expected [*227] Republican candidates to win 52 and 56 seats, respectively, compared to the 49 expected under the Current Map.[369] The Current Plan's 40 safe and leaning Republican districts improved to 45 and then to 49, while the number of swing districts dwindled from 19 to 14 to 12.[370] The number of pro-Democratic districts, however, remained relatively constant.[371]

369 Tr. Exs. 465, 476.
370 Tr. Ex. 465.
371 *Id.* (showing "strong" and "lean" Democratic seats of 40, 40, and 38.)

Apparently not satisfied with the political performance of these early plans, the drafters produced and evaluated at least another six statewide maps prior to their meeting with the Republican leadership in early June 2011.[372] Each of these maps improved upon the anticipated pro-Republican advantage generated in the initial two draft plans. The total number of expected Republican seats in these drafts ranged between 57 and 60, and the number of swing seats ranged between 6 and 11.[373] The number of Democratic seats again remained about the same under each draft map.[374]

372 These were: Milwaukee_Gaddie_4_16_11_V1_B (Tr. Ex. 172, at 1); Statewide2_Milwaukee_Gaddie_4_16_V1_B (Tr. Ex. 172, at 2); Tad MayQandD (Tr. Exs. 364, 477); Joe Assertive (Tr. Exs. 366, 478); [*228] Tad Aggressive (Tr. Ex. 283); and Adam Aggressive (Tr. Ex. 283).
373 Tr. Exs. 172, 364.
374 Tr. Exs. 172, 364, 366 (showing safe and leaning Democratic seats ranging from 38-40).

The Team Map, as an amalgamation of several statewide plan alternatives, reflects the drafters' iterative efforts throughout the drafting process to achieve a substantial, if not maximal, partisan advantage. That these efforts were highly successful is obvious with the benefit of hindsight. But the drafters themselves took pains to gauge their success *at the time*, taking stock of the degree to which they had improved upon the Current Map. In their Tale of the Tape, the drafters compared the partisan performance of the Team Map directly to the Current Map.[375] They highlighted specifically that under the Current Map, "49 seats are 50% or better," but under the Team Map, "59 Assembly seats are 50% or better."[376] In a second document, they categorized each of Wisconsin's Assembly districts according to its partisan "improvement" from the Current Map to the Team Map.[377] For example, five districts were "Statistical Pick Up[s]," held by a Democratic incumbent who would now face a "55% or better" Republican vote share.[378] Another fourteen districts [*229] were "strengthened a lot": "Currently held GOP seats that start[ed] at 55% or below [and] improve[d] by at least 1%" in Republican vote share.[379] The drafters also made particular note of which Republican Assembly members had contributed to the achievement of their partisan goals, the 20 so-called "GOP donors to the team."[380]

375 Tr. Ex. 283.
376 *Id.*
377 Tr. Ex. 284, at 1.
378 *Id.*
379 *Id.*
380 *Id.*

The substantial record evidence of the multiple statewide plan alternatives produced during the drafting process convinces us that Wisconsin's modest, pro-Republican political geography cannot explain the burden that Act 43 imposes on Democratic voters in Wisconsin. The drafters themselves disproved any argument to the contrary each time they produced a statewide draft plan that performed satisfactorily on legitimate districting criteria without attaining an expected partisan advantage as drastic as that demonstrated in the Team Map and, ultimately, in Act 43. In reaching this conclusion, we emphasize that we did not require, as the plaintiffs initially proposed, that the defendants show that Act 43's partisan effect was *necessary* or *unavoidable*. Rather, our task at trial was to determine whether the burden that Act 43 imposes is *justifiable* in [*230] light of legitimate districting considerations and neutral circumstances. The defendants offered Wisconsin's natural political geography as one such neutral circumstance. Because we find that a Republican advantage in political geography, although it exists, cannot explain the magnitude of Act 43's partisan effect, and because we find that the plan's drafters created and passed on several less burdensome plans that would have achieved their lawful objectives in equal measure, we must conclude that the burden imposed by Act 43 is

not justifiable.

Professor Mayer's Demonstration Plan provides additional evidence that the legislative imbalance resulting from Act 43 is not attributable to political geography. Professor Mayer attempted to draw an alternative districting plan to Act 43 "that had an efficiency gap as low to zero as I could get it" while also complying with traditional districting criteria as well as Act 43.[381] He first created a regression model that estimated partisanship for each geographic area, so that he could compare his plan to Act 43.[382] To ensure the model was accurate, Professor Mayer compared the predictions made by his regression model to the actual results in 2012. [*231] He concluded that the results aligned almost perfectly.[383]

381 R.148 at 146.
382 *Id. at 151*.
383 To assess "the overall accuracy of the model," Professor Mayer used what he characterized as "one of the most important diagnostics ... called the *R squared*," which is "a measure that tells ... what percentage of the variation in the dependent variable [a regression] model is picking up." *Id. at 162-63*. Professor Mayer testified that his model and the actual results had an "R squared" of .9903, which he characterized as "ridiculously high. It's the kind of number you almost never see in social science research." *Id. at 163*. Professor Mayer also compared the results of his analysis to Professor Gaddie's "open-seat baseline partisanship measure." Tr. Ex. 2, at 29-30. Professor Mayer found that "[t]he r-squared for this regression [comparing the results] is 0.96, indicating that the two measures are almost perfectly related, and are both capturing the same underlying partisanship." *Id. at 30*.

Once he was confident in his model, Professor Mayer "used a GIS redistricting program called *Maptitude* for redistricting to go ahead and complete the task of actually drawing the Assembly district map."[384] Proceeding along this course, Professor Mayer was able to draw [*232] a districting map that would have yielded a pro-Republican EG of only 2.2% for 2012, and "is comparable to Act 43" with respect to "all constitutional requirements."[385] Specifically his plan has a population deviation of .86% whereas Act 43 has a population deviation of .76%.[386] He also noted that his plan keeps the same number of majority-minority districts.[387] The plan is also slightly more compact, based on the "Reock score," than Act 43.[388] Finally, it had three fewer county splits but two more municipal splits than Act 43.[389]

384 R.148 at 151.
385 Tr. Ex. 2, at 37.
386 R.148 at 177.
387 *Id.* The Demonstration Plan retains the same majority Latino district that the federal court drew in *Baldus*. However, the six majority African-American districts have boundaries that differ from Act 43. *See* Tr. Ex. 2, at 37-38.
388 R.148 at 178.
389 *Id. at 178-79*.

The defendants argue that we should discount the evidentiary value of the Demonstration Plan for several reasons. First, they maintain that the Demonstration Plan "achieved its *EG* through 20/20 hindsight" and that the low EG will "hold only for those specific election conditions" that occurred in 2012.[390] Specifically, the defendants contend that if the Republicans had a good electoral outcome like [*233] the one they saw in 2014, they would have received 63 seats under the Demonstration Plan and ended up with the same EG as Act 43.[391] Consequently, from the standpoint of partisan effects, the Demonstration Plan is just as problematic as Act 43.

390 R.153 at 25.
391 *See id.*; R.149 at 94-101.

Although this evidence shows the need to test how the Demonstration Plan fares under likely electoral scenarios,[392] it does not render the Demonstration Plan useless for our purposes. Under Professor Mayer's Demonstration Plan, the EG would be significantly pro-Republican had the Republicans received a high vote share in the first election year of the plan. However, had the opposite happened, and Democrats received a higher vote share in the first election year, the EG would have skewed towards the Democrats. This is because the Demonstration Plan was designed to have competitive districts, and the EG will be reactive to such districts. By contrast, as Professor Gaddie's and Professor Jackman's sensitivity analyses show, Act 43 will remain pro-Republican regardless of the electoral outcome. Consequently, the Demonstration Plan and Act 43 do not suffer from the same infirmities.

392 *See supra at 25, 28* (discussing sensitivity testing). [*234]

The defendants also contend that Professor Mayer's Demonstration Plan fails to account for core retention, *i.e.*, it does not try to keep districts from the previous districting plan in a similar form.[393] Although there is testimony by Ottman that the drafters "looked at kind of what the core of the existing district was compared to the new district,"[394] we question how much this consideration actually factored into the drafting process. In *Baldus*, the court noted that "[o]nly 323,026 people needed to be moved from one assembly district to another in order to equalize the populations numerically," but that "Act 43 moves more than *seven times that number* -- 2,357,592 people"--a number that the court found to be "striking." *849 F. Supp. 2d at 849* (emphasis added).

393 R.153 at 24. Professor Mayer admitted during his testimony that he did not take account of core retention. R.149 at 117-19. That being said, we do not know whether Professor Mayer inadvertently retained several of the old districts when drawing the Demonstration Plan, or how it compares to Act 43 on core retention. We simply know that Professor Mayer did not consider core retention.

394 R.148 at 85.

On a similar note, the defendants point out that Professor Mayer did [*235] not draw Senate districts and therefore did not account for how many voters would be disenfranchised by moving into a Senate district where they would not get a vote for another two years.[395] Ottman testified that, because he worked for Senator Fitzgerald and "was familiar with the Senate seats," he "was able to eyeball [disenfranchisement] a little bit."[396] Foltz testified that "you can notice [disenfranchisement] when you're drawing individual districts. But I think it's another one of those metrics where the back-end report is really where you get a sense for where you're sitting."[397] Although Foltz ran "disenfranchisement reports on [his] plans," he did not testify as to specific numerical targets he was aiming for, nor did he testify that any of his maps were changed in response to the reports that were generated.[398]

395 *See* R.153 at 24; R.149 at 117-19. As with core retention, we do not know whether the Demonstration Plan disenfranchised a significant number of voters. We simply know that the issue was not considered.

396 R.148 at 86.

397 R.147 at 157-58.

398 *Id. at 158*. As noted previously, Ottman created some spreadsheets on disenfranchisement. *See supra* notes 195, 359. However, Ottman did not provide any explanation [*236] of these in his testimony. We therefore do not know how frequently they were generated or whether he made changes to any maps in response to those numbers.

The defendants also urge that the Demonstration Plan incorporates districts around Fond du Lac that are not compact.[399] There may be individual districts in the Demonstration Plan that are not as compact as their equivalent districts in Act 43. Nevertheless, the Demonstration Plan has a better overall "Reock score"--the measure of compactness utilized by the drafters--than Act 43 has.[400] We cannot conclude, therefore, that, overall, the Demonstration Plan was less compact than Act 43.

399 R.153 at 24; *see also* R.149 at 106-08.

400 *See* R.148 at 178.

Finally, the defendants argue that the Demonstration Plan fails to protect incumbents to the same degree as Act 43. Professor Mayer testified that he "didn't pay attention to where incumbents resided."[401] The defendants contend that the number of paired incumbents in the Demonstration Plan was so great that such a plan would not have passed in the legislature.[402] According to the defendants, the Demonstration Plan paired 37 incumbents,[403] 13 more than were paired in Act 43.[404]

401 R.149 at 84.

402 For example, District 53 of [*237] the Demonstration Plan paired *three* Republican incumbents. R.149 at 111. The Demonstration Plan also paired incumbents in the area where Senator Mike Ellis actually had complained about incumbent pairings during the drafting of Act 43. *Id. at 112*. Third, the plan paired two incumbents in a majority-minority district. *Id. at 113*.

403 R.156 at 5.

404 *See* Tr. Ex. 192. Ottman testified that, "[i]f he could recall correctly, ... there were 22 legislators paired in the final map. R.148 at 87. Regardless whether the number is 22 or 24, the Demonstration Plan represents a significant

increase in incumbent pairings.

There is no question that, unlike Act 43, the Demonstration Plan does not take into account incumbency concerns. This infirmity does not negate entirely the value of the Demonstration Plan. Notably, the defendants have not argued that the location of incumbents hampered them in their efforts to draw a non-partisan plan or otherwise accounts for the electoral imbalance resulting from Act 43. Nevertheless, Professor Mayer's lack of attentiveness to this concern well might diminish the Demonstration Plan's worth as a viable, legislative alternative. The Demonstration Plan still shows, however, that it is very possible [*238] to draw a map with much less of a partisan bent than Act 43 and, therefore, that Act 43's large partisan effect is not due to Wisconsin's natural political geography.

The evidence of multiple statewide plan alternatives produced during the drafting process, coupled with Professor Mayer's Demonstration Plan, convinces us that Wisconsin's modest, pro-Republican political geography cannot explain the burden that Act 43 imposes on Democratic voters in Wisconsin. The drafters established this finding themselves; they produced several statewide draft plans that performed satisfactorily on legitimate districting criteria without attaining the drastic partisan advantage demonstrated in the Team Map and, ultimately, in Act 43. Professor Mayer's Demonstration Plan further dispels the defendants' claim. As we have noted in our discussion, the evidence in support of a larger effect of political geography simply lacked specificity and careful analysis and, consequently, was less convincing.

VI

STANDING

Lujan v. Defenders of Wildlife, 504 U.S. 555, 561 (1992), makes clear that we must assess the issue of standing at all stages of the proceedings. Therefore, now that we have set forth the factual record and the elements of a political gerrymandering cause [*239] of action, we revisit the issue of standing.[405] The standing requirement is meant to ensure that the plaintiffs have "alleged such a personal stake in the outcome of the controversy as to assure that concrete adverseness which sharpens the presentation of issues upon which the court so largely depends for illumination of difficult constitutional questions." *Baker v. Carr, 369 U.S. 186, 204 (1962)*. The party invoking federal jurisdiction, here the plaintiffs, bears the burden of establishing Article III standing. *DaimlerChrysler Corp. v. Cuno, 547 U.S. 332, 342 (2006)*.

405 *See supra at 30*.

The constitutional requirements for standing are well-established:

> First, the plaintiff must have suffered an "injury in fact"--an invasion of a legally protected interest which is (a) concrete and particularized, and (b) "actual or imminent, not 'conjectural' or 'hypothetical.'" Second, there must be a causal connection between the injury and the conduct complained of--the injury has to be "fairly ... trace[able] to the challenged action of the defendant, and not ... th[e] result [of] the independent action of some third party not before the court." Third, it must be "likely," as opposed to merely "speculative," that the injury will be "redressed by a favorable decision."

Lujan, 504 U.S. at 560-61 (alteration in original) (citations omitted) (footnote [*240] omitted).

We turn first to the question whether the plaintiffs have established the invasion of a legally protected interest. Although the proposition is not settled in Supreme Court jurisprudence, we hold, for the reasons set forth in this opinion, that state legislatures cannot, consistent with the *Equal Protection Clause*, adopt a districting plan that is intended to, and does in fact, entrench a political party in power over the decennial period. The plaintiffs have established that, "[a]s a result of the statewide partisan gerrymandering, Democrats do not have the same opportunity provided to Republicans to elect representatives of their choice to the Assembly. As a result, the electoral influence of plaintiffs and other Democratic voters statewide has been unfairly [and] disproportionately ... reduced" for the life of Act 43.[406] Professor Whitford testified to the impact of political gerrymandering on individual voters in Wisconsin where it is "extremely difficult" to pass legislation through a bipartisan coalition.[407] Wisconsin's strict caucus system means that all of the important "debate and discussion" of

proposed legislation takes place in the party caucus meeting, and the party's vote, yea or nay, is the [*241] one "that matters."[408] Consequently, erecting a barrier that prevents the plaintiffs' party of choice from commanding a legislative majority diminishes the value of the plaintiffs' votes in a very significant way.

406 R.1 at 6-7, ¶ 16.
407 R.147 at 33.
408 *Id.* Professor Whitford's description is consistent with the testimony given by Foltz and Ottman concerning the drafting and passage of legislation generally, as well as the path of Act 43. We therefore credit Professor Whitford's description of the legislative process in Wisconsin.

We believe the situation here is very close to that presented in *Baker v. Carr, 369 U.S. 186*. In *Baker*, the plaintiffs' constitutional claim was that a decades-old districting statute

> constitute[d] arbitrary and capricious state action, offensive to the *Fourteenth Amendment* in its irrational disregard of the standard of apportionment prescribed by the State's Constitution or of any standard, effecting a gross disproportion of representation to voting population. The injury which appellants assert is that this classification disfavors the voters in the counties in which they reside, placing them in a position of constitutionally unjustifiable inequality *vis-à-vis* voters in irrationally favored counties.

Id. at 207-08. The Court explained that, " [*242] [i]f such impairment does produce a legally cognizable injury, [the appellants] are among those who have sustained it." *Id. at 208*. As noted above, today we recognize a cognizable equal protection right against state-imposed barriers on one's ability to vote effectively for the party of one's choice. Moreover, Act 43 did, in fact, prevent Wisconsin Democrats from being able to translate their votes into seats as effectively as Wisconsin Republicans. Wisconsin Democrats, therefore, have suffered a personal injury to their Equal Protection rights--akin to that suffered by the plaintiffs in *Baker*--that is both concrete and particularized.

Moreover, there can be no dispute that a causal connection exists between Act 43 and the plaintiffs' inability to translate their votes into seats as efficiently as Republicans. The evidence has established that one of the purposes behind Act 43 was solidifying Republican control of the legislature for the decennial period. Indeed, the drafters had drawn other statewide maps that, their own analysis showed, would secure fewer Republican seats.[409] Finally, adopting a different statewide districting map, perhaps one of those earlier maps or a map as proposed in Professor Mayer's [*243] Demonstration Plan, would redress the constitutional violation by removing the state-imposed impediment on Democratic voters.

409 *See supra at 104-07*.

Defendants nevertheless contend that the plaintiffs lack standing for several reasons. First, they assert that "[a] majority of Justices in *Vieth* properly recognized that a statewide challenge to a redistricting plan was not *justiciable*."[410] This view, however, is not the equivalent of holding that the plaintiffs did not have standing to pursue their cause of action. Standing is just one aspect of justiciability, which also includes ripeness, mootness, and the political question doctrine. *See Allen v. Wright, 468 U.S. 737, 750 (1984), abrogated on other grounds by Lexmark Int'l Inc. v. Static Control Components, 134 S. Ct. 1377, 1388 (2014)*; Charles Alan Wright et al., *Federal Practice & Procedure* § 3529 (3d ed. 2008). The *Vieth* plurality held that that the plaintiffs' claim for political gerrymandering presented a nonjusticiable political question, *Vieth, 541 U.S. 277-81*; only one Justice opined that the plaintiffs lacked standing to bring a statewide political gerrymandering claim, *id. at 328* (Stevens, J., dissenting).[411]

410 R.39 at 7 (emphasis added).
411 In *Vieth*, Justice Souter, joined by Justice Ginsburg, affirmed his belief "that political gerrymandering is a justiciable issue," but explained that he would "otherwise [*244] start anew" in fashioning a test. *541 U.S. at 346* (Souter, J., dissenting). He stated that it was his "own judgment ... that we would have better luck at devising a workable prima facie case if we concentrated as much as possible on suspect characteristics of individual districts instead of statewide patterns." *Id.* He did not foreclose the concept of a challenge to a statewide map, nor did

> he discuss specifically whether an individual voter would have standing to challenge a statewide map.

The defendants also claim that in recognizing the plaintiffs' standing to challenge a statewide map, we are at odds with the Court's holding in *United States v. Hays, 515 U.S. 737 (1995)*. *Hays*, like its predecessor, *Shaw v. Reno, 509 U.S. 630 (1993)*, involved allegations that a districting map constituted "an effort to segregate voters into separate voting districts because of their race." *Hays*, 575 U.S. at 738 (internal quotation marks omitted). This particular cause of action is limited, therefore, to individuals who "reside[] in a racially gerrymandered district" because they are the ones who "ha[ve] been denied equal treatment because of the legislature's reliance on racial criteria." *Id. at 745*.[412]

412 The Court in *Hays* did not foreclose the possibility that a plaintiff living outside a racially gerrymandered district could [*245] present evidence that he "ha[d] personally been subjected to a racial classification" in the drawing of district lines. *515 U.S. at 745*. Under such circumstances, that individual as well would have standing to pursue a *Shaw* cause of action. *Id.*

The rationale and holding of *Hays* have no application here. As we already have discussed,[413] the harm in such cases is not that the racial group's voting strength has been diluted, but that race has been used "as a basis for separating voters into districts." The district lines, therefore, "embody stereotypes that treat individuals as the product of their race, evaluating their thoughts and efforts--their very worth as citizens--according to a criterion barred to the Government by history and the Constitution." *Miller v. Johnson, 515 U.S. 900, 912 (1995)* (internal quotation marks omitted) (quoting *Metro Broadcasting, Inc. v. FCC, 497 U.S. 547, 604 (1990)* (O'Connor, J., dissenting)). The concern here is a very different one: it is the effect of a statewide districting map on the ability of Democrats to translate their votes into seats. The harm is the result of the entire map, not simply the configuration of a particular district. It follows, therefore, that an individual Democrat has standing to assert a challenge to the statewide map.

413 *See supra* note 171.

The defendants [*246] also argue that the wrong alleged by the plaintiffs is not sufficiently "particularized" to satisfy the standing requirement. According to the defendants, "the plaintiffs are asserting an injury that is not personal to any one of them, but instead is common to anyone who supports the Democratic Party."[414] We cannot take the defendants' arguments at face value. If, for instance, Congress should pass a law that imposed income taxes only on Democrats, surely an individual Democrat could bring a constitutional challenge to the law even though the harm was shared by so many. Moreover, an injury is not sufficiently particularized *only* if it is a wrong shared by the "public at large":

> We have consistently held that a plaintiff raising only a generally available grievance about government--claiming only harm to his and every citizen's interest in proper application of the Constitution and laws, and seeking relief that no more directly and tangibly benefits him than it does the public at large--does not state an Article III case or controversy.

Lujan, 504 U.S. at 573-74. The harm that the plaintiffs have experienced is not one shared by the public at large. It is one shared by Democratic voters in the State of Wisconsin. [*247] The dilution of their votes is both personal and acute. Consequently, the plaintiffs have satisfied the requirement of a particularized injury.

414 R.39 at 5.

The defendants finally maintain that that "[t]here is no reliable causal connection between re-doing statewide districts and what the Plaintiffs themselves are involved in, namely localized elections."[415] We believe that this claim is belied by the evidence. The plaintiffs have established that, given Wisconsin's caucus system, the efficacy of their vote in securing a political voice depends on the efficacy of the votes of Democrats statewide. Moreover, the drafters themselves drew maps that would have resulted in significantly greater partisan balance than that obtained by Act 43. In short, there is no question that Act 43 imposed a disability on Democratic voters and that redrawing a district map--indeed, perhaps employing one of the drafters' earlier efforts--would remove that disability.

415 R.39 at 3.

VII

ORDER

A. Remedy

In their complaint, the plaintiffs request three types of relief: (1) that we declare the Assembly districts established by Act 43 unconstitutional; (2) that, "[i]n the absence of a state law establishing a constitutional district plan [*248] for the Assembly districts, adopted by the Legislature and signed by the Governor in a timely fashion, [we] establish a redistricting plan that meets the requirements of the U.S. Constitution and federal statutes ..."; and (3) that we enjoin the defendants from "administering, preparing for, and in any way permitting the nomination or election of members of the State Assembly from the unconstitutional districts that now exist."[416]

416 R.1 at 29, ¶¶ 97-99.

We defer, at this time, a ruling on the appropriate remedy. The parties have not had an opportunity to brief fully the timing and propriety of remedial measures. We therefore order briefing on the appropriate remedy according to the following schedule:

1. The parties shall file simultaneous briefs on the nature and timing of all appropriate remedial measures in 30 days' time;

2. Simultaneous response briefs are due 15 days thereafter.

The parties will provide the court with all evidentiary and legal support they believe is required for the court to make its ruling. If the parties do not believe that the court can rule on the appropriate remedy without the benefit of additional testimony, they should inform the court of the nature and extent of [*249] the testimony they believe is required.

B. Evidentiary Matters

For the reasons set forth in this opinion, the motions set forth in our docket numbers 151 (with respect to the admission of exhibits 98-100, 102, 118-119, 131, 141, 148, 150-152, 333, 391, 394, 405-406, 408, 414-415, 417, and 498) and 154 are DENIED. The motions set forth in our docket numbers 152 and 158 are GRANTED.

IT IS SO ORDERED.

Entered this 21st day of November, 2016.

BY THE COURT:

/s/ KENNETH F. RIPPLE

Circuit Judge

/s/ BARBARA B. CRABB

District Judge

Appendix 1 -- Partial "S" Curve for the Team Map

Appendix 2

DISSENT BY: WILLIAM C. GRIESBACH

DISSENT

GRIESBACH, *District Judge*, dissenting. Through a secretive and one-sided process, the state Republican leaders who controlled the legislature used the latest computer software and political consultants to draw up legislative district maps with the unashamedly partisan goal of winning as many seats as possible. The maps they drew gave short shrift to traditional districting principles, often producing districts with unusual and suspicious shapes. The governor, also a Republican, quickly signed the act. The Republicans' efforts were rewarded when, in the very next election, they won more than *twenty* [*250] percent more seats in the legislature than their statewide vote totals would have suggested.

The state in question is Indiana, not Wisconsin. The procedure used to draw the map in Indiana is identical to what led up to the enactment of Wisconsin's Act 43: in short, it was crafted in secret by Republicans who, at least in Indiana, conceded that naked political gain was their overwhelming purpose. It also allowed the Republicans to win far more seats than their statewide vote totals would warrant--in the Plaintiffs' parlance, a historically-high efficiency gap of eleven percent. Thirty years ago, however, the Supreme Court *upheld* the districts drawn by Indiana Republicans, with a plurality of the Court concluding that the Democrats had not shown they were sufficiently injured.[1] Despite these similarities, and despite the Court's clear reluctance to intervene in what are essentially political cases, the Plaintiffs ask this court to find that Wisconsin's Act 43 is an unconstitutional partisan gerrymander.

1 *Davis v. Bandemer, 478 U.S. 109, 134 (1986)* (plurality opinion). In Indiana, Democratic candidates received 51.9% of the vote. Only 43 Democrats, however, were elected to the 100-member House. Under the Plaintiffs' efficiency gap [*251] calculations, winning 52% of the vote would entitle a party to receive 54% of the seats. Since they only received 43 seats, that results in an efficiency gap of around 11%. The Republicans won 57 seats despite winning only 48% of the statewide vote. The Plaintiffs' proposed norm would have the Republicans winning only 46 seats. By winning 57, the Republicans won almost 24% more seats than their statewide totals would suggest. This very nearly mirrors the results of Wisconsin's election in 2012, the first election conducted under Act 43.

In fact, Wisconsin's Act 43 differs from Indiana's upheld plan in one key fashion: unlike Indiana's plan, Act 43 pays heed to all of the principles that have traditionally governed the districting process, such as contiguity, compactness and respect for political subdivisions like counties and cities. And unlike Indiana's plan, there is no allegation that the Republicans drew any of the many kinds of unusually-shaped districts that are traditionally seen in gerrymandering cases. (The term "gerrymander" arises from a district shaped like a salamander that was drawn during the term of Massachusetts Governor Elbridge Gerry.) Thus, although Wisconsin's plan, [*252] like Indiana's, was politically motivated, but unlike Indiana's, complies with traditional redistricting principles, and though it has the same partisan impact as the plan upheld in *Bandemer*, the Plaintiffs nevertheless ask the court to intervene, claiming to have discovered the long sought-after "judicially discernable and manageable standard[]" for deciding such cases that a majority of the Court has thought might exist. *478 U.S. at 123*; *Vieth v. Jubelirer, 541 U.S. 267, 278-79 (2004)* (plurality opinion).

The Plaintiffs have made that standard--the efficiency gap--the center piece of their case and asked this court to adopt it as a matter of constitutional law. (ECF No. 1 at ¶¶ 5, 44-53.) Despite the central role the efficiency gap has played in the case from the beginning, however, the majority has declined the Plaintiffs' invitation to adopt their standard and uses it only as confirming evidence of a constitutional violation it has found based on its own newly created test: whether the

State's redistricting plan had the intent and effect of entrenching the Republican party in power over the life of the plan. For the following reasons, I part ways with my colleagues.

First, I am unable to accept proof of intent to act for political purposes as [*253] a significant part of any test for whether a task constitutionally entrusted to the political branches of government is unconstitutional. If political motivation is improper, then the task of redistricting should be constitutionally assigned to some other body, a change in law we lack any authority to effect. Second, to the extent the majority's "intent to *entrench* themselves in power" standard is intended to mean what those Justices who have used that language in previous cases intended, I am not convinced that the plaintiffs have met this standard. Third, of the small majority of Justices who would even entertain political gerrymandering cases, several of them would require plaintiffs to establish that the challenged plan failed to follow traditional principles of redistricting. Because the Plaintiffs do not even attempt to argue that Act 43 violates traditional redistricting principles, I would enter judgment in favor of the Defendants on that basis alone. Fourth, it is very likely that the Republicans would have won control of the legislature in 2012 and 2014 *even without the alleged gerrymandering*, and so this case presents a poor vehicle for the remedying of any grave injustice. [*254]

In addition, the efficiency gap concept that the Plaintiffs have offered as the "judicially discernable and manageable standard[ ] by which political gerrymander cases are to be decided," *Bandemer, 478 U.S. at 123*, appears to have substantial theoretical and practical limitations that render it unsuitable for the task at hand. First, the efficiency gap--or any measure that simply compares statewide votes to seats--is little more than an enshrinement of a phantom constitutional right, namely, the idea that voters for one party are entitled to some given level of representation proportional to how many votes that party's candidates win in every assembly district throughout the state as a whole. Second, the efficiency gap simply measures each party's ability to win more assembly seats, but winning more assembly seats does not usually translate into any significant additional power, and thus does not cause material political injury--unless of course it is the seat that turns over control of the legislature to the gerrymandering party. Third, the efficiency gap essentially begs the ultimate question of whether a partisan gerrymander occurred, and it fails to capture the essence of what it means to vote since it presupposes [*255] that voters are voting for a statewide party rather than simply for an individual candidate.

In addition to these theoretical problems, the efficiency gap suffers from practical issues as well. First, the Plaintiff's efficiency gap calculation, which is based on tallying "wasted" votes, appears to ignore a large number of wasted votes attributable to winning candidates, thereby undermining its reliability as a tool for measuring even what it purports to capture. Second, the test Plaintiffs propose does not adequately account for Wisconsin's political geography, which naturally "packs" large numbers of Democrats into urban areas like Madison and Milwaukee, resulting in hundreds of thousands of "wasted" votes in inevitable landslide Democratic victories for assembly candidates. Finally, the efficiency gap is highly volatile and could easily trigger judicial intervention when no intervention is warranted. For all of these additional reasons, I would enter judgment in favor of the Defendants.

I. Partisan Intent and Effect

I begin with a point upon which I agree with my colleagues. It is almost beyond question that the Republican staff members who drew the Act 43 maps intended to benefit Republican [*256] candidates. They accumulated substantial historical knowledge about the political tendencies of every part of the state and consulted with Dr. Ronald Gaddie to confirm their predictions about voting patterns. Though they denied the suggestion that such information was used to project future voting tendencies, my colleagues rightly conclude that when political staffers compile historical voting information about potential districts, their claim that they did not intend to use that information to predict *future* voting patterns is hardly worthy of belief. After all, these individuals are not operating under even the pretense that they are nonpartisan: they are employed by Republicans in leadership and draft district maps at their direction. That they would resort to partisan considerations in drawing the maps is therefore anything but surprising.

This alone does not make it wrong, however. The majority cites *Rogers v. Lodge, 458 U.S. 613, 617 (1982)*, for the proposition that "equal protection challenges to redistricting plans require a showing of discriminatory purpose or intent." But *Rogers* is a race discrimination

case challenging an electoral system on the ground that it was intended to dilute voting strength of the black [*257] population. The intent to weaken a racial group's political power in drawing district lines is always and everywhere wrongful. The same is not true for political motivations. The Supreme Court has long acknowledged partisan considerations are inevitable when partisan politicians draw maps. "The Constitution clearly contemplates districting by political entities, see Article I, § 4, and unsurprisingly that turns out to be root-and-branch a matter of politics." *Vieth, 541 U.S. at 285* (plurality opinion) (citing *Miller v. Johnson, 515 U.S. 900, 914 (1995)* ("[R]edistricting in most cases will implicate a political calculus in which various interests compete for recognition . . . ."); *Shaw v. Reno, 509 U.S. 630, 662 (1993)* (White, J., dissenting) ("[D]istricting inevitably is the expression of interest group politics . . . ."); *Gaffney v. Cummings, 412 U.S. 735, 753 (1973)* ("The reality is that districting inevitably has and is intended to have substantial political consequences.")). In other words, so long as it is deemed acceptable for politicians to draw district maps--and it is--we cannot pretend to be shocked that legislators so engaged will *act* like the politicians they are. As Justice Stevens put it, "Legislators are, after all, politicians." *Karcher v. Daggett, 462 U.S. 725, 753 (1983)* (Stevens, J., concurring). "[S]ome intent to gain political advantage is inescapable whenever political bodies devise a district [*258] plan, and some effect results from the intent." *Vieth, 541 U.S. at 344* (Souter, J., dissenting). "That courts can grant relief in districting cases where race is involved does not answer our need for fairness principles here. Those controversies implicate a different inquiry. They involve sorting permissible classifications in the redistricting context from impermissible ones. Race is an impermissible classification. . . . Politics is quite a different matter." *Id. at 307* (Kennedy, J., concurring).[2]

> 2 Notwithstanding the acknowledgement by almost every Justice to address the issue that partisan intent is to be expected in redistricting, the majority, citing *Harris v. Arizona Independent Redistricting Commission, 136 S. Ct. 1301 (2016)*, suggests that it is an open question whether partisanship is an illegitimate redistricting factor. But the issue in *Harris* was whether a deviation of less than 10% from the equal population requirement of *Reynolds v Sims, 377 U.S. 533 (1964)*, could be justified by partisan considerations. The Court stated, "[E]ven assuming, without deciding, that partisanship is an illegitimate redistricting factor, appellants have not carried their burden." *Harris, 136 S. Ct. at 1310*. Taken in context and in light of the Court's repeated acknowledgement that partisan considerations are to be expected, I read *Harris* as leaving open the question [*259] whether partisan intent could legitimately justify an underpopulated district; not whether it is illegitimate in itself. *See Cox v. Larios, 542 U.S. 947 (2004)*. Here, there is no allegation that any district was underpopulated.

The majority opinion wrestles with the "how much intent is too much" question, a question that has bedeviled the courts for decades and caused several members of the Supreme Court to give up on finding an answer. But whose intent are we talking about and how does one go about measuring it? The Republican leadership clearly wanted a plan that would give them a majority of seats, but some of their members had to be talked into accepting less safe districts--the so-called donors--in the hope that they could still win their seat and the party would win a majority of seats as well. They more or less acquiesced. The more difficult question is how do you measure intent? A person either intends a result or he does not. Making gradations of intent a standard is a recipe for interminable litigation. *Vieth, 541 U.S. at 286* (plurality opinion) ("Moreover, the fact that partisan districting is a lawful and common practice means that there is almost always room for an election-impeding lawsuit contending that partisan advantage was [*260] the predominant motivation; not so for claims of racial gerrymandering.").

My colleagues attempt to limit the potential for unending litigation such an intent element might encourage by holding that the level of partisanship may be deemed "too much" when the map-drawers intend to *entrench* their party in power for the life of the plan and achieves that effect. Slip Op. at 58, 71. Adding the qualification that the intent and effect be to entrench the party in power for the life of the plan, however, does not help. How is that intent different from intending to benefit the party? We are talking about redistricting plans, after all, not a bill to name the State mascot. Redistricting plans, by their very nature, affect future elections for the life of the plan. And what does "entrench their party in power" mean in this context?

The plurality in *Bandemer* sought to limit court intervention to cases where "a particular group has been unconstitutionally denied its chance to effectively influence the political process." *478 U.S. at 132-33* (plurality opinion). On the statewide level, the plurality said, "such finding of unconstitutionality must be supported by evidence of continued frustration of the will of a majority [*261] of voters or effective denial to a minority of voters of a fair chance to influence the political process." *Id. at 133*. The standard adopted by the majority in this case is equally opaque, but less demanding. Plaintiffs have challenged the redistricting plan for Assembly seats, but the Assembly, by itself, can do little more than hold things up. Every four years, Wisconsin voters elect a governor. If plaintiff's party is able to convince a majority of Wisconsin voters that their policies are better for the State, nothing the Republicans have done will prevent them from winning the governor's office and not only stopping the Republicans from enacting their agenda at that point, but also denying them control over the next redistricting process. *See Vieth, 541 U.S. at 362* (Breyer, J., dissenting) ("Where a State has improperly gerrymandered legislative or congressional districts to the majority's disadvantage, the majority should be able to elect officials in statewide races--particularly the Governor--who may help to undo the harm that districting has caused the majority's party, in the next round of districting if not sooner.").

Indeed, nothing will prevent a candidate from Plaintiffs' party from convincing the voters [*262] in a district Republican staff members drew, believing it would elect a Republican candidate, from electing a Democrat instead. The assumption underlying Plaintiffs' entire case is that party affiliation is a readily discernable characteristic in voters and that it matters above all else in an election. Voters are placed either in one party or the other based on their last vote.[3] But party affiliation is not set in stone or in a voter's genes:

> [A] person's politics is rarely as readily discernible--and never as permanently discernible--as a person's race. Political affiliation is not an immutable characteristic, but may shift from one election to the next; and even within a given election, not all voters follow the party line. We dare say (and hope) that the political party which puts forward an utterly incompetent candidate will lose even in its registration stronghold.

Vieth, 541 U.S. at 287 (plurality opinion) (citing *Bandemer, 478 U.S. at 156* (O'Connor, J., concurring in judgment)). True, many voters, perhaps most, vote for the brand; but many make their decision based on the person and his or her position on the issues that matter most to them at the time. Moreover, candidates for state offices run on different issues than candidates [*263] for national offices, which presumably explains the difference in voter turn-out and results in the recent Wisconsin presidential and gubernatorial elections. For all the confidence political experts may have in their predictions of future election results, *Vieth* itself stands as a stark reminder that they can be wrong. The plaintiffs in that case alleged that the Pennsylvania congressional plan was "rigged to guarantee that thirteen of Pennsylvania's nineteen congressional representatives will be Republican." *Vieth v. Pennsylvania, 188 F. Supp. 2d 532, 546 (M.D. Pa. 2002)*. Yet, as Professor Nicholas Goedert testified and pointed out in his report, Democrats won a majority of Pennsylvania's congressional seats in the two elections following the Supreme Court's 2004 decision, including twelve of nineteen in 2008. (ECF Nos. 50-1 at 13; 150 at 150:8-18.)

> 3 Plaintiffs offered no evidence as to actual party membership in Wisconsin. Because of its open primary system, voters in Wisconsin are not required to join a party in order to vote in that party's primary election. *Democratic Party of U.S. v. Wisconsin, 450 U.S. 107, 110-11 (1981)*.

There are additional problems with the majority's proposed standard. To the extent the term has been used by members of the Supreme Court, "entrenchment" has often referred to a *minority* [*264] party rigging the system so much that it could win a majority of seats even while consistently garnering only a minority of the statewide vote. For example, Justice Kennedy has noted that a plan "that entrenches an electoral minority" is more likely to be a vehicle for partisan discrimination. *League of United Latin Am. Citizens v. Perry, 548 U.S. 399, 419 (2006)* [hereinafter *LULAC*]. Justice Breyer's *Vieth* opinion is more explicit: he explains that "[b]y entrenchment I mean a situation in which a party that enjoys only minority support among the populace has nonetheless contrived to take, and hold, legislative power." *541 U.S. at 360* (Breyer, J., dissenting). In Justice Breyer's view, "gerrymandering that leads to

entrenchment amounts to an abuse that violates the *Constitution's Equal Protection Clause*." *Id. at 362*. These Justices' concerns about entrenchment thus appear to be focused on the problem whereby a majority of voters in a state are consistently deprived the opportunity to control a branch of government. In our case, however, the Republican Party is *not* a minority party in Wisconsin. In statewide elections, the state has elected a Republican governor in the last two general elections (plus a recall election, in 2012). In 2010 GOP members of the assembly received 53.5% of the statewide popular vote, while they [*265] obtained 52% of the vote in 2014. (ECF No. 125 at ¶¶ 286, 290.) Thus, in this case we are not dealing with a minority party entrenching itself in power, which means the majority of the citizens of Wisconsin are not consistently deprived of the right to control the legislature.

The notion that Republicans took drastic steps to entrench themselves in power in this sense is also undermined by recent history. When mapmakers sit down to redraw district maps, it is not as though they are drawing on a blank slate--the 99 districts then in existence will necessarily play a role in how the new districts will look. The majority opinion glosses over the fact that Republicans enjoyed very healthy efficiency gaps during the previous decade, despite the fact that the district maps then in effect were produced through plans created by federal courts, not a partisan legislature. As the Plaintiffs' expert Simon Jackman concluded, the plan in effect during the previous decennial period favored Republicans with an average 7.6% efficiency gap, including a gap as large as 11.8% in 2006. (ECF No. 125 at ¶¶ 190, 192, 194, 242.) When one considers that the pre-existing maps were already quite favorable to Republicans, [*266] it is hardly surprising that the maps they ultimately created increased their advantage somewhat.

In fact, under the Plaintiffs' proposed test the Republicans were obligated not only to draw fairer maps, but to engage in heroic levels of nonpartisan statesmanship. The Plaintiffs are evidently of the view that the Republicans, having achieved the once-in-a-lifetime feat of controlling both branches of the legislature and the governorship during a redistricting year, should have used that unique opportunity not for self-advantage but instead to draw a map that was *less* favorable to them than even the court-drawn plan that governed the previous decade. Ironically, even if the Republicans had said to themselves, "let's stick with a plan like the one drawn by the federal courts--it helps us enough already," the Plaintiffs would *still* take umbrage at the resulting map and call it an impermissible partisan gerrymander, assuming the efficiency gaps continued to follow the pattern of the previous decade. Any test that requires heroic levels of nonpartisanship does not square with the courts' recognition of the reality that legislators tasked with drawing maps will always seek to advantage their [*267] own party. Under these circumstances, it is difficult to credit the Plaintiffs' assertions that the Republicans exhibited "too much" partisanship when they drew a map that was only somewhat more favorable to the GOP than maps drawn by a federal court the previous decade.

The Republicans' control of the districting process appears to have been little different than the Republicans' conduct in *Davis v. Bandemer, 478 U.S. 109 (1986)*. There, the district court described the Republican-controlled process as "contrived," after the Republicans enacted dummy bills and named Democratic "advisors" who in actuality had no input and "no access to the mapmaking process that ensued." *Bandemer v. Davis, 603 F. Supp. 1479, 1483 (S. D. Ind. 1984)*. The Republicans spent a quarter million dollars on a research firm, which used the latest computer equipment, while the Democrats had no such support. *Id. at 1484*. One Republican senator admitted that though the Democrats could offer their own map proposals, they would never be accepted. *Id.* This "unashamedly partisan" process resulted in party-line approval of the plan in both houses of the legislature and the prompt signature by the Republican governor. *Id.* And yet the plan drawn in Indiana was upheld, despite a nearly identical partisan effect as the current plan. [*268]

None of this is to extol the process whereby the district maps were drawn, and neither do I intend to espouse the cynical conclusion that politics must always be onesided and bare-knuckle. Indeed, the very accusation and at least the appearance of heavy-handed unfairness may itself be made a political issue and lead a significant number of less committed or independent voters to change their views about which party they wish to support. By the same token, I believe it is largely true that individuals who attempt to gain political advantage through map-drawing are not engaged in foul play or dirty tricks, but are merely using the power the voters have granted them to enact the policies they favor. They

are not intending to "burden the representational rights of Democratic voters" by "impeding their ability to translate their votes into legislative seats." Majority op. at 2. These are legal concepts that do not translate easily into the world of politics. Imagine a congressman facing President Johnson's demand that he vote for the Civil Rights Act of 1964 or lose a key federal project in his district claiming that his constituents were deprived of their representational rights. The political [*269] process does not operate by the same rules that govern judges and courts. By and large, whether it is the Democrats or Republicans doing the gerrymandering, they try to create partisan majorities not to suppress opposing viewpoints but because they honestly believe they will then be able to enact the policies that in their view are best for the state, or nation.[4]

4 Notably, although the Democrat-Plaintiffs express outrage at the maps the Republicans drew, the Democrats are hardly immune to map-drawing chicanery of their own. For example, the plans they proposed following the 2000 census reflect the same partisan intent as Act 43 and were "riddled with their own partisan marks." As described by the three-judge panel that heard that case:

> Leg Dem B and Leg Dem C divide the City of Madison into six districts radiating out from the Capitol in pizza slice fashion. The Leg Dem plans have higher levels of population deviation, lower levels of core retention, higher levels of disenfranchisement, and lower levels of compactness than the Alt A and Alt C plans, in part because they renumber the Senate districts in Milwaukee County (again for presumed partisan advantage).

Baumgart v. Wendelberger, Nos. [*270] 01-C-0121, 02-C-0366, 2002 WL 34127471, at *4 (E.D. Wis. May 30, 2002). Because Wisconsin government was divided at the time, the Democrats were unable to enact their proposed plan into law, but there is no reason to believe they would not attempt to do so now if the circumstances were reversed. Importantly, there is no evidence that Act 43 violated any of the traditional redistricting principles cited by the *Baumgartner* court in rejecting the Democratic proposal.

In sum, partisan intent is not illegal, but is simply the consequence of assigning the task of redistricting to the political branches of government.[5] The standard proposed by the majority offers no improvement over the tests that have already been rejected by the Supreme Court. Moreover, even if I accepted the majority's standard, I am unconvinced that Republicans intended to or could entrench themselves in power in the sense understood by those members of the Court that have addressed it. Given the fact that Republicans already enjoyed significant advantages under court-drawn districting plans then in effect, it should hardly surprise anyone that, when afforded the rare opportunity to draw their own maps, they extended their electoral advantage somewhat. I am therefore [*271] unable to conclude that Act 43's passage was anything other than the kind of "politics as usual" that courts have routinely either tolerated or acquiesced in.

5 It was only a term ago that the Court held by a 5 to 4 vote that it was constitutionally permissible to remove redistricting from the political branches. *Ariz. State Legislature v. Ariz. Indep. Redistricting Comm'n, 135 S. Ct. 2652 (2015)*. Adoption of the majority's standard may well compel States to do so.

II. A Gerrymander without Gerrymandering

Justices Souter and Ginsburg counseled in *Vieth* that statewide districting challenges are "a function of claims that individual districts are illegitimately drawn." *Vieth, 541 U.S. at 347* (Souter, J., dissenting). Therefore, it makes sense to "concentrate[] as much as possible on suspect characteristics of individual districts instead of statewide patterns." *Id.* Surprisingly, the Plaintiffs in this action did exactly the opposite. Instead of pointing to specific districts that had been gerrymandered, they relied on statewide data and calculations, as well as spreadsheets, metadata, graphs and charts, all without referring to any actual maps or lines drawn by the Defendants. The Plaintiffs purported to show the "DNA" of gerrymandering in a graph comparing wards to districts, but, like a prosecutor [*272] trying to prove a murder without a body, not once did they actually show any district maps demonstrating the gerrymander they

alleged occurred.

This was not an oversight. The reason for the absence of any discussion of individual district lines is that Act 43 does not violate any of the redistricting principles that traditionally govern the districting process, including compactness, contiguity and respect for political boundaries like counties and cities. In other words, unlike every other gerrymandering case to come before the courts, the plaintiffs did not argue that Act 43 created any districts with unusual lines or shapes. Nor were there appreciable problems with contiguity, compactness, or regard for political boundaries. Act 43's districts split more counties than previous plans, but the plan splits fewer municipalities than the 1990s map. The current plan's compactness scores are comparable to previous plans, and there is no indication that any districts had problems with contiguity. At trial, it was undisputed that the drafting of the current plan placed the correct number of citizens into each district and also took into account other more practical (and legitimate) concerns, [*273] such as the number of voters who would be disenfranchised in upcoming senate elections,[6] as well as the residences of the actual legislators whose district boundaries were changing--factors none of the theoretical plans considered. In short, although the Plaintiffs argued that their own demonstration map created similarly compact and contiguous districts with less partisan effect, they conceded that the districts drawn by Act 43 are sufficiently compact, contiguous and respectful of political boundaries.

6 Because senate elections are staggered, the possibility arises that some voters who are moved to a different district would have no vote for a senate candidate for two consecutive election cycles.

Gerrymandering, as the term's etymology suggests, has traditionally been understood as the drawing of unusually-shaped districts in order to achieve a political advantage. Gerrymandering is "the deliberate and arbitrary *distortion* of district boundaries and populations for partisan or personal political purposes." *Bandemer, 478 U.S. at 164* (Powell, J., concurring in part and dissenting in part) (quoting *Kirkpatrick v. Preisler, 394 U.S. 526, 538 (1969)* (Fortas, J., concurring)) (emphasis added)); *see also Vieth, 541 U.S. at 323* (Stevens, J., dissenting, noting "outlandish district shapes" [*274] in traditional gerrymanders). Without evidence of any distortion of otherwise legitimate district boundaries, there is no gerrymander, at least as the term is traditionally understood.

The Plaintiffs' belief that gerrymandering can occur without distortions of district boundaries is not just a definitional novelty, it flies in the face of *Vieth*. In *Vieth*, four justices found political gerrymandering claims non-justiciable, meaning that they believed courts should not even get involved in such cases. Of the remaining five justices who *would* consider such claims, three of them (a majority) explicitly would require a failure to follow traditional redistricting principles as part of any gerrymandering test. Justice Stevens noted that "an uncouth or bizarre shape can easily identify a district designed for a single-minded, nonneutral purpose." *Vieth, 541 U.S. at 321* (Stevens, J., dissenting). Citing Justice Powell's *Bandemer* opinion, Justice Stevens noted that "configurations of the districts [and] the observance of political subdivision lines . . . have independent relevance to the fairness of redistricting." *Id. at 322* (citing *Bandemer, 478 U.S. at 165* (Powell, J., concurring in part and dissenting in part)). Justice Stevens observed that in [*275] *Bandemer*, Justice Powell had made the irregularity of district shapes part of his proposed test, remarking on the "strange shape of districts that conspicuously ignored traditional districting principles." *Id.* Any test should "properly focus[] on whether the boundaries of the voting districts have been distorted deliberately and arbitrarily to achieve illegitimate ends. . . . Under this definition, the merits of a gerrymandering claim must be determined by reference to the configurations of the districts, the observance of political subdivision lines, and other criteria that have independent relevance to the fairness of redistricting." *Id.* Justice Stevens noted that the Court had used Justice Powell's test in racial gerrymandering cases, and he believed it appropriate to do so in a political gerrymandering context as well. *Id.*

Citing the *Vieth* complaint, Justice Stevens observed that one challenged district "looms like a dragon descending on Philadelphia from the west, splitting up towns and communities throughout Montgomery and Berks Counties." *Id. at 340*. The plan "is so irregular on its face that it rationally can be viewed only as an effort . . . to advance the interests of one political [*276] party, without regard for traditional redistricting principles and without any legitimate or compelling justification." *Id.* Ultimately, under Justice Stevens' proposed test, "if the

only possible explanation for a district's bizarre shape is a naked desire to increase partisan strength, then no rational basis exists to save the district from an equal protection challenge. Such a narrow test would cover only a few meritorious claims, but it would preclude extreme abuses . . . ." *Id. at 339*.

A "bizarre shape" was also a factor in the test proposed by Justices Souter and Ginsburg. As part of their proposed analysis, they would require a plaintiff "to show that the district of his residence . . . paid little or no heed to those traditional districting principles whose disregard can be shown straightforwardly: contiguity, compactness, respect for political subdivisions, and conformity with geographic features like rivers and mountains." *Id. at 348* (Souter, J., dissenting). Because courts are already experienced at applying these standards, they argued, "a test relying on these standards would fall within judicial competence." *Id.* Thus, of the bare majority of the Court that would even consider political gerrymandering [*277] claims, at least three members of the *Vieth* court would require a plaintiff to demonstrate that the challenged plan or district failed to adhere to traditional districting principles.

The Plaintiffs suggest that any test relying on traditional districting principles is foreclosed by precedent. Strangely, for that premise they rely on the *Vieth* plurality, which, it is true, criticized any standard based on district shapes as being difficult to manage: "Justice SOUTER would require lower courts to assess whether mapmakers paid 'little or no heed to . . . traditional districting principles.' What is a lower court to do when, as will often be the case, the district adheres to some traditional criteria but not others?" *Id. at 296* (plurality opinion). While it is true that the *Vieth* plurality criticized reliance on traditional criteria, that hardly helps the Plaintiffs' cause, since the same plurality opinion would reject their claim altogether on justiciability grounds.

My point is not that *all* Justices would require unusually shaped districts before considering a partisan gerrymander; the point is that *of the Justices who would even entertain a partisan gerrymandering claim*, a majority would require [*278] adherence to traditional districting principles as part of any test. Here, it is clear that seven of the nine Justices in *Vieth* would have ruled against the Plaintiffs, either on justiciability grounds or because they have not identified any violation of traditional districting principles. No other conclusion can be drawn from the Justices' separate opinions. And, as discussed earlier, Justice Breyer would not find an unconstitutional gerrymander here because this case does not involve a minority party "entrenching" itself in power.

That leaves Justice Kennedy, whose *Vieth* concurrence expressed a grudging willingness to consider political gerrymandering challenges, but did not give any indication as to whether respect for traditional districting principles would play a role in any test he might find appropriate. Even so, he remarked that a legal violation would only arise if the line-drawers acted in an "invidious manner or in a way unrelated to any legitimate legislative objective." *Id. at 307* (Kennedy, J., concurring). Since respecting political subdivisions and following standards of compactness and contiguity are "legitimate legislative objectives," it would be impossible to say that Act [*279] 43, which actually *achieved* those objectives, was "unrelated to" those very objectives. *Id.* That it achieved those objectives, as well as other legitimate objectives, including consideration of the residence of the legislators themselves and Voting Rights Act requirements, would seem to preclude the finding of any violation under whatever test Justice Kennedy might entertain. The fact that the map-drawers chose to adopt plans that were more "assertive" or "aggressive" than others (a mistake of nomenclature they surely will not repeat) does not mean the maps they drew were "unrelated to" legitimate traditional districting principles.

Indeed, Justice Kennedy's view of the importance of traditional districting principles can be gleaned from *Miller v. Johnson*, a racial gerrymandering case, where his majority opinion found that "a plaintiff must prove that the legislature subordinated traditional race-neutral districting principles, including but not limited to compactness, contiguity, and respect for political subdivisions or communities defined by actual shared interests, to racial considerations." *515 U.S. 900, 916 (1995)*. Justice Kennedy went on to note the district court's finding that it was "'exceedingly [*280] obvious' from the shape of the Eleventh District, together with the relevant racial demographics, that the drawing of narrow land bridges to incorporate within the district outlying appendages containing nearly 80% of the district's total black population was a deliberate attempt to bring black populations into the district." *Id. at 917*. Given the centrality of traditional districting principles to racial

gerrymandering cases, there is every reason to believe that any political gerrymandering test Justice Kennedy might adopt would include the plan's adherence to such principles as part of its analysis.

The majority addresses these concerns by concluding that following traditional districting principles should provide no "safe harbor" for an Equal Protection violation. It is possible to see the argument in such a light if all one is concerned with is raw numbers, or translating votes into seats. In my view, however, the Defendants are not asking for a safe harbor, they are asking the court to conclude that the drawing of bizarrely shaped districts is part of the very definition of unconstitutional gerrymandering itself--to the extent such a claim exists. Looked at from the voter's perspective, [*281] living in a district that looks like some type of amphibian is itself a component of any gerrymandering injury that voter might suffer. Thus, I do not view the following of traditional districting principles as a "safe harbor" that would whitewash any Equal Protection violation; instead it is evidence that the map-drawers were not committing a violation at all. Without gerrymandered districts, there is no unconstitutional gerrymander.

This conclusion is reinforced by *Cox v. Larios*, a one-person, one-vote case. There, Democratic mapmakers in Georgia drew maps designed to pit large numbers of Republican incumbents against each other, resulting in nearly half of the Republican delegation losing their seats. The Supreme Court summarily affirmed the three-judge district court's decision finding an Equal Protection violation. *542 U.S. at 947-50*. Key to the district court's conclusion was its finding that, in drawing the maps that contained many "oddly shaped" districts, the Georgia legislators paid no heed to traditional districting principles like compactness or contiguity. *Larios v. Cox, 300 F. Supp. 2d 1320, 1330 (N.D. Ga. 2004)*.

> [O]ne can easily discern [an absence of compactness] just by looking at the maps themselves . . . . Moreover, as we have noted, a more sophisticated [*282] analysis of district compactness, calculated by the perimeter-to-area measure or the smallest circle measure, also establishes that compactness was not a factor here. Indeed, quite a few of the districts have shapes that defy Euclidean geometry. The drafters of the House and Senate Plans made no effort to keep districts compact and certainly did not create deviations for the purpose of improving compactness.

Id. at 1350.

In concurring with the Supreme Court's summary affirmance, Justices Stevens and Breyer wrote that Georgia's

> partisan gerrymander is visible to the judicial eye . . . . Drawing district lines that have no neutral justification in order to place two incumbents of the opposite party in the same district is probative of the same impermissible intent as the "uncouth twenty-eight-sided figure" that defined the boundary of Tuskegee, Alabama, in *Gomillion v. Lightfoot, 364 U.S. 339, 340 (1960)*, or the "dragon descending on Philadelphia from the west" that defined Pennsylvania's District 6 in *Vieth, 541 U.S., at 340* (STEVENS, J., dissenting) (internal quotation marks omitted).

Cox, 542 U.S. at 950 (Stevens, J., concurring).

Thus, contrary to the majority's view, traditional districting criteria--the shape, size and other physical characteristics of a district--are part and parcel [*283] of an Equal Protection analysis because deviations from those norms are offensive wholly independent from any partisan effect they might occasion.

The Plaintiffs and the majority also suggest that advances in computer technology make it easy for map-drawers to produce pleasing-looking districts that stealthily mask a partisan purpose, and so merely following traditional principles and producing unsuspicious maps cannot be enough to pass muster. The idea of some kind of high-tech stealth gerrymander is nothing more than a bugaboo, however. Computer technology was advanced in 2004, when *Vieth* was decided. The Justices' opinions cited above would all require a plaintiff to demonstrate districts with unusual shapes, without any apparent concern about computer technology. The Plaintiffs have offered no evidence that

the technology that existed in 2011, when the Republicans drew the Act 43 maps, was somehow more sophisticated than what existed a mere seven years earlier when *Vieth* was decided.[7]

> 7 In fact, the Justices have been remarking on the use of technology in gerrymandering cases for decades. In *Bandemer*, for example, Justice Powell noted that "[c]omputer technology now enables gerrymanderers to [*284] achieve their purpose while adhering perfectly to the requirement that districts be of equal population." *478 U.S. at 174* (Powell, J., concurring in part and dissenting in part). And in *Vieth*, Justice Kennedy noted that "[c]omputer assisted districting has become so routine and sophisticated that legislatures, experts, and courts can use databases to map electoral districts in a matter of hours, not months." *541 U.S. at 312* (Kennedy, J., concurring). Justice Breyer, too, observed that "[t]he availability of enhanced computer technology allows the parties to redraw boundaries in ways that target individual neighborhoods and homes, carving out safe but slim victory margins in the maximum number of districts, with little risk of cutting their margins too thin." *Id. at 364* (Breyer, J., dissenting). Computer technology was well-advanced in the 1980's, and certainly by 2004, and the Justices were clearly aware of its benefits and dangers. When Justices Souter, Stevens and Ginsburg (three-fifths of the Justices who would consider political gerrymandering challenges) say that a test should include adherence to traditional districting principles, we cannot simply ignore those opinions on the Plaintiffs' say-so.

It may be worth pointing out that [*285] the Justices' desire for normal-looking district lines is not a purely aesthetic conceit, or a "beauty contest." *Bush v. Vera, 517 U.S. 952, 977 (1996)*. As stated above, living in a bizarrely-shaped district is part of the injury a voter suffers in an unconstitutional gerrymander. Geographic lines that everyone can understand lend legitimacy to a district, minimize voter confusion, and suggest that voters are being treated similarly based on where they live rather than how they have voted in the past. As Justices Stevens and Powell have noted, "[C]onfigurations of the districts [and] the observance of political subdivision lines . . . have independent relevance to the fairness of redistricting." *Vieth, 541 U.S. at 322* (Stevens, J., dissenting) (citing *Bandemer, 478 U.S. at 165* (Powell, J., concurring in part and dissenting in part)). And, as one commentator has noted:

> Disregard of compactness facilitates gerrymandering by making it easier to include reliable voters in a particular district and avoid those who might be unreliable. It also destroys some of the advantages of single-member districts, including a sense of community and an awareness of what areas a district includes. Disregard of compactness also substantially impairs the ability of potential candidates to organize on a [*286] grass-roots basis. . . . A district that is non-compact, such as the infamous 160 mile long "I-85" district in North Carolina, creates enormous difficulties in this situation.

Paul L. McKaskle, *Of Wasted Votes and No Influence: An Essay on Voting Systems in the United States, 35 Hous. L. Rev. 1119, 1144-45 (1998)*.

Just as importantly, perhaps, part of the Justices' interest in policing the redistricting process is not merely in detecting invidious gerrymandering after the fact, but in preventing it from happening in the first place. As demonstrated at trial, the individuals drawing the lines will not know what their map's efficiency gap will be until after the first election--typically, more than a year later--making it impossible for legislators to know in advance whether their plan will pass muster. In contrast, the mapmakers (and their critics) will immediately be able to detect when their efforts have produced unusual and suspicious visual results--dragons in flight, salamanders, sick chickens, or any other of the flamboyantly monikered chimeras that creative cartographers have conjured up over the decades. Unlike most witnesses who testified at trial in this action, the line drawers will not require advanced graduate [*287] training in statistics, regression analysis, or political science, but merely a respect for traditional political boundaries and an affinity for relatively straight lines. Constitutional law need not become the province of a cottage industry of Ph.D.'s and statisticians.

Another benefit of reliance on traditional districting

factors is that the public and other legislators, when presented with the proposed maps, will be able to identify unusual shapes, and litigation may commence immediately to prevent unlawful discrimination from affecting even a single election. *Vieth, 541 U.S. at 339* (Stevens, J., dissenting, expressing hope that any test would "shorten the time period in which the pernicious effects of such a gerrymander are felt.") As noted earlier, the Plaintiffs' test will never even be triggered until after the first election under a new plan, which would allow legislators a free bite at what the Plaintiffs describe as the forbidden fruit. If a typical plan is only in force for five state assembly elections, a test that would *guarantee* that an entire election cycle must occur before any challenge would seem inadequate to the task of curbing the serious abuses the Plaintiffs allege. This is especially [*288] true in light of the incumbency effect. Allowing an election to take place under an unconstitutional gerrymander would allow political newcomers from the gerrymandering party to win an election on an unfair playing field, but then run *as incumbents* in the next election, thus preserving most or all of their ill-gotten gains even though the gerrymandered plan has ostensibly been fixed. This is exactly what happened in Texas, after a court-drawn plan remedied a pro-Democratic map: "in the 2002 congressional elections, however, Republicans were not able to capitalize on the advantage that the *Balderas* Plan had provided them. A number of Democratic incumbents were able to attract the votes of ticket-splitters . . . and thus won elections in some districts that [now] favored Republicans. As a result, Republicans carried only 15 of the districts drawn by the *Balderas* court." *LULAC*, 548 U.S. at 452 (Stevens, J., concurring in part and dissenting in part).

These are surely among the reasons that Justices Souter and Stevens both observed that constitutional violations should be easily detectible: Justice Souter (joined by Justice Ginsburg) believed such violations "can be shown straightforwardly" when traditional [*289] districting principles are violated, *541 U.S. at 348* (Souter, J., dissenting), while Justice Stevens noted that an offending plan would be "irregular on its face," *id. at 339* (Stevens, J., dissenting)--so obviously a gerrymander that the plan's invidious purpose would be immediately detectable. As noted above, this would alert the drawers themselves that their plan was suspect, and if they failed to correct the problem it would allow quicker litigation in order to prevent the offending plan from affecting an election. In addition, requiring a violation of traditional districting principles would serve as a check on court intervention into the inherently political process of map-drawing. As this court recognized in its summary judgment decision, no member of the Supreme Court has expressed a desire to involve the court in gerrymandering cases as a matter of course. Justice Stevens suggested that his "narrow test would cover only a few meritorious claims, but it would preclude extreme abuses," such as those described in the California case of *Badham v. Eu, 694 F. Supp. 664 (N.D. Cal. 1988)*, which involved "a large number of districts with highly irregular shapes, all designed . . . to dilute Republican voting strength throughout the State." *541 U.S. at 339 n.34* (Stevens, J., [*290] dissenting). As Justice Souter suggested, courts are eminently capable of assessing traditional districting principles, *Vieth, 541 U.S. at 348* (Souter, J., dissenting), whereas it is not clear that they are equipped to undertake the complex statistical and political science inquiries the Plaintiffs press in this case.[8]

8 The Plaintiffs also suggest that their proposed test *does* account for traditional districting factors. For example, if the Defendants can show that traditional districting criteria *required* them to draw the maps as they did, then that would excuse the large efficiency gap. But being able to cite traditional principles as some kind of defense is a far cry from the tests described above, which would require a *failure* to follow such principles as part of the burden plaintiffs must show.

In sum, this is hardly fertile ground for the kind of test Plaintiffs propose. Every Justice who has expressed an opinion on the subject would reject the Plaintiffs' claim either because it is non-justiciable; because the challenged plan did not involve minority party entrenchment; or because the Plaintiffs failed to show that the Defendants violated traditional districting principles in some meaningful way. If [*291] this case were before the *Vieth* Justices, the Plaintiffs would likely lose 9-0.

III. The Republicans Would Control the Legislature Even Without a Gerrymander

Given courts' historical reluctance to involve themselves in political gerrymandering cases, it would seem that this case presents a particularly poor candidate for court intervention. A key reason is that the Republicans would have won control of the legislature in both elections under Act 43 even without a gerrymander.

In 2014, the most recent election, they won a majority of the statewide vote, and so naturally they would have won control of the chamber. And in 2012, the first election under Act 43, they won close to 49% of the statewide vote.[9] Here, too, they would have retained control of the legislature. My colleagues and I are in agreement that, based on Wisconsin's political geography and the large efficiency gaps that have existed even under neutrally-drawn plans, Republicans enjoy some degree of natural advantage. (I address geography below, but in a nutshell it comes down to Democratic voters' tendency to live in closely compacted areas in Milwaukee and Madison, whereas Republicans are more efficiently dispersed.) In fact, [*292] even the Plaintiffs' own demonstration map, when adjusted to include the effect of incumbency, produced an efficiency gap of nearly 4% in favor of Republicans--and recall that this was a map drafted by a political science professor, hired by the Democratic-voting Plaintiffs, whose entire goal was to try to produce the smallest efficiency gap possible. (ECF No. 149 at 65:3.) Accordingly, it is very likely that Republicans, despite receiving less than 49% of the statewide vote in 2012, would have won control of the legislature *even without any gerrymandering whatsoever*, because they would have enjoyed a substantial advantage even under a neutrally drawn plan.

9 It appears from the Plaintiffs' calculations that the Republicans won something on the order of 48.6% of the statewide vote in 2012. (ECF No. 125 at ¶ 257.)

This is a major obstacle to the Plaintiffs' argument because their case, as explained below, is based solely on an injury they describe as an inability to convert statewide vote totals into seats in the legislature; in other words, they blame the Republican gerrymander for their inability to control that branch of government. The fact that their inability to control the legislature [*293] is due not to Republican gerrymandering but to Republican statewide strength combined with certain natural advantages means, at a minimum, that this case is hardly the kind of outrageous partisan iniquity the Plaintiffs portray it to be. Many of the Justices who would entertain political gerrymandering challenges have expressed only a grudging willingness to do so, leaving the door open for review of only those most egregious partisan injustices. *See, e.g., Vieth, 541 U.S. at 339* (Stevens, J., dissenting) (Justice Stevens' narrow test "would cover only a few meritorious claims, but it would preclude extreme abuses."). Here, it is difficult to perceive an extreme abuse when the gerrymandering party would have won control of the legislature even without gerrymandering.

IV. Theoretical Problems with the Efficiency Gap and other Votes/Seats Measures

In this court's decision denying the Defendants' motion to dismiss, the panel observed that the justices had expressed some support for the concept of partisan symmetry, a doctrinal cousin of the efficiency gap. *Whitford v. Nichol*, No. 15-CV-421-BBC, 2015 WL 9239016, at *9 (W.D. Wis. Dec. 17, 2015). However, the court correctly noted that Justice Kennedy's support was "tepid, at best," and at the time we could also have rightly observed that the support [*294] of the other Justices was hardly a ringing endorsement of the symmetry theory. *Id.* (citing *LULAC*, 548 U.S. at 419-20 (Kennedy, J., concurring in the judgment)). Despite this faint praise, the court now is being asked to elevate the efficiency gap theory from the annals of a single, non-peer-reviewed law review article to the linchpin of constitutional elections jurisprudence. This request is made despite the efficiency gap's significant, and likely insurmountable, limitations, as detailed below.

A. The Plaintiffs' Case is Premised on a Right to Proportional Representation

The concepts of efficiency and waste are inherently normative ones, requiring us to consider the *proper* role of a vote, as opposed to a vote being "wasted." If we say something is efficient, that implies knowledge of an ultimate purpose or goal: if a furnace is 90% efficient, that is a measure of how well it converts fuel into heat, with heat being the goal. According to the Plaintiffs, the goal of voting--voting's *only* purpose, in fact-- is to convert votes into additional seats in the assembly, and so one's vote is only efficient insofar as it translates into more seats. Any other result is wasted and inefficient, like heat escaping from a [*295] leaky furnace.

Whether the argument is premised on the efficiency gap or on other measures comparing legislative seats to statewide votes, it is clear that the Plaintiffs' case is really premised on a right to proportional representation, that is, the right to translate one party's *statewide* vote totals into a given number of seats in the legislature. If Party A has a large statewide total of votes, say 60%, but has only received 51% of the seats, there is a large efficiency gap reflecting the disproportionality of that party's

representation: the number of seats they won was *disproportionally small* compared to their statewide vote totals. Any injury premised on such a comparison is an injury based on an absence of proportionality. As the parties have recognized, however, there is no constitutional requirement that groups of voters must enjoy political strength proportionate to their numbers. The *Bandemer* court recognized that "the mere fact that a particular apportionment scheme makes it more difficult for a particular group in a particular district to elect the representatives of its choice does not render that scheme constitutionally infirm." *478 U.S. at 131-32* (plurality opinion). "Our cases . . [*296] . clearly foreclose any claim that the Constitution requires proportional representation or that legislatures in reapportioning must draw district lines to come as near as possible to allocating seats to the contending parties in proportion to what their anticipated statewide vote will be." *Id. at 130*.

This principle was reiterated a decade later in *Vieth*:

> Deny it as appellants may (and do), this standard rests upon the principle that groups (or at least political-action groups) have a right to proportional representation. But the Constitution contains no such principle. It guarantees equal protection of the law to persons, not equal representation in government to equivalently sized groups. It nowhere says that farmers or urban dwellers, Christian fundamentalists or Jews, Republicans or Democrats, must be accorded political strength proportionate to their numbers.

541 U.S. at 288 (plurality opinion); *see also id. at 338* (Stevens, J., concurring) ("The Constitution does not, of course, require proportional representation of racial, ethnic, or political groups.").

My colleagues concede, as they must, that there is no constitutional right to proportional representation. In their view, however, the fact that there is no right [*297] to proportional representation does not foreclose looking to *dis*proportional representation as evidence of a discriminatory effect. Yet it is unclear to me how that statement differs in practical terms from establishing a covert right to proportional representation itself: if there is no constitutional right to something, then why look to the absence of that thing as evidence of constitutional injury? Saying that there is a right to *not* have *dis*proportional representation is tantamount to saying there is a right *to* have proportional representation. Suppose a plaintiff incarcerated in prison claimed injury because his meals tasted bad; in particular, he complained that the prison refused to serve him filet mignon and lobster for dinner every night. Of course there is no constitutional right to have steak and lobster in prison, and so a court would summarily reject the claim on that basis and move on. No court in the land would say that, "although there is no right to eat steak in prison, we see no reason we can't consider the *absence* of steak and lobster as evidence that the prison's food is so poor that it violates the *Eighth Amendment*." If something is not a constitutional right, then its absence [*298] cannot cause constitutional injury. Here, the majority appears to be saying in one breath that there is no right to proportional representation but then in the next that the absence of proportional representation may constitute the entire basis of a cause of action. Disproportionality cannot be viewed merely as evidence of a partisan effect--the absence of proportionality is the signature feature of the Plaintiff's entire case.

In denying that the Plaintiffs' theory is based on a right to proportional representation, the majority also relies on an opinion of Justice Kennedy, who observed in *LULAC* that "a congressional plan that more closely reflects the distribution of state party power seems a less likely vehicle for partisan discrimination than one that entrenches an electoral minority." *548 U.S. at 419*. From this, the majority appears to extrapolate the principle that when the number of seats a party wins deviates from how many we would "expect" it to receive, such a scenario could prove an unconstitutional partisan gerrymander. Again, however, the notion that we would "expect" a given number of seats requires imputing the normative judgment that a party's seats won must be proportional to the party's [*299] statewide vote totals. The fuller context of Justice Kennedy's statement is as follows:

> [C]ompared to the map challenged in *Vieth*, which led to a Republican majority in the congressional delegation despite a Democratic majority in the statewide vote, Plan 1374C can be seen as making the party balance more congruent to statewide party power. To be sure, there is no constitutional requirement of proportional representation, and equating a party's

> statewide share of the vote with its portion of the congressional delegation is a rough measure at best. Nevertheless, a congressional plan that more closely reflects the distribution of state party power seems a less likely vehicle for partisan discrimination than one that entrenches an electoral minority.

Id.

My reading of the above paragraph is that Justice Kennedy would probably agree with Justice Breyer that a map that allowed a statewide *minority* party to consistently win a majority of seats would be constitutionally suspicious. Justice Kennedy notes that the map reviewed in *LULAC* did *not* do this, however, because Republican congressional candidates won 58% of the statewide vote in Texas and received a healthy majority of 21 of the 32 available seats. [*300] *Id. at 413*. In other words, because the majority party received a majority of seats, *LULAC* was not a case where a plan "entrenches an electoral minority." *Id. at 419*. This observation, modest as it is, does not suggest that disproportionality might be injurious *on its own*; instead, it merely means that it could prove problematic when the disproportionality is what allows a minority party to win a majority of seats--the entrenched minorities also described by Justice Breyer. In short, from Justice Kennedy's opinion I am unable to glean a principle that would treat disproportional representation *per se* as a constitutional injury. If anything, it suggests a more stringent threshold for plaintiffs, requiring them to show that an established minority party has managed to rig the system to entrench itself in power despite the evident will of a majority of voters.

The Plaintiffs also argue that they are not insisting on using *exact* proportional representation as their benchmark. For example, they do not say that winning 48% of the statewide vote entitles them to 48% of the seats. But no one in *Bandemer*, or in any other case brought to the court's attention, had insisted on strict 1:1 proportionality either, and [*301] so when they rejected gerrymandering challenges on that basis the courts do not appear to have had "strict" proportional representation in mind; they were rejecting the concept of proportionality more broadly. This is clearest in *Vieth*, where the plaintiffs argued for a loose proportionality standard that would entitle a party who won a majority of the statewide vote "to translate a majority of votes into a majority of seats." *541 U.S. at 287* (plurality opinion). The plaintiffs were not arguing their 51% of the statewide vote entitled them to 51% of the seats, but merely that a statewide victory entitled them to control of the legislature--*any* percentage greater than 50%. The court rejected that test on the ground that the Constitution does not require that political parties "must be accorded political strength proportionate to their numbers." *Id. at 288*. Thus, the court rejected that test *not* because a political party had no entitlement to a strict proportion of seats to votes; it rejected it because parties are not entitled to *any* proportion at all.

Here, the Plaintiffs' claim is even more specific than the argument posited in *Vieth*: not only do the Plaintiffs insist on receiving a majority of seats for a [*302] majority of the vote (as in *Vieth*), they propose a linear 2:1 relationship between additional votes and seats. 51% of the statewide votes should garner 52% of the seats, while 54% of the votes would win 58% of the seats, and so on. Any significant deviation from that predetermined proportion must be justified in court. Such a scheme, of course, is the essence of proportionality.[10]

> 10 Notably, the Plaintiffs' proposal also produces unusual results. For example, under the Plaintiffs' test, if a party received 60% of the statewide votes and won the same 60% of the seats, that would produce a 10% efficiency gap simply because it deviates from their preordained 2:1 relationship--with 60% of the vote, the victorious party "should" have received a seat bonus of 70% of the seats. Obviously, the need for court intervention in such a case would be completely absent, because the statewide majority party has won a large majority of seats. Yet under the Plaintiffs' test such a plan must be thrown out (assuming intent were present) as an unconstitutional gerrymander.

At this point it might be worth exploring *why* proportional representation is not a constitutional right. A key reason is that each election [*303] in each district is a separate affair. Wisconsin's constitution, like that of the nation, did not create a form of government in which the party, or coalition of parties, that wins the majority of the statewide vote is given all of the tools needed to enact and implement its legislative program. Instead, we elect our representatives on a district-by-district basis. Some

candidates will win in landslides while others squeak out narrow victories. There is no inherent reason to draw *statewide* inferences about the number of seats a given party "should" win based on either scenario. "[O]ne implication of the districting system is that voters cast votes for candidates in their districts, not for a statewide slate of legislative candidates put forward by the parties. Consequently, efforts to determine party voting strength presuppose a norm that does not exist--statewide elections for representatives along party lines." *Bandemer, 478 U.S. at 159* (O'Connor, J., concurring). Particularly at the assembly level, candidates are close to their voters. Responsiveness and personalities matter. The Plaintiffs have provided no reason to assume that each vote for a given candidate should be transformed into a vote for a state-wide [*304] party, nor why the total votes received by a group of candidates in 99 different districts should play some kind of prescriptive role in determining how many districts that party "should" win.

Another reason proportionality is not a right is that *disproportionality* is built in, and in fact even *assumed*, in winner-take-all systems of voting. "District-based elections hardly ever produce a perfect fit between votes and representation." *Id. at 133* (plurality opinion). On the federal level, the nationwide popular vote does not determine the presidency, and neither does it determine the House of Representatives or the Senate, both of which are voted on individual districts or separate states. If there is an anomaly in wasted votes between the parties, we do not rejigger the seats to grant one side more seats: wasted votes are just wasted votes. The same is true in any assembly district. A candidate could lose by a single vote, and yet *none* of the votes cast for him will translate into any additional power for his party. This is simply the nature of any system where the winner gets everything and the loser receives nothing. Early in our nation's history, we experimented with a kind of proportional [*305] representation by allowing the second-place presidential candidate to become vice-president, giving something of a consolation prize to all of those voters whose votes would otherwise be "wasted." But soon enough, after Thomas Jefferson became vice-president under President John Adams, that system was abandoned in favor of a winner-take-all paradigm.

Many other countries, including many of the countries in Western Europe, require some fashion of proportional representation, for example, by allowing voters to vote for a list of candidates. "If properly implemented, [proportional representation] allows all significant groups (political, racial, or otherwise) of the electorate to be represented in proportion to their population, it eliminates the evils of gerrymandering, and it eliminates the need to use race-conscious criteria in creating legislative districts." McKaskle, *Of Wasted Votes and No Influence: An Essay on Voting Systems in the United States, supra* at 1126. But that is not the system of government the people who drafted and ratified the constitutions for the State of Wisconsin and the nation chose.

The point is that proportional representation is *one* possible way of electing legislators, governors or presidents, but it is not the only way. When states opt for winner-take-all [*306] districts, disproportionality is simply a side-effect of that decision:

> If all or most of the districts are competitive . . . even a narrow statewide preference for either party would produce an overwhelming majority for the winning party in the state legislature. This consequence, however, is inherent in winner-take-all, district-based elections, and we cannot hold that such a reapportionment law would violate the *Equal Protection Clause* because the voters in the losing party do not have representation in the legislature in proportion to the statewide vote received by their party candidates.

Bandemer, 478 U.S. at 130 (plurality opinion). This inherent disproportionality is more pronounced in states where the voters of one party are naturally clustered, or "packed" in relatively small geographic regions, like Wisconsin's Democratic voters are in Milwaukee and Madison, as is explained by the majority opinion and below. In essence, adoption of the efficiency gap (or any other "gap" between statewide vote totals and seats) in such states would undermine the districting system itself. "If there is a constitutional preference for proportionality, the legitimacy of districting itself is called into question: the voting strength of less [*307] evenly distributed groups will invariably be diminished by districting as compared to at-large proportional systems for electing representatives." *Id. at 159* (O'Connor, J., concurring).

In fact, the only way to counter the adverse effect of

the natural packing of one party's voters in a few discrete geographic areas in pursuit of the goal of proportional representation is to "reverse" gerrymander districts in an attempt to more evenly distribute that party's voters. *Id. at 160*. That is precisely what the Plaintiffs' expert, Dr. Mayer, did with his demonstration plan. It wasn't that the Defendants considered partisan voting patterns in designing their plan and Dr. Mayer did not. Indeed, Dr. Mayer considered actual votes, an advantage Defendants' map-drawers did not have, and assumed that each vote would be for the same party's candidate even if voting in different districts with different candidates. Regardless of whether that assumption is a reasonable one, the larger point is that requiring some kind of statewide votes-to-seats proportionality in a system where elections are for representatives in winner-take-all districts does not eliminate partisan gerrymandering, if by partisan gerrymandering one means [*308] drawing districts based on past voting history. Instead, it would constitutionally *mandate* gerrymandering in order to offset the effects of natural packing.

It follows that the number of votes a *party* receives in an entire state should have no relevance to any gerrymandering injury alleged by a voter in a single district, because any reference to statewide strength is the essence of proportionality. *Id. at 130* (plurality opinion) (defining proportional representation as drawing district lines that are "in proportion to what their [party's] anticipated statewide vote will be"). The premise of any test that merely compares statewide votes to seats is that there is something constitutionally wrong with *dis*proportional representation. This is nothing short of a claim that voters of one party "must be accorded political strength proportionate to their numbers." *Vieth, 541 U.S. at 288* (plurality opinion). Because there is no such constitutional right, I would enter judgment for the Defendants.

B. The Efficiency Gap Incorrectly Treats Seats Won as a Measure of Political Power

It seems intuitive to consider a party's number of assembly seats as an adequate measure of political power in the assembly. The efficiency gap merely [*309] measures each party's ability to win more seats, and so the efficiency gap also has a basic intuitive appeal. But upon even a cursory examination, it becomes clear that a party's number of seats is often a poor measure of political strength. For example, if the Republicans had 51 members to the Democrats' 48, only a political neophyte might think the two parties enjoyed about equal strength. The reality, of course, is that the Republicans have tremendously more power simply by virtue of the few extra seats that give them the majority in the legislature. Conversely, compare a Republican majority of 60-39 to a majority of 70-29. In the 60-39 case, the Republicans have a 21-seat edge, or 54% more seats than the Democrats. In the 70-29 assembly, the Republicans enjoy a massive advantage with more than double the Democrats' number of seats. And yet no one with any experience in politics would think there was much practical difference between the two majorities. Once a majority is comfortable (however defined), the party in control has the ability to pass whatever bills it wants, and therefore winning (or losing) additional seats will often provide no practical increase (or decrease) in [*310] a party's political power.[11] The point is that every seat gained (or lost) does not represent an equivalent increase (or decrease) in political power--what is crucial is usually only the seats necessary for one party to secure a comfortable *majority*.

11 It is true that a two-thirds majority will have the power to override gubernatorial vetoes, but no one has suggested that would be relevant here.

In 2014, the Republicans won 52% of the statewide vote and took 63 seats. The Democrats won 48% of the vote and took the remaining 36 seats. This resulted in an efficiency gap of around 10% in favor of the Republicans. (ECF No. 125 at ¶¶ 258, 290.) If the efficiency gap were zero (the Plaintiffs' ideal), the Republicans would have won only 54% of the assembly seats (53 or 54 seats), while the Democrats would have won 46% (45 or 46 seats). So, instead of enjoying a 54-45 majority, the purported gerrymander (allegedly) allows the Republicans to enjoy a more robust 63-36 majority. The problem is that the Plaintiffs never even attempted to identify a single practical difference in their political power between the actual 63-36 Republican majority and the "ideal" 54-45 majority that would exist under a [*311] zero efficiency gap. Whether the Republicans have a majority of 9, 15, or 27 is not likely to impact anyone in any material sense: either way, the Republicans are in charge (by a comfortable margin) and able to pass whatever bills they want to pass. Not surprisingly, the Plaintiffs have identified no legislation that passed only because the Republican majority was larger than it otherwise would have been. (Ironically, the

most controversial of the Republicans' bills, Act 10, was passed by the 2011 legislature, which was elected under a court-drawn district plan.)

This demonstrates at least three things. First, it is difficult to perceive any injury worthy of court intervention when a party that wins a majority of the statewide vote has merely increased its number of seats beyond what a zero efficiency gap would mandate.

A second obvious implication of the above is that any measure that treats all seats as being of equal value cannot be a reliable measurement of political harm. The efficiency gap is all about increasing seats, treating every seat as equal and the gaining of more seats as the only efficient use of a vote. But in many elections, including 2014, the additional seats the [*312] majority party gained, allegedly through their gerrymander, do not appear to have any discernible impact on their power. In fact, as long as the Republicans maintain statewide vote totals above 48 or 49 percent (as in 2012), we would expect (based on history and even the demonstration plan) that even under a neutrally-drawn plan they would enjoy comfortable control of the assembly. Thus, a measure that is based solely on the *number* of seats one party wins does not seem up to the task of measuring, or even identifying, the kinds of partisan gerrymanders that might cry out for court intervention. Because all seats are not alike, neither are all efficiency gaps alike. A 10% gap, as seen in 2014, will be of almost no practical import because it merely increased seats for a party that would have maintained comfortable control of the chamber even without gerrymandering. This gives the lie to the Plaintiffs' hyperbolic claim that the instant case represents "one of the worst partisan gerrymanders in modern American history." (ECF No. 1 at ¶ 1.)

In sum, as a general principle, the efficiency gap oversimplifies political injury by assuming that any gain or loss of seats equates to a proportional [*313] gain or loss of political power, when in fact the raw number of seats is often irrelevant. By reducing political power to gaining seats--regardless of how many seats the gerrymandering party would otherwise have--the efficiency gap does not adequately measure, or even detect, political gerrymandering injuries. Accordingly, I would not rely on the efficiency gap, or any other measure comparing statewide votes to seats, to find a partisan gerrymander in this case.

C. Votes are Meaningful, even if "Inefficient"

In addition to oversimplifying the analysis by treating all seats equally, the Plaintiffs' analysis ignores the fact that votes "count" even if they do not lead to additional seats. "[O]ur system of representative democracy is premised on the assumption that elected officials will seek to represent their constituency as a whole, rather than any dominant faction within that constituency." *LULAC*, 548 U.S. at 469-70 (Stevens, J., concurring in part and dissenting in part) (citing *Shaw v. Reno, 509 U.S. 630, 648 (1993))*. It is of course undeniable that *one* of the central purposes in voting is to try to have one's political party win additional seats, especially if that means taking control of a branch of government. But "the power to influence the political [*314] process is not limited to winning elections." *Bandemer, 478 U.S. at 132* (plurality opinion). In short, it is not accurate to say that votes are "wasted" merely because they fail to increase seats for one's political party. The Plaintiffs' reliance on the efficiency gap is ultimately a reductionist exercise that fails accurately to account for the influence of lost votes and exaggerates the role of winning seats in the voting process.

1. Votes are not "Wasted" Simply Because they do not Produce Additional Seats

The Plaintiffs have presented this as a cracking case, meaning that they allege the Republicans drew the maps in order to allow themselves to win a large number of close (but not too close) elections in districts that skewed slightly Republican. This enabled the Republicans to efficiently win narrow victories, while the Democrats squandered hundreds of thousands of votes in landslide wins in their own districts. Even though the Plaintiffs would no doubt prefer that the Democrats had won some of those seats, it is not as though those lost votes are completely "wasted." Plaintiffs ignore the fact that Republicans and Democrats are not fungible: the (R) next to a candidate's name does not mean he will vote [*315] the same as the Republican candidate in the next district. "The two major political parties are both big tents that contain within them people of significantly different viewpoints." *Baldus v. Members of Wis. Gov't Accountability Bd., 849 F. Supp. 2d 840, 851 (E.D. Wis. 2012)*. Thus, a Republican who has won with only 51% of the vote will very likely govern differently than one who has a safe seat, just as a Republican in Massachusetts will be different from one in Utah. It is exceptionally likely that legislators in swing districts will adopt more moderate, centrist positions than some of

their colleagues, and they will of necessity be more responsive to the 49% of the electorate that did not vote for them. If that is true, then the losing candidate's votes were not "wasted" at all. They serve as an unsubtle reminder that the legislator may ignore the views of the minority party at his own risk. The same, of course, is true of those legislators whose seats are so safe that they routinely win in landslides or seldom face opposition. It would not be surprising if legislators from Milwaukee Democratic districts or suburban Waukesha County Republican districts, for example, represented viewpoints further from the center of their respective parties' ideologies, being more concerned [*316] about a primary challenge from *within* their own party than any threat from a candidate from the other party. The fact that thousands of votes in those districts do not translate into seats does not mean that they have no impact on the individuals who represent those districts. Instead, they provide cover to legislators on both sides of the aisle and give voice to the more liberal and conservative views their respective parties espouse. As a general principle, legislators from safe seats behave differently: "the Constitution does not answer the question whether it is better for Democratic voters to have their State's congressional delegation include 10 wishy-washy Democrats (because Democratic voters are "effectively" distributed so as to constitute bare majorities in many districts), or 5 hardcore Democrats (because Democratic voters are tightly packed in a few districts)." *Vieth, 541 U.S. at 288* (plurality opinion). Since it is the excess of wasted votes that make those seats safe in the first place, these excess votes cannot be said to be wasted: they shape the larger political debate, even if they do not translate into additional seats in the legislature. As the *Bandemer* plurality explained:

> the power [*317] to influence the political process is not limited to winning elections. An individual or a group of individuals who votes for a losing candidate is usually deemed to be adequately represented by the winning candidate and to have as much opportunity to influence that candidate as other voters in the district. We cannot presume in such a situation, without actual proof to the contrary, that the candidate elected will entirely ignore the interests of those voters. This is true even in a safe district where the losing group loses election after election. Thus, a group's electoral power is not unconstitutionally diminished by the simple fact of an apportionment scheme that makes winning elections more difficult, and a failure of proportional representation alone does not constitute impermissible discrimination under the *Equal Protection Clause*.

478 U.S. at 132 (plurality opinion).

Finally, it should go without saying that because the ballot is secret, a minority-party voter in a given district will have as much access to his legislator as any other voter--to seek help in dealing with a government agency, to express a view about pending legislation, or to request help in securing funds for repairing a local bridge or extending [*318] a state bike trail. The bills passed by a legislature get all of the attention, but the behind-the-scenes, day-to-day work of a legislator involves countless services for constituents, none of which depend on which party holds a majority in the assembly. Focusing solely on translating votes into seats ignores the fact that winning additional seats is not the only purpose in voting.

2. Voting is Simply a Choice For One's Own District

In addition, reliance on the efficiency gap ignores what actually occurs at the ballot box and how voters likely perceive what they are doing by voting. Simply put, many voters do not think in terms of efficiency or wasted votes or, more generally, about translating votes made in individual districts into a *statewide* phenomenon. Imagine a voter in one of the state's heavily partisan districts in which the assembly candidates routinely run without opposition. For example, in 2014 Democratic incumbent Rep. Leon D. Young won District 16 with 16,183 votes compared to just 261 votes for unspecified write-in candidates, a landslide win with more than 98% of the vote.[12] When those 16,183 voters placed their vote for Rep. Young--the only name on the ballot--they very [*319] likely knew that Young would win in a landslide and that their vote was an exercise in futility, at most a symbolic gesture. They could have left that spot blank, or stayed home that day, and Rep. Young would have won anyway, since he was unopposed. The same is true of voters in District 58, where Republican Bob Gannon ran unopposed and won 22,087 votes to just 483 votes for unregistered candidates. Surely most of these candidates'

voters knew their votes were "wasted" in the Plaintiffs' sense of the term--that they were unnecessary to winning any additional seats for their candidate's party. But it is unlikely that such voters perceived some sort of injustice arising out of the fact that Young and Gannon--the candidates they supported--would win by such large margins. In other words, voters in such circumstances *expect* that their votes will not gain additional seats for their party (on a statewide basis), and, to the extent they consider the question at all, they likely believe that such a phenomenon ("inefficiency") is simply part of the democratic process.

> 12 G.A.B. CANVASS REPORTING SYSTEM COUNTY BY COUNTY REPORT, 2014 GENERAL ELECTION (Nov. 26, 2014, 2:12 PM), http://www.gab.wi.gov/sites/default/files/11.4.14%20Election%20Results%20-%20all%20offices-c%20x%20c%20report.pdf .

The larger point is that, [*320] in voting, a citizen is simply expressing a choice about who he believes is a better candidate *to represent his own district*, which of course is the only question the ballot asks the voter to answer. The Plaintiffs presented no evidence that voters view their vote as an exercise in maximizing the number of seats their *party* wins in the assembly, nor is it plausible that voters believe their vote in a single district should be calculated in assessing whether the number of seats their party won, on a statewide basis, is fair. "[O]ne implication of the districting system is that voters cast votes for candidates in their districts, not for a statewide slate of legislative candidates put forward by the parties. Consequently, efforts to determine party voting strength presuppose a norm that does not exist-- statewide elections for representatives along party lines." *Bandemer, 478 U.S. at 159* (O'Connor, J., concurring).

In fact, it is not difficult to imagine some voters preferring a result *opposite* of the Plaintiffs' assumption. Although there are thousands of die-hard party members like Plaintiff Whitford in both parties, many voters are not quite so committed. A given voter might like an incumbent Republican in his own [*321] district, even if that voter leans Democratic in other respects, and so such a voter will vote for the Republican assembly candidate even while *preferring* that his vote does *not* translate into additional Republican seats in the assembly. Such a voter would be surprised if his wasted Republican vote were used in some sort of *ex post facto* calculus to determine whether the Republican candidates won "enough" seats that year. And what of ticket-splitters and independents? Imagine a voter who votes for a Democratic assemblyman, a Republican state senator and a Republican governor. What are we to make of such a ballot, except to conclude that the voter is expressing individual preferences about individual races, rather than some kind of global desire to increase seats for a given party?

In sum, reliance on the efficiency gap ignores what the *Bandemer* court pointed out, which is that there is more to politics than winning seats, and even the winning of more seats often has little practical impact on one party's power. In addition, it overlooks the reality that individual voters do not perceive winning additional seats as the overwhelming purpose of voting, either. Because the efficiency gap [*322] (as well as Professor Gaddie's S-curves) are measures only of translating statewide vote totals into legislative seats, it is difficult to see how they could adequately measure any unconstitutional level of partisan gerrymandering.

D. The Efficiency Gap Begs the Ultimate Question

An additional problem with the Plaintiffs' reliance on the efficiency gap is that the theory relies on circular logic to prove its point. Specifically, in this case the efficiency gap is merely a somewhat more sophisticated way of saying that the Republicans won a large number of close elections. This is because winning close elections is the surest way to make sure the other side racks up lots of wasted votes--*every* losing vote is wasted, whereas only a few winning votes are wasted. For example, if A defeats B 5,200 to 4,800, A has wasted only 199 votes while B has wasted a whopping 4,800--an eye-popping efficiency gap of 46%! This adds up, of course, any time there is a statewide trend, and so any time one party wins a lot of close elections, the efficiency gap will *necessarily* be high. That is simply and unavoidably how the Plaintiffs' math works. But simply stating that there is a high gap does not tell us [*323] anything about gerrymandering, however, even if partisan intent is present; it simply means one side won significantly more close elections than the other. And the efficiency gap presumes that every lost vote in every election is a "cracked" vote, i.e., evidence of gerrymandering. Under the Plaintiffs' theory, *any* time one side wins a lot of close elections, the map *must* have been gerrymandered (assuming one side controlled the process).[13]

13 The Plaintiffs would object that this analysis ignores the fact that their test also requires evidence of partisan intent. Thus, it is triggered not merely by the existence of a certain efficiency gap but also the presence of intent. But as this case demonstrates, it will be easy enough to show intent whenever one side controls the process. The fact that there will always be some partisan intent in cases like this will enshrine the efficiency gap analysis as the decisive factor.

The second problem resulting from reliance on the efficiency gap is that the Plaintiffs would use the Republicans' own electoral success *against* them: under their logic, the more close races the Republicans win, the more votes the Democrats waste, which produces a large efficiency [*324] gap and therefore means the Republicans' wins must have been the result of an invidious gerrymander--a self-fulfilling prophecy. It thus should be clear that using the efficiency gap simply begs the question of *whether* there was a gerrymander by answering "yes" any time one party wins significantly more close elections than the other. Without addressing *why* one party might have won more close races than the other, and without evidence of specific districts that were gerrymandered, we are left only to guess that the result must have been caused by gerrymandering.

This reinforces my view, set forth above, that it is dangerous, and even misleading, to find unconstitutional gerrymandering on the basis of statewide vote totals rather than looking at actual maps to detect suspiciously-drawn districts that are non-contiguous or compact. In this case, there was no evidence of an *actual* gerrymandered district, no map that looked bizarre, and not even a suggestion as to how the map-drawers moved lines here and there to achieve their allegedly unconstitutional ends. Instead, the evidence of the effects of gerrymandering is simply that one party won a lot of close elections. It should be obvious [*325] that winning close elections is not unconstitutional, and yet that is all the efficiency gap shows--that a party who loses lots of close races will have far more wasted votes, producing the high efficiency gap seen in this case. Thus, without any actual evidence of gerrymandering, I would find in favor of the defendants.[14]

14 A final concern is that the Plaintiffs' test presumes that parties should have the same number of wasted votes, even if there are different numbers of voters for each party. But what happens when the two parties have very different numbers of voters? In Massachusetts, for example, three of every four voters who registered a party affiliation registered as a Democrat. *Massachusetts Registered Voter Enrollment: 1948-2016*, WILLIAM FRANCIS GALVIN, SECRETARY OF THE COMMONWEALTH OF MASS., https://www.sec.state.ma.us/ele/eleenr/e nridx.htm (last visited Nov. 3, 2016). This is reflected in the fact that the Massachusetts House of Representatives consists of 122 Democrats and only 34 Republicans. Under the Plaintiffs' efficiency gap analysis, a perfectly symmetrical map (efficiency gap of zero) would require *equal* numbers of wasted votes on both sides. Yet such a result is impossible to imagine in a state where the *number* of [*326] voters in each party is so unequal at the outset. On what constitutional principle would one rely to expect that the Republicans, who are vastly outnumbered, could ever produce similar numbers of wasted votes as the Democrats?

V. Practical Problems with the Efficiency Gap

A. The Efficiency Gap's "Wasted Votes" Metric Appears Incomplete

In addition to the more abstract problems with the efficiency gap and other votes/seats measures noted above, more practical ones are evident as well. I begin with what appears to be the Plaintiffs' method of calculating wasted votes. To recall, a "wasted" vote falls into one of two categories: a vote in excess of 50%+1 for the winning candidate ("surplus" votes), and any vote for a candidate who has lost ("lost votes"). It is easy enough to understand how to calculate a party's lost votes, but it remains opaque why a party's surplus votes should be calculated based on a "50% plus one" standard. (In fact, the Stephanopoulos and McGhee article, in which the theory is propounded, ignores the "plus one" requirement entirely, but that is beside the point.[15]) The theory is that the winning party needed 50% plus one of the *total* votes cast in order to win the seat, [*327] and so any votes in excess of that amount are deemed "surplus" and therefore wasted.

15 Nicholas Stephanopoulos & Eric McGhee, *Partisan Gerrymandering and the Efficiency Gap, 82 U. Chi. L. Rev. 831 (2015).*

But reliance on one-half (plus one) of the total votes produces unexpected results, primarily because winning elections is not an exercise in *division* but in *addition:* in reality, all you need to win an election in a two-candidate race is one more vote than the other candidate, not 50%-plus-one of the total votes. For example, if the Indians defeat the Cubs 8 to 2, any fan might say that the Indians "wasted" 5 runs, because they only needed 3 to win yet scored 8. Under the Plaintiff's theory, however, the Indians needed 5 runs to beat the Cubs that day: 4 runs to reach 50% of the *total* runs, plus one to win. That, of course, is absurd.

The central flaw is that when discerning how many votes it takes to win an election, we should not care what the *total* votes are, because that is an abstraction that factors in how many votes the *winning* candidate receives. Since every vote cast for the winning candidate increases the *total* number of votes (the denominator of the percentage), it also necessarily increases the number [*328] that candidate needs to reach 50% plus one. This reduces, by half, the winning candidate's number of wasted votes. The key point is that there is no reason to believe the number of votes needed to win should be determined by how many votes the winning candidate receives. Just as a baseball game is not decided by reference to *total* runs, an election is not decided by a fraction of total votes. Instead, the number of votes needed to win is simply the number one more than the *losing* candidate won, and therefore anything beyond that should be counted as a "wasted" vote, using Plaintiff's terminology.

This defect is not just a quibble because it exposes the oddity of a scenario the Plaintiffs described. In an effort to downplay the influence of naturally packed Democratic voters in Milwaukee on the efficiency gap (a phenomenon discussed below), Plaintiffs asserted that in a 75-25 district, wasted votes for each party would be a "wash." Under their math, if the Democratic candidate received 7,500 votes and the Republican received 2,500, then the Republicans would waste 2,500 votes and the Democrats would waste 2,499 (7,500 minus 5,001, which is 50% plus one of the total votes cast). Since [*329] the wasted votes were virtually equal, they explained, the naturally packed Democratic votes in such districts did not have any impact on the overall efficiency gap. This, of course, fit very well with the Plaintiffs' overarching theory of the gerrymander, which was that Republicans had cracked large numbers of Democrats out of several districts in order to create many districts that now leaned Republican. The efficiency gap, in their view, was due to this intentional cracking rather than to the "natural" packing that exists in several heavily-Democratic districts.[16]

16 The Plaintiffs did not argue that the Republicans had intentionally packed Democrats in Milwaukee or elsewhere. This is likely because many of the Milwaukee districts were drawn, with the help of lawyers and Dr. Gaddie, with an eye to Voting Rights Act concerns, and the Republican operatives who drew the rest of the map did not touch those districts' boundaries.

But it is counterintuitive to believe that wasted votes would be *equal* in a 75-25 district, when one party wins by a landslide. Suppose the Republicans had drawn lines designed to pack thousands of Democratic voters into new 75%-25% districts. Under Plaintiffs' logic, [*330] such heavily slanted districts would have *no impact* on the efficiency gap, despite the explicit packing of thousands--or hundreds of thousands--of voters. Plaintiffs never explained why a 75-25 district should be viewed as some kind of magical "neutral" district, when in reality it could be a deliberate, and even extreme, gerrymander, full of wasted votes. Instead of relying on a 50%-plus-one standard, it would make much more sense to count *all* the wasted votes, i.e., those in excess of what the Democrats actually required to win. In a 7,500 to 2,500 election, the Republicans still waste all 2,500 losing votes, but the Democrats waste 4,999 votes: 7,500 minus the 2,501 they needed to win. Now, instead of pretending that the district is a wash, the Democrats are properly counted as having wasted twice as many votes as the Republicans, and this would serve as evidence of the gerrymander that actually occurred.

Conversely, suppose a district were drawn by a neutral party with the intent of making it competitive, or 50-50. In such a district, one candidate will necessarily lose--maybe only by a few votes--and yet such a result would produce massive numbers of wasted votes (and thus inefficiency) [*331] for the loser. For example, if A wins with 5,100 votes to B's 4,900, B has wasted 4,900 votes and A only 99--producing a colossal efficiency gap. Under the Plaintiff's theory, the result from a 50-50 district--a district *designed* to give each side a fair chance of winning--would be the *strongest* evidence of a gerrymander, despite the opposite intent. This

discrepancy would seem to render the efficiency gap, as calculated by the Plaintiffs, an unhelpful and dangerously misleading metric for gauging actual electoral disparities. Counting *all* wasted votes, as described above, would alleviate part of this problem by doubling the number of votes wasted by winners, thus mitigating the outsized role close elections play in the Plaintiffs' efficiency gap analysis. Because the efficiency gap, which the Plaintiffs made the centerpiece of their case, does not appear to adequately count wasted votes, I would find in favor of the Defendants.

B. The Efficiency Gap is Highly Volatile

1. Volatility in General

Immediately above I have attempted to demonstrate how one side's losses in close elections can produce large efficiency gaps due to the fact that every vote for a losing candidate is considered wasted. [*332] Notably, massive efficiency gaps necessarily arise even in districts that are designed to be tossups. Given how easy it is to produce such large gaps, it should not be surprising that efficiency gaps are volatile. The Defendants' expert, Professor Nicholas Goedert, credibly testified that wave elections were relatively common, and experience teaches that in some years the Republicans did well across the board, while Democrats performed well in others. In a good Republican year, it will not be surprising if the GOP's candidates win a large number of swing elections, racking up lots of efficient victories and causing the Democrats to waste hundreds of thousands of futile votes. In such a year, the resulting efficiency gap would suggest a historic gerrymander, *even under a perfectly neutral map*. This effect is exaggerated when the Democrats' voters are more closely packed than the Republicans, because then Democratic losses *and* wins both produce massive numbers of wasted votes. The wins tend to be landslides, producing large numbers of surplus votes, while the losses are close calls, resulting in huge pileups of lost votes. The *Bandemer* court predicted how volatile a measure like the [*333] efficiency gap could be:

> If all or most of the districts are competitive-defined by the District Court in this case as districts in which the anticipated split in the party vote is within the range of 45% to 55%-*even a narrow statewide preference for either party would produce an overwhelming majority for the winning party in the state legislature*. This consequence, however, is inherent in winner-take-all, district-based elections, and we cannot hold that such a reapportionment law would violate the *Equal Protection Clause* because the voters in the losing party do not have representation in the legislature in proportion to the statewide vote received by their party candidates.

478 U.S. at 130 (plurality opinion) (emphasis added).

The Supreme Court thus recognized thirty years ago that even just a "narrow statewide preference" for a single party could produce a large majority of seats, and thus a large efficiency gap (a 51% statewide majority could easily produce 60% of the seats). Rather than evidence of some kind of constitutional problem, however, such a result is simply "inherent" in the system whenever a state (1) has winner-take-all districts and (2) experiences a "mild statewide preference" for one party. *Id.* This underscores [*334] the point about question-begging: when the Plaintiffs say there is a large efficiency gap, all they are saying is that one side won a lot of close elections in winner-take-all districts. As such, the efficiency gap appears to be of little utility in measuring constitutional injury.

2. The 2012 Election was Historic, Nationally and in Wisconsin

In addition to these general volatility concerns, it would appear problematic to rely on 2012--the first election after Act 43-- as a benchmark for measuring wasted votes. As the Defendants' expert Sean Trende pointed out, President Obama was hugely successful in a few, traditional bastions of Democratic voters--even more successful than in 2008. But in the rest of the state, his support declined. President Obama's landslide wins in the Cities of Milwaukee and Madison resulted in *hundreds of thousands* of wasted votes--not wasted for the President, of course, but for the down-ticket assembly candidates who either won in landslide victories or, more commonly, were unopposed entirely. Many of these are wasted votes that would not otherwise exist but for the particular attraction of Obama's candidacy in urban areas. A brief review of the difference in [*335] turnout for Democratic voters in a few of the Milwaukee and Madison wards will make the point.

Ward[17]	Obama 2012 Votes	Dem Gov. Votes 2014	Drop
Milwaukee 105	716	493	31%
Milwaukee 116	715	466	35%
Milwaukee 143	843	573	32%
Madison 1	323	264	18%
Madison 16	1,894	1,685	11%
Madison 29	2,150	2,000	7%

In this small sample of the most heavily Democratic inner-city wards in Milwaukee (which voted over 99% for President Obama), the drop in turnout between the presidential election and the 2014 governor's race was about one-third, reflecting a significantly higher level of interest in the 2012 presidential election.[18] By contrast, Madison districts that went heavily (85-95%) for Democrats in those same years saw a much smaller decline in turnout in 2014. In fact, the Madison wards line up with the turnout seen in some of the staunchest Republican areas:

Ward	Romney 2012 Votes	Walker Votes 2014	Drop
Chenequa	327	288	12%
Cedar Grove	950	849	11%
Brookfield Ward 20	733	638	13%
Oostburg	1515	1427	6%

17 Election data compiled by the Government Accountability Board are available at *2012 Fall General Election*, WIS. ELECTIONS COMMISSION, http://elections.wi.gov/elections-voting /results/2012/fall-general (last visited Nov. 3, 2016).

18 According to City of Milwaukee data, these wards are between 93% and 95% Black. CITY OF MILWAUKEE [*336] VOTING AGE POPULATIONS BY PROPOSED ADJUSTMENTS TO 2011 VOTING WARDS (Sept.6, 2011), http://city.milwaukee.gov/ImageLibrary/G roups/ccCouncil/2011-PDF/2012VotingWards Demographics9-2.pdf .

The point is that Republicans and *non-Milwaukee* Democrats were similarly energized in both elections, with turnout for the 2012 presidential election somewhat higher for both, as expected. By contrast, the numbers reflect that 2012 was a historic year for the African-American electorate, with turnout in those wards *much* higher than it was two years later. But historic numbers do not create a reliable benchmark by which gerrymandering should be measured. In some districts, President Obama was winning by landslides of 85 or 90%, resulting in large --*historically* large--numbers of wasted votes that the Republicans do not match anywhere else in the state. It should thus be clear that President Obama's presence on the 2012 ticket exaggerates the efficiency gap, attributing the cause to partisan bias rather than the historic urban voter turnout that year, which gave rise to historic numbers of wasted votes for Democratic assembly candidates. (Not surprisingly, the efficiency gap dropped in 2014.)

3. Act 10

The 2012 election also came at a dramatic time in this state's political history. The legislature passed [*337] Act 10 in June 2011 and the Republican governor quickly signed it. The Act required government employees to increase their contributions to their health insurance and retirement benefits, and significantly reduced the power of public employee unions by abolishing mandatory membership dues and capping wage increases to a percentage based on the consumer price index. *Madison Teachers, Inc. v. Walker, 2014 WI 99, ¶ 1, 358 Wis. 2d 1, 19, 851 N.W.2d 337, 346 (2014)*. Prior to the Act's passage, however, in an unprecedented move, all 14 Democrats in the state senate fled to Illinois to prevent passage of the bill, preventing a Republican quorum. Eventually the Republicans found a way around the quorum requirements and passed the bill, which was immediately subjected to court challenges and historic protests at the Capitol, often receiving national news coverage. Also unprecedented was the number of state senators almost immediately targeted for recall elections. Some Democrats were challenged for leaving the state during the Act's consideration, while some Republicans were targeted by those who viewed Act 10's collective bargaining changes unfavorably. The next year, after organizers collected nearly a million signatures, Governor Walker was subjected to his own recall election, which [*338] he survived.

Whatever one's views of Act 10 or the responses it generated, or of President Obama's reelection, the point is that 2012 was hardly the kind of "normal" year one would expect to use as a basis of reference. The experts in this action testified at some length about the sometimes complex methods they used to ensure accuracy and engender confidence in their models, but none of that matters if the baseline election used in their analysis is such a historical outlier. Just as we would not rush out to buy flood insurance after a single, historic rainstorm, we should not have much confidence in a measure whose central data point is an unusual political year.

C. Wisconsin's Political Geography

It should go without saying that urban, more Democratic, voters are more closely packed together than suburbanites and farmsteaders, who lean more Republican but who are interspersed with lots of Democrats nonetheless. It is undeniable that voters may group together in the heavily Republican "collar counties" of Washington, Ozaukee, and Waukesha, which surround Milwaukee, while Democrats in Madison or Milwaukee often group more densely in duplexes or apartment buildings, or at least homes with [*339] much smaller lots. There are also far more residents in Milwaukee than in the more suburban counties. All things being equal, two individuals in Marathon County who supported Mitt Romney are likely to be spaced farther apart than two Barack Obama-supporting neighbors in Madison or Milwaukee. This phenomenon is taken as a given by the *Vieth* court: "Consider, for example, a legislature that draws district lines with no objectives in mind except compactness and respect for the lines of political subdivisions. Under that system, political groups that tend to cluster (as is the case with Democratic voters in cities) would be systematically affected by what might be called a 'natural' packing effect." *541 U.S. at 289-90* (plurality opinion). At trial, Professor Stephanopoulos acknowledged *some* natural packing of Democrats, and his own law review article acknowledges this effect as well. In addition, it is notable that the average efficiency gap during the 1980s (under a court-drawn plan, followed by amendments when Democrats gained full control) was 1.9% in favor of Republicans. In the 1990s (court-drawn plan) it was 2.4%, while the average gap during the 2000s (another court-drawn plan) was 7.6%. (ECF No. [*340] 125 at ¶¶ 190, 192, 194.) Thus, Republican-favoring efficiency gaps have been part of Wisconsin's political landscape for more than three decades, long before Republicans had the ability to draw the lines in 2011.

As the Defendants pointed out at trial, the most lopsided Republican assembly win predicted even under the Plaintiffs' demonstration plan favored the GOP candidate by a margin of about 75%-25%, but there were *nine* other districts that favored Democrats by even more than that, with winning tallies in excess of eighty percent. (Ex. 561.) In real-world terms, in 2012 President Obama won Assembly District 16 with more than 90% of the vote and, not surprisingly, the incumbent Democratic candidate ran unopposed. There simply are no districts that have comparable margins for Republicans. For example, Rep. Duey Stroebel beat the Democratic challenger in his Ozaukee and Washington County district with 23,905 votes to 9,682, or 71% of the votes.[19] Waukesha County's District 99 saw Chris Kapenga win 76% of the votes. Notably, even though heavily Republican, these districts were considered competitive enough to draw Democratic challengers, whereas there simply are no Republican challengers [*341] in the more

staunchly Democratic Milwaukee districts. That no one even runs as a Republican in several districts is itself highly suggestive of geographic packing. The Plaintiffs provided no evidence that this natural packing effect could somehow have been avoided, since Democratic voters remain tightly packed no matter how the lines are drawn.

19 *2012 Fall General Election, supra* note 17.

It is true, as the Plaintiffs have noted, that counties like Waukesha County are every bit as Republican as Milwaukee County or Dane County are Democratic. Voters vote by district, however, not by county, and so the relevance of that point is unclear. Even so, if one looked at a red-blue map, one would clearly see the heavily red areas surrounding Milwaukee, which the Plaintiffs point to as evidence that the Republicans are also heavily clustered. But that does not mean the numbers somehow even out. The colors on the maps are a reflection of partisanship (intensity), not of raw numbers of partisan voters. At trial, it was shown that the number of Obama voters in Milwaukee County was 332,438, while Dane County had 216,071, for a total of 548,509. (ECF No. 150 at 135.) By contrast, Mitt Romney won the heavily Republican suburban counties with [*342] only 36,077 (Ozaukee), 162,798 (Waukesha) and 54,765 (Washington) votes, totaling 253,640--less than *half* the number of Obama voters in Milwaukee and Dane Counties. (*Id.*) Thus, these heavily Republican counties do not come close to balancing out the high concentration of Democratic voters in other counties.

None of the above is to suggest that natural geographic factors explain the entirety of the efficiency gap seen under Act 43, as the majority rightly concludes. Still, when pro-Republican efficiency gaps have existed in neutral court-drawn plans going back decades, and when they exist even in the Plaintiffs' own demonstration plan, geography cannot and should not be ignored. Even if geography does not explain the *entire* gap, and even if it plays only a "modest" role--for example, three to six percent--it would seriously undermine the notion that the Republicans in this case engaged in a partisan gerrymander of historical proportions.

D. "Sign-Flipping" Should Not be the Standard for Court Intervention

Efficiency gaps are measured at every election, and these measures change every election based on a number of factors, including the issues raised, quality of local candidates, waves (as [*343] discussed above), turnout, and other natural phenomena such as shifts in demographics. Because any challenge will be based solely on the first election under a challenged plan, the Plaintiffs have attempted to create a standard for measuring the durability of the gap that is observed in that first election, that is, the tendency of an efficiency gap to persist throughout the remaining years of a plan. The Plaintiffs' expert, Professor Jackman, presented credible evidence that efficiency gaps greater than 7% have a strong tendency to remain on the same side of zero over the course of a plan (especially for Republicans). For example, according to Professor Jackman, an initial efficiency gap of -10% has only a very small chance of turning positive ("flipping signs") over a ten-year period. The theory is that efficiency gaps of that size invite court intervention because there is almost no chance that the gap will disappear through the normal course of politics.

Assuming Professor Jackman's general analysis is correct, I can perceive no intuitive reason to believe that the likelihood of "sign-flipping" should play such an outsized role in determining when court intervention is appropriate. [*344] Plaintiffs' threshold of -7% is based on the fact that such an efficiency gap is unlikely to *disappear* (flip signs), but this ignores the fact that the efficiency gap may become much smaller during its natural life even if it does not disappear entirely. For example, a plan could move from an efficiency gap of -8% to -2% in the next election cycle, meaning the map had become almost an even playing field. Such a plan would hardly be a good candidate for court intervention. In fact, we know that in Wisconsin, under the last court-drawn plan, the gap jumped around between -4% and -12% (always favoring Republicans) throughout the 2000s. That is, the gap in the highest year was *more than triple* the gap in the lowest year. It is thus not difficult to envision a plan having an initial gap of 7 or 8% that would drop down to 2 or 3% purely through natural phenomena. And when we know that a state's political geography explains at least some portion of any efficiency gap, the entirety of any lingering efficiency gap could be explained through geography rather than partisan gerrymandering. Thus, even if the gap did not disappear entirely, any remaining gap traceable to gerrymandering has been [*345] all but eliminated *without* court intervention. And yet the Plaintiffs' test would demand that a court intervene to fix a problem that might largely ameliorate itself naturally.

Given the Justices' reluctance to involve the courts in the review of gerrymandering claims, the sign-flipping metric seems far too easy to meet, since according to Professor Jackman every gap larger than 7% will meet that standard. Instead of gauging the likelihood that *any* efficiency gap would persist, a more robust test would demand a strong likelihood that a *large* efficiency gap would persist throughout the life of the plan. That is, a court would ask whether the gerrymandering party has created a map that will ensure a strong likelihood that large, historically significant efficiency gaps will persist--not just that *some* efficiency gap will persist. If a plaintiff could demonstrate that efficiency gaps larger than 6% or 7% would likely persist throughout a plan's life, judicial intervention would be more appropriate because the minority party would have much greater difficulty remedying the problem through the political process. Here, however, the evidence is simply that the efficiency gap is unlikely to [*346] disappear entirely, without any acknowledgment of the possibility that the gap could be significantly reduced without any court intervention at all. Accordingly, assuming the efficiency gap played some role in a gerrymandering test, I would require the plaintiffs to demonstrate a significant likelihood that large efficiency gaps--not just non-zero efficiency gaps--would be a feature of the challenged plan throughout its operative life.

VI. Conclusion

The Supreme Court heard this same story in 1986. It was unmoved. In 2004 the Court rejected a similar claim, and the reasons the Justices cited only twelve years ago apply with equal force now. What made this case different is the Plaintiffs' claim that they had discovered the holy grail of election law jurisprudence--the long sought after "judicially discernable and manageable standard" by which political gerrymander cases are to be decided. Yet, even the majority has declined Plaintiffs' request that the efficiency gap standard be adopted as the presumptive test, choosing instead to use it merely as corroborative evidence of its own entrenchment test. Slip Op. at 86. As I have attempted to show above, however, the majority's entrenchment [*347] test offers no improvement over the tests that have already been rejected by the Supreme Court. And the efficiency gap theory on which the Plaintiffs founded their case fatally relies on premises the courts have already rejected, including proportional representation, and it suffers from a number of practical problems as well. Simply put, I do not believe the Supreme Court would direct courts to meddle in a state districting plan when that plan adequately hews to traditional and legitimate districting principles; contains no "gerrymander," as traditionally understood; and when the plan only modestly extends the map-drawing party's electoral advantage beyond what would exist naturally. This is particularly true given that the gerrymandering party very likely would have won both elections conducted under the challenged plan *even without gerrymandering*. Under these circumstances, and given the Justices' reluctance to review gerrymandering claims, the Plaintiffs' theory does not persuade me that a majority of the Supreme Court would find an unconstitutional gerrymander in this case. Accordingly, I would find in favor of the Defendants and therefore respectfully dissent.

/s/ WILLIAM C. GRIESBACH [*348]

District Judge