Expert Report of Kenneth R. Mayer

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I. Introduction

My name is Kenneth Mayer and I currently am a Professor of Political Science at the University of Wisconsin-Madison, and a faculty affiliate at the Lafollette School of Public Affairs at the University. I have been retained by counsel representing the plaintiffs in this lawsuit (the "Plaintiffs") to analyze and provide expert opinions. I have been asked to determine whether Act 43 had a concrete aggregate effect on the Assembly Democratic Caucus, and to analyze specific Assembly districts created by Act 43 to determine whether evidence exists of packing and cracking of Democratic voters.

My opinions, which are based on the technical and specialized knowledge that I have gained from my education, training and experience, are premised on commonly used, widely accepted and reliable methods of analysis, the application of the legal requirements of redistricting, and are based on my review and analysis of the following information and materials:

- Act 43

- Census Block, ward, municipality, and district-level baseline partisanship measures calculated by Dr. Jowei Chen

- An alternative map (Plan 43,995) drawn by Dr. Jowei Chen, with block, ward, and district assignments

- Data on party committee and Assembly candidate fundraising collected by the National Institute on Money in State Politics

- Data from the 2008 to 2016 Cooperative Congressional Election Study

- Election results from the Wisconsin State Elections Commission

- Measures of state level policy liberalism created by Caughey and Warshaw (2016)

- The peer-reviewed academic literature cited in this report.

II. Background and Qualifications

I have a Ph.D. in political science from Yale University, where my graduate training included courses in econometrics and statistics. My undergraduate degree is from the University of California, San Diego, where I majored in political science and minored in applied mathematics. I have been on the faculty of the political science department at the University of Wisconsin-Madison since August 1989.

All publications that I have authored and published in the past ten years appear in my curriculum vitae. Those publications include the following peer-reviewed journals: *Journal of Politics*, *American Journal of Political Science*, *Election Law Journal*, *Legislative Studies Quarterly*, *Presidential Studies Quarterly, American Politics Research, Congress and the Presidency, Public Administration Review, Political Research Quarterly*, and *PS: Political Science and Politics*. I have also published in law reviews, including the *Richmond Law Review*, the *UCLA Pacific Basin Law Journal*, and the *University of Utah Law Review*.

My work on election administration has been published in the *Election Law Journal*, *American Journal of Political Science*, *Public Administration Review*, *Political Research Quarterly*, and *American Politics Research*. I was part of a research group retained by the Wisconsin Government Accountability Board to review their compliance with federal mandates and reporting systems, and to survey local election officials throughout the state. I serve on the Steering Committee of the Wisconsin Elections Research Center, a unit with the UW-Madison College of Letters and Science. In 2012, I was retained by the United States Department of Justice to analyze data and methods regarding Florida's efforts to identify and remove claimed ineligible noncitizens from the statewide file of registered voters. My work on campaign finance has been published in *Legislative Studies Quarterly*, *Regulation*, *PS: Political Science and Politics*, *Richmond Law Review*, the Democratic Audit of Australia, and in an edited volume on electoral competitiveness published by the Brookings Institution Press. My research on campaign finance has been cited by the U.S. Government Accountability Office, and by legislative research offices in Connecticut and Wisconsin.

In the past eight years, I have testified as an expert witness in trial, deposition or via report in the following cases:

Federal: *Tyson v. Richardson Indep. Sch. Dist.*, No. 3:18-cv-212-K (N.D. Tex. 2018); *League of Women Voters of Mich. v. Johnson*, No. 2:17-cv-14148-DPH-SDD (S.D. Mich. 2018); *One Wis. Inst., Inc. v. Thomsen,* 198 F. Supp. 3d 896 (W.D. Wis. 2016); *Whitford v. Gill*, 218 F. Supp. 3d 837 (W.D. Wis. 2016); *Baldus v. Members of the Wis. Gov't Accountability Bd.*, 849 F. Supp. 2d 840 (E.D. Wis. 2012); *McComish v. Brewer*, No. CV-08-1550, 2010 WL 2292213 (D. Ariz. Jan. 20, 2010).

State: *Priorities USA v. Missouri*, No. 19AC-CC00226 (Circuit Court of Cole County, Mo. 2018); *Milwaukee Branch of the NAACP v. Walker*, N.W.2d 262 (Wis. 2014); *Kenosha Cty. v. City of Kenosha*, No. 11-CV-1813 (Wis. Circuit Ct., Kenosha, WI 2011).

Courts consistently have accepted my expert opinions, and the basis for those opinions. *See Whitford v. Gill*, 218 F. Supp. 3d 837 (W.D. Wis. 2016); *One Wis. Inst., Inc. v. Thomsen* 198 F. Supp. 3d 896 (W.D. Wis. 2016); *Baldus v. Members of the Wis. Gov't Accountability Bd.*, 849 F. Supp. 2d 840 (E.D. Wis. 2012); *Milwaukee Branch of the NAACP v. Walker*, 851 N.W. 2d 262 (Wis. 2014); *Baumgart v. Wendelberger,* 2002 WL 34127471 (E.D. Wis. 2002).

I am being compensated at a rate of $300 per hour.

III. Opinions

A. Summary

- The essence of a partisan gerrymander is that the party drawing district lines wins more legislative seats than it would have under a neutral plan. In a concrete sense, the result is that the disadvantaged party is intentionally deprived of seats that it would otherwise have won.

- In 2012, the gerrymandering of Act 43 likely deprived Democrats of between 12 and 13 Assembly seats compared to a neutral map. The result could easily have deprived Democrats of a legislative majority in 2012 (instead of the 39 seats they won).

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- The immediate effect of a gerrymandered map is that a disadvantaged party has fewer legislators than it would otherwise have. In majoritarian legislatures organized along party lines, this significantly reduces that party's ability to affect legislative outcomes.

- Intentionally depriving a party of seats it otherwise would likely win also reduces that party's ability to compete for political power: forcing the disadvantaged party to run against more incumbents in unfavorable districts, creating less competitive elections, undercutting the party's ability to raise campaign funds, making it difficult to recruit quality challengers, and demobilizing party supporters.

- Analysis of specific districts in Act 43 demonstrates classic (and obvious) examples of packing and cracking. In case after case, Democratic voters are either unnecessarily concentrated in districts with overwhelming Democratic support (packing), or are carefully combined with even more strongly Republican regions to insure that Democratic voters will constitute a minority in a district (cracking).

- Simulated Plan 43995 (the "Alternative Map") demonstrates in every case that it was possible to create more neutral and balanced districts.

B. Aggregate Effects on the Assembly Democratic Caucus

As an empirical matter, there is no question that Act 43 districts were drawn in a way that significantly increases the number of Assembly seats that Republicans won (and will continue to win at any plausible aggregate vote share), and to put Democratic Party organizations, candidates, and voters at a disadvantage. The immediate – and indisputable – consequence is that Democrats won fewer Assembly seats than they *would* have won under a less-gerrymandered map. In 2012, I estimated that Democrats won 51.1% of the statewide Assembly vote under a baseline analysis; Democrats won 53.5% of the 2012 presidential vote.[1] These statewide majorities resulted in the Democrats winning only 39 of 99 seats, or 39.4%.

In the Demonstration Map I drew, under the same aggregate vote totals but with a much smaller Efficiency Gap, Democrats would have won 51 of 99 seats (51.5%). Plan 43,995, an alternative map created by Dr. Jowei Chen using automated and nonpartisan methods, creates Democratic majorities in 52 Districts (52.5%). Not only does this demonstrate that under a neutral map the Democratic Party would have won more seats than it did under the Act 43 map (in the range of 12 to 13 seats), but in a very real sense, Act 43 very likely had the effect of denying the Democratic Party a *majority* of seats in the Assembly in 2012.

Reducing by design the number of seats a political party wins will have consequences for that party's ability to compete for office and influence legislative outcomes. The reduced ability to compete results from fewer incumbents, more difficulty in recruiting quality challengers to run against incumbents in the other party, less ability to attract campaign contributions, and fewer subsequent opportunities to win seats. The reduced influence over legislative outcomes is the result of holding fewer seats, and of being stuck in a legislative minority position. These two forces – reduced competitiveness and reduced influence – reinforce each other in a regressive feedback loop: less ability to compete leads to less legislative influence, which in turns leads to less competitiveness, and so on. It is one thing, of course, when this cycle is the result of a lack of public

[1] Analysis of the Efficiency Gap of Wisconsin's Current Legislative District Plan and Plaintiff's Demonstration Plan. July 3, 2015

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support (or votes). It is another when this cycle is the result of intentional action by a political party (e.g., drawing a legislative map) that renders the other party *unable* – because its supporters have been cracked and packed – to translate public support and votes into seats.

1. Expectations from the Academic Literature

I begin with a brief survey of the academic literature on the effects of reduced seat shares and political influence on a legislative party. By "legislative party," I mean the aggregate institutional expression of a party in a legislative chamber, often expressed as the party's recognized and aggregated organizational form. In the present case, I am referring to the Assembly Democratic Campaign Committee, one of four such organizations in the Wisconsin State Legislature (one for each party-chamber combination).

All of these expectations are complimentary, in that they tend to reinforce each other. A political party intentionally placed at a disadvantage will have difficulty winning elections against incumbents ,which makes it harder to win enough seats to achieve majority status (even when it has majority support in the electorate). A party in this situation will have more difficulty raising funds and attracting experienced candidates, which makes it harder to win elections, which in turn relegates a party to nearly certain minority status, which eliminates its ability to meaningfully affect legislative outcomes and policy. And perpetual minority status feeds back into step 1, meaning that a party intentionally placed at a disadvantage through gerrymandering is likely to stay at a disadvantage.

a. Fewer Incumbents

If there is one universal finding in the academic literature on legislative elections, it is that incumbents have significant advantages over challengers (Hogan 2004). Incumbents are more well-known to voters than challengers, raise more campaign funds, have more campaign experience, are able to leverage the advantages of legislative office to provide constituency services, claim credit, obtain public funds for local projects, and demonstrate their effectiveness to constituents. Incumbents who run for reelection almost always win.

Incumbency, for the most part, is a self-perpetuating benefit. Incumbents have significant advantages from the start, and often can discourage credible challengers from even coming forward by demonstrating their political strength (Hogan 2001; Ban, Llaudet, and Snyder 2016).

A gerrymandered redistricting plan that reduces the number of seats a party can win puts that party at a significant disadvantage, because by definition it reduces the number of incumbents who can run under the party label and increases the number of incumbents of the other party. Because incumbents are difficult to defeat, this makes it harder for a political party to meaningfully compete for legislative influence, and further solidifies the advantage to the party doing the gerrymandering.

b. Less Competitive Elections

An immediate implication – both theoretically expected and empirically validated – is that elections become less competitive under a gerrymandering scheme. Even when a party creates more marginal seats where it has safe, but not overwhelming, advantages, an incumbent winning makes the district less competitive in subsequent election cycles.

Incumbents almost always win, frequently run unopposed, and win by larger margins than candidates in open seats (Squire 2000). Gerrymandering increases the likelihood of uncontested districts in state legislative elections (Forgette, Garner, and Winkle 2009). Quantitative analyses consistently show district partisan baseline to be a significant determinant of which party wins a district (indeed, manipulating district partisan strength is the entire point of partisan gerrymandering).

The causes of uncontested elections likely vary between minority and majority parties. In a system in which Democratic voters are packed into a small number of districts, Republicans may see no need to contest every district since there is little point to expending effort and money in areas where winning is unlikely. There is also little to gain: expending money and effort to obtain a 62nd or 65th seat is far less important than protecting the incumbents a party has.

For the minority party, the incentive structure is somewhat different. The only way to regain majority status is to flip enough districts controlled by the majority party. Leaving majority party districts uncontested is more likely to reflect futility and lack of resources than a deliberate strategy.

c. Decreased Ability to Recruit Competitive Challengers

The political science literature agrees that political actors are *strategic* in that they balance the costs and benefits of political action. In the electoral and campaign context, it means that candidates – particularly challengers – weigh the benefits of running for office against the costs. The two parts of the benefit side of the calculation are (1) the probability of winning, and (2) the value of winning and holding office.[2] The value of winning stems from, in part, the ability to influence policy, the benefits of a career in politics, and the potential for further professional advancement.

Any factor that raises (or lowers) either (1) or (2) will raise (or lower) the overall expected benefits from running for office, and make running more (or less) attractive to potential candidates.

The *probability of winning* is affected, obviously, by the partisan composition of a district. A district with a built-in partisan advantage will be harder for a candidate from the other party to win, as will a district where a challenger must run against an incumbent.

The *value of holding office* goes up when a seat is more influential. In this context, the marginal value of an additional seat is significantly higher when that seat means the difference between a legislative minority and a legislative majority. In a 99 seat legislature, increasing a party's seat count from 30 to 31 does not appreciably change the legislative balance of power. Increasing a party's seat count from 49 to 50 is immensely more valuable, because it changes a minority party into a majority party. Similarly, as seat counts approach majority status, each additional seat becomes more valuable.

The key to this analytical framework is that when either the probability of winning or the value of holding office *go down*, high-quality candidates are less likely to assume the costs and risks of running for office. More competitive districts, open seats, a chance of obtaining majority status, and favorable electoral conditions are more likely to attract high-quality candidates (Jacobson and Kernell 1981; Ban, Llaudet and Snyder 2016; Moncrief 1999; Van Dunk 1997). Party efforts, as measured by spending, increase if there is a prospect of achieving majority status (Hogan 2004).

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[2] Formally, the benefit calculation is simply the (value of winning *x* probability of winning).

Legislative party organizations play a crucial role in the process of recruiting candidates (Sanbonmatsu 2006), and are therefore affected in the aggregate by gerrymandering strategies designed to put them at a disadvantage.

A party locked into perpetual minority status, with little plausible opportunity to win a legislative majority, needing to unseat incumbents, and facing a district map intentionally drawn to put it at a disadvantage, will likely have difficulty attracting high-quality challengers.

d. Decreased Fundraising Capacity

Coincident with a decline in overall political prospects that result from gerrymanders, the disadvantaged party will face difficulties raising campaign funds.

While donors have multiple motivations to contribute to parties and candidates, several patterns are observable. One is that the ability to raise funds (by either parties or candidates) is strongly related to expectations of success: that is, candidates and parties that have greater expectations of *winning* will be able to raise more campaign funds.

The logic is straightforward: a key reason to contribute to a party or candidate is because a donor wants to see those parties and candidates *win*. Donors who contribute to a winning candidate benefit from supporting an officeholder likely to support (and potentially be in a position to implement) their policy preferences (Barber 2016). Interest groups use campaign contributions as a strategy to both increase the number of officeholders who share the groups' policy agendas, and as a way to obtain access and legislative support (Powell 2013). Majority legislative parties and candidates raise more money than minority parties and candidates; indeed, majority status is by itself a key determinant of how much a party can raise (Cox and Magar 1999).

e. Voter and Volunteer Engagement

Gerrymandered districts can have the effect of reducing voter engagement, by severing connections between representatives and constituents (Winburn and Wagner 2010; Hayes and McKee 2009). Being relegated to consistent minority status, and facing few competitive elections, can reduce turnout and other forms of political engagement among the disadvantaged partisans (Leighley and Nagler 2014, 121-123).

f. Reduced Ability to Affect Legislative Policy Outcomes

A political party that wins fewer seats under a gerrymandered plan than it would have won under a neutral plan is, quite obviously, at a disadvantage in its ability to affect legislative outcomes. A political party that would have had a *majority* under a neutral plan, but which is relegated to minority status under a gerrymandered plan, is at an even more serious disadvantage.

The Wisconsin Assembly, like all partisan legislative bodies, is organized on the basis of legislative majorities.[3] The majority party is granted crucial procedural powers (electing a Speaker who has the authority to determine the partisan composition of committees, set legislative schedules, refer bills to committees). The majority party – and particularly a majority party with a 64-35 advantage – has complete control over the legislative agenda, committee decisions, and passage of bills.

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[3] https://docs.legis.wisconsin.gov/2017/related/rules/assembly.

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The additional problem of a legislative majority elected through gerrymandering is the increased likelihood that it is not representative of the electorate. Caughey, Tausonovitch and Warshaw have shown that the magnitude of the Efficiency Gap in a state has a large effect on whether a legislature becomes more conservative or liberal (as measured by the ideology of the median legislator) and whether enacted policies are more conservative or liberal. Moreover, large efficiency gaps – which necessarily imply large differences in how individual votes are weighted and their influence on electoral outcomes – push legislators away from the median voter and toward the ideological extremes of the party doing the gerrymandering. "In sum," they write (2017, 456)

> partisan gerrymandering does not merely make it easier for one party to win elections. Rather, by biasing the relationship between votes and seats, it also undermines congruence with voters' preferences, skewing the ideological composition of the legislature and the ideological character of policymaking away from the preferences of the median voter (and thus from a majority of the electorate).

2. Observed Effects in Wisconsin

In this section I provide evidence and data consistent with the conclusion that the extreme partisan gerrymandering of the Wisconsin Assembly at the core of Act 43 has placed Democratic party organizations, candidates, and voters at a disadvantage.

Some of these effects are directly observable and indisputable, especially those related to electoral competitiveness, uncontested districts, and campaign contributions. Others, such as candidate recruitment and quality, voter engagement, and involvement with party activities are difficult to observe directly. There are, for example, no recent data on the public or elected experience of Wisconsin Assembly challengers, or the number of quality candidates the Democratic Party has unsuccessfully attempted to recruit for office.[4]

    a. Campaign Contributions

A party's ability to raise campaign funds is fundamental to its ability to compete effectively for office. As noted above, the probability of electoral success, and majority status, are key factors shaping how much a party organization can raise. Table 1, using data from the National Institute on Money in State Politics[5], shows the total amount raised in each election cycle from 2008 through 2018. The pattern is apparent, indicating that the Democratic Assembly Campaign Committee shifted from outraising its Republican counterpart by significant amounts in the 2008, 2010, and 2012 cycles (by nearly a 3-1 margin), to being consistently outraised by the Republican Assembly Campaign Committee since 2014.

Since 2014, the Democratic Assembly Campaign Committee has raised a total of $3.33 million, compared to the $4.12 million raised by the Republican Assembly Campaign Committee (or 24% less). This represents a significant change that was affected by the electoral consequences of Act 43.

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[4] In State Senate campaigns, on the other hand, experience is frequently measured by whether a challenger had previously served in the state's lower chamber (Werner and Mayer 2007).
[5] https://www.followthemoney.org/.

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Table 1 Party Committee Fundraising				
	Assembly Democratic Campaign Committee		Republican Assembly Campaign Committee	
Cycle	Contributors	Total	Contributors	Total
2018	2,868	$1,024,050	1,803	$1,525,421
2016	5,599	$1,673,633	3,098	$1,791,723
2014	4,123	$630,166	2,165	$803,342
2012	5,947	$624,852	1,560	$349,250
2010	4,920	$922,854	1,012	$294,506
2008	3,986	$863,878	1,036	$321,802

A second metric is the fundraising ability of candidates. Table 2 shows the total amount raised by all Democratic and Republican Assembly candidates in each cycle since 2008. The pattern here is similar to that of the party committees: in 2012, Democratic candidates fell far behind their Republican counterparts, stayed far behind in 2014, and remained behind in 2016. Since 2012, Republican Assembly candidates have raised almost 50% more than Democratic candidates.

Table 2 Total Contributions to State Assembly Candidates, 2000-2016		
	Democratic Candidates	Republican Candidates
Cycle	Total	Total
2016	$ 4,065,646	$ 4,826,714
2014	$ 2,562,082	$ 4,846,347
2012	$ 3,436,394	$ 5,034,613
2010	$ 3,093,729	$ 4,365,760
2008	$ 4,325,947	$ 4,419,238

Table 3 shows the effect of incumbency (one reason why the aggregate contribution data indicate a significant Republican advantage). The data reveal a significant increase in the average amount Republican incumbents have raised, with no similar increase among Democratic incumbents. Notably, the amounts Republican incumbents raised, on average, increased by over 73% between 2010 and 2012, and has been consistently higher in every cycle since.

Table 3				
Average Contributions by Party and Candidate Status Wisconsin Assembly Elections				
Cycle	Republican Incumbent	Democratic Challenger	Democratic Incumbent	Republican Challenger
2016	$66,210	$45,860	$36,188	$16,648
2014	$48,805	$18,648	$36,796	$43,034
2012	$66,746	$21,702	$34,441	$26,470
2010	$38,463	$22,989	$39,483	$29,465

b. Competitiveness and Candidate Recruitment

As noted above, there is no reliable quantitative data about the candidate pool for Wisconsin State Assembly Elections. We can, however, observe the effects of recruitment patterns by examining uncontested elections and incumbent reelection rates.

Data on uncontested races (Table 4) show that even prior to 2012, Republicans left some Democratic districts uncontested. The pattern for Democrats was more varied: since 2008, especially in presidential election years, Democrats ran in most districts held by Republicans, leaving only 6 uncontested in 2008 and 4 in 2012. But this changed in 2014, when Democrats failed to run a candidate in 29 Republican districts, and in 2016 when they did not field a candidate in 21. The most plausible explanation for this is that the electoral environment of Assembly elections became increasingly unfavorable: Republican incumbents whose districts were solidified in 2012 benefitted from the incumbency advantage, a lack of resources among Democrats, and the unlikely prospect of the Democratic Party regaining majority status.

Table 4		
Number of Uncontested Assembly Districts		
Cycle	Uncontested by Democrats	Uncontested by Republicans
2016	21	28
2014	29	23
2012	4	23
2010	17	14
2008	6	24
2006	14	25

In 2014, 96.2% of Wisconsin Assembly incumbents who ran were reelected (75 of 78). In 2016, the incumbent reelection rate was 100%. Act 43 had the effect of locking in this advantage, making it in effect impossible for Democrats to capture a majority absent a historic (and unlikely) swing.

>   3. Engagement

The Cooperative Congressional Election Study (CCES) is a large-scale national survey conducted during election years.[6] Its samples are large enough (50,000+) to produce reliable estimates of opinions at the state level. Among the questions in each cycle are those measuring voter engagement: whether a respondent has attended a local political or government meeting; put up a political sign or bumper sticker; donated money to a campaign, party, or other political organization; or worked for a candidate or campaign.

The data below show a consistent decline in engagement between 2008 and 2016 (and from 2010 to 2016). Democrats in Wisconsin became less likely to engage in any of these forms of political activity.

Table 5 - Percentage of Democrats Who:				
Cycle	Attended Local Political Meeting	Put Up a Political Sign	Donated Money to a Candidate, Campaign or Organization	Worked for a Candidate or Campaign
2008	12.3%	45.1%	34.5%	18.3%
2010	17.3%	23.7%	21.7%	11.1%
2012	13.8%	30.8%	23.9%	10.4%
2014	11.3%	21.5%	23.4%	7.3%
2016	10.3%	18.4%	22.3%	6.5%

Caution is important in interpreting these results, because they cannot be tied to the consequences of Act 43; many of the patterns will reflect national more than state forces. In addition, most forms of engagement among Republican voters showed similar declines. Nevertheless, this trend is consistent with an overall lack of Democratic engagement.

4. Policy

As noted above, Act 43 produced additional Republican seats in the Assembly relative to more neutral plan. While the effects on legislation could be inferred absent any data, it is possible to measure the policy effects of being intentionally denied legislative seats through gerrymandering.

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[6] https://cces.gov.harvard.edu/.

Table 6 shows a measure of state policy (Caughey, and Warshaw 2016).[7] It is based on a large set of policies across 10 domains, and provides annual measures of "state policy liberalism" (2016, 903). Their measure is broadly consistent with previous measures of policy liberalism, and has the advantage of generating estimates over time.

Table 6 – Measures of Policy Liberalism		
Year	Caughey-Warshaw Policy Median	Standard Deviation
2010	1.04	0.25
2011	0.89	0.25
2012	0.85	0.24
2013	0.68	0.29
2014	0.67	0.30

The table shows how Wisconsin policy outputs became more conservative in 2011 when Republicans obtained a majority in the state Assembly. The measure shows that since 2010, policy has moved consistently in the conservative direction. After Republicans controlled the governorship and the state legislature in 2011, the liberalism measure changed from 1.04 (roughly equivalent to Minnesota, New Mexico, and Washington) to 0.89, a change of one-half of a standard deviation. In successive years, policy continued to shift in the conservative direction, particularly after the 2012 elections, when the index shifted from 0.85 in 2012 to 0.68 in 2013, and 0.67 in 2014 (in the range that year of Iowa and New Hampshire, and closer to Montana than to Minnesota on the scale). The key to interpreting these numbers is that they do not represent an absolute scale (in that a measure of 1 or -0.5 corresponds to a specific set of policy decisions, or that a state with a measure of 2.0 is "twice as liberal" as a state with a measure of 1.0), but rather allow for comparison over time and across states.

The overall change from 2010 to 2014 to is the largest 4-year conservative shift (from 1.04 to .67, or 0.37) in Wisconsin since the 1930s. Without question, the legislature's priorities have moved policy toward the conservative end of this scale, and away from Democratic priorities. From the standpoint of the aggregate interests and views of the Democratic party, this constitutes a harm.

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[7] In this index, higher positive values reflect more liberal policies, lower values more conservative.

C. Analysis of Challenged Act 43 Districts

The core of partisan gerrymandering is packing and cracking. The party that controls how district lines are drawn concentrates voters of the opposing party in small number of districts where it wins by overwhelming numbers (packing), and disperses opposition voters so that they constitute a minority of voters in other districts (cracking). Although the strategies are universally recognized as inherent in the gerrymandering process, Bullock's (2010) description is informative:

> *Packing* occurs when "[t]hose in charge of redistricting set out to minimize the number of seats that the minority can win by placing as many members of the minority into a single district" (2010, 16).[8]

> *Cracking* involves "dividing a population that if put into a single district would be sufficient to determine the outcome of elections. Dividing a group into two or more districts, so that it is less than a majority n any district, denies the party or group an opportunity to elect its preference" (2010, 14).

In the following analysis of each of 27 challenged Assembly districts in Act 43, I begin with a map that shows district lines (in black) and the partisan baseline of wards or municipalities in and around the districts. Partisanship is measured using the Democratic baseline calculated by Dr. Jowei Chen. In the maps, Democratic wards and municipalities are shaded blue, with darker shading an indicator of higher Democratic baselines. Republican wards and municipalities are, similarly, shaded red, with darker shades indicating lower Democratic baselines.

The patterns that emerge are stark: in case after case of cracking, Democratic areas are split into multiple districts (often as many as six or seven), and combined with larger populations of strongly Republican voters to render Democratic voters a minority unable to influence outcome. Alternatively, districts are drawn to link together separate Democratic areas, often at the edges of a district, bringing them into districts with far larger Republican populations. These cracked districts often include irregular jogs or notches that sweep Democratic areas into Republican districts, or that include additional Republican areas sufficient to guarantee a Republican majority.

In cases of packing, lines are drawn to concentrate the most Democratic areas into a single district, often as a complement to cracking in an adjacent district.

I proceed by region, based on the classifications used by the Act 43 map drawers in Trial Exhibit 283.

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[8] In this context, "minority" refers to voters of the party that has a majority in the legislative body drawing district lines, which is not necessarily the party that has the most support in the electorate.

Region 1: Assembly Districts 62 (cracked), 63 (cracked), and 66 (packed)

Figure 1
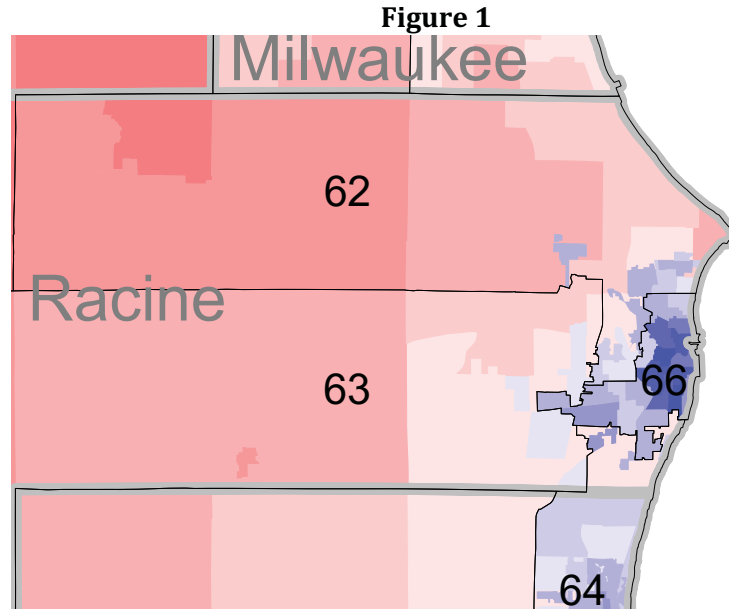
The 62nd, 63rd, and 66th Assembly Districts are all in Racine County.[9] The largest municipality in the region is the City of Racine, with a population of 78,860 and a Democratic baseline of 63.7%. AD 62 has a Democratic baseline of 43.8%, AD 63 a baseline of 41.7%, and AD 66 a baseline of 67.0%. These 3 districts combined have a Democratic baseline of 49.0%. The Act 43 map drawers turned this roughly 50-50 area into one packed Democratic district and 2 safe Republican districts.

The Act 43 map drawers achieved the partisanship of these three districts by packing Democratic voters into District 66, and cracking Democratic voters in the remainder of Racine and areas around the city. This was achieved through classic examples of packing and cracking.

The packing occurred in District 66. Because the City of Racine has a population (78,860) greater than the ideal Assembly district population (57,444), it had to be split into two districts. However, the Act 43 map drawers split the city into three Assembly districts: the 66th (population 57,545, Democratic baseline 67.0%) the 62nd (population 18,350, Democratic baseline 55.8%) and the 64th (population 2,965, Democratic baseline 66.6%). This had the effect of packing Democratic voters into the 66th district, and cracking the remaining Democratic populations in Racine into two Republican districts (the 62nd and 63rd).

In AD 62, eight Democratic majority wards in Racine and one in the Village of Mount Pleasant have a total population of 19,665 and an aggregate Democratic baseline of 55.4%. The map above clearly shows that District 62 extends into the City of Racine and Village of Mount Pleasant to pick up these areas. The rest of District 62 consists of the Village of Caledonia (population 23,898 and Democratic baseline of 42.4%), the Town of Norway (population 7,948 and Democratic baseline of 30.2%), the Town of Raymond (population 3,870 and Democratic baseline of 34.1%), the Village of Wind Point (population 1,723 and Democratic baseline of 38.0%), and the Village of North Bay (population 241 and Democratic baseline of 40.9%). Outside of Racine and Mount Pleasant, the rest of AD 62 has 37,680 people and a Democratic baseline of 38.8%.

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[9] The 63rd District includes one unpopulated ward in Walworth County (to the west of Racine County), ward 9 in the city of Burlington.

AD 63 consists of the bulk of Racine County to the west of the City of Racine. It also extends into parts of the Village of Mount Pleasant, picking up five majority Democratic wards, and what amounts to a 50-50 partisan split in one other.[10] These six wards have a population of 5,791 and a Democratic baseline of 51.0%. This population of Democratic voters was combined with a population of 51,574 voters elsewhere in the district, with a Democratic baseline of 40.4%, resulting in the district's overall Democratic baseline of 41.7%.

The Alternative Map created three districts in the region, covering most of the same geography: the 16th (Democratic baseline 54.3%), the 23rd (Democratic baseline 43.9%), and the 44th (Democratic baseline 56.4%). The combined baseline partisanship of these three districts is 51.0%. At a minimum, this demonstrates that it was possible to draw two Democratic districts and one Republican district in the region, instead of the 2-1 Republican advantage created in Act 43.

Figure 2
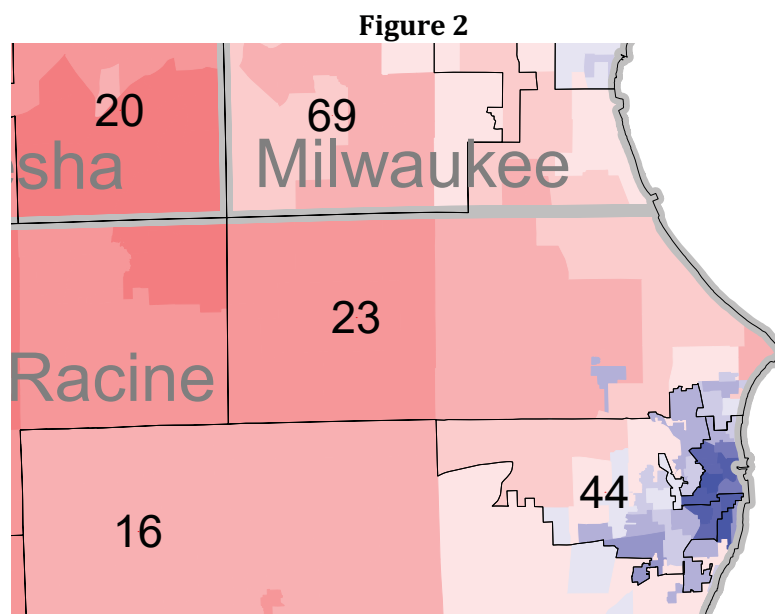
Region 2: Assembly District 21 (cracked)
The 21st Assembly District is in the southeast corner of Milwaukee County. It consists of the City of South Milwaukee, the City of Oak Creek, and portions of the City of Franklin to the west. It has a Democratic baseline of 47.0%.

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[10] The Democratic wards in Mt. Pleasant are 1,2,3,7 and 20; ward 4 has a Democratic baseline of 50.0%.

Figure 3
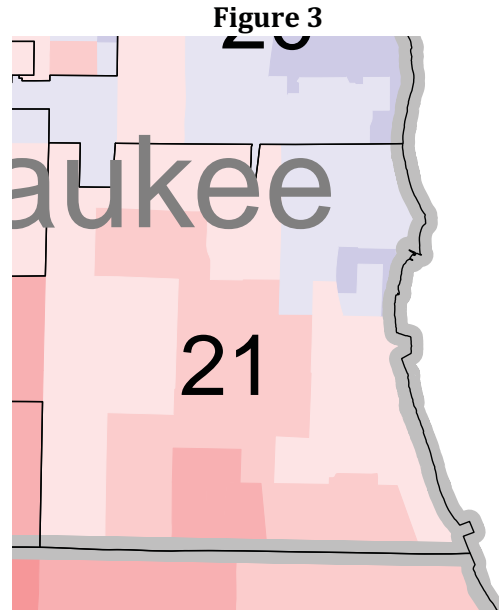
This district constitutes another classic case of cracking, with a Democratic population in South Milwaukee (population 21,156, Democratic baseline 52.1%) embedded within a larger and strongly Republican population in the City of Oak Creek (population 34,451, Democratic baseline 44.2%) and the City of Franklin (population 1,842, Democratic baseline 37.9%).

In the Alternative Map, South Milwaukee is incorporated into the 4th district (Democratic baseline 52.2%, while Oak Creek is placed in the 23rd district (Democratic baseline 43.9%). This demonstrates that the cracking of South Milwaukee into a Republican district was unnecessary.

Figure 4
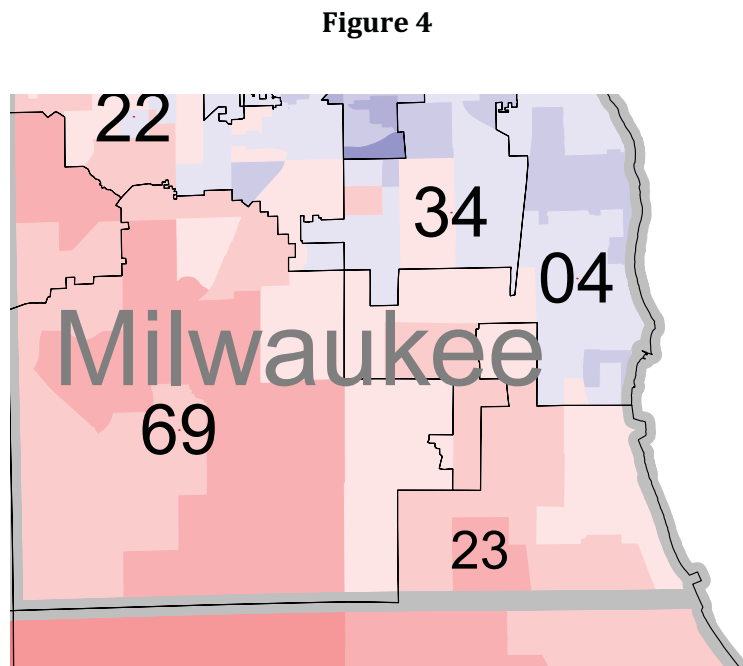
Region 3: Assembly Districts 13 (cracked), 22(cracked), 23(cracked), and 24 (cracked)

In the Milwaukee region, Act 43's map drawers cracked Democratic voters in the 13th, 22nd, 23rd, and 24th Assembly districts. These districts present perhaps the most egregious instances of cracking in Act 43.

Figure 5
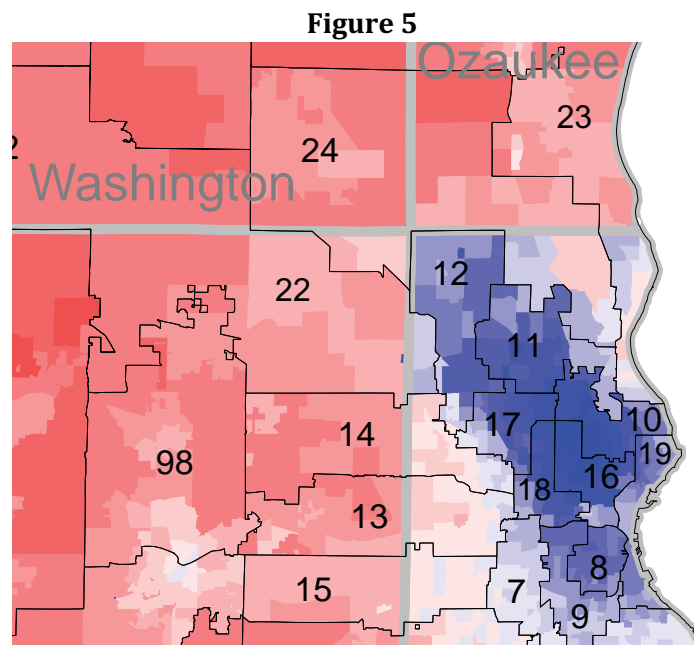
The 22nd, 23rd, and 24th districts have most of their population in the counties to the north and west of Milwaukee County: the "Collar Counties" of Waukesha, Washington, and Ozaukee, which are the three most Republican counties in the state. However, each of these three districts also extends into Milwaukee County (increasing the number of splits in the plan), placing a number of strongly Democratic areas into each district in a manner that submerges Democratic populations into a larger and overwhelmingly Republican populations. The 22nd district has a Democratic baseline of 33.7%, the 23rd a Democratic baseline of 43.9%, and the 24th a Democratic baseline of 41.9%.

In the 13th district, an overwhelmingly Republican area in Waukesha County (Democratic baseline of 32.0%) is combined with a marginally Republican portion of western Milwaukee County (Democratic baseline of 47.4%) and Democratic wards in Wauwatosa and Milwaukee,[11] embedding a large number of Democratic voters into a safe Republican district (the 13th has an overall Democratic baseline of 40.3%).

The only Assembly district in this region that was *not* split between Milwaukee County and an adjoining "Collar County" was the 12th District in the northeast corner of the County; this is also a Majority-Minority district with a 51.1% African American voting age population.

The populations entirely inside Milwaukee County distributed among these four cracked districts is 85,649, equivalent to nearly 1.5 Assembly districts (given an ideal population of 57,444). It would have been a trivial task to take the geographic area of the districts in the region and draw a more balanced map that preserved an additional district entirely within Milwaukee County and that

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[11] The Democratic wards in Wauwatosa and Milwaukee have a total population of 8,581 and a Democratic baseline of 53.7%.

avoided cracking Democratic voters. Such a balanced map would not have required downstream changes in the rest of the state map.

Table 7 shows the scope of Democratic cracking in the Milwaukee region, demonstrating how significant concentrations of Democratic populations were placed in regions of overwhelming Republican partisanship. Every Assembly district in the table shows the same pattern. To give one example, the Milwaukee County areas of districts 23 and 24 are contiguous. It would have been a simple task to place them in one district, made up of a population of 45,547 in Milwaukee County and approximately 12,000 Republican voters in Ozaukee County and Washington counties (no changes would be required in any other district). This would have created one district with an approximate Democratic baseline of 52%, and one district (that would have included the remainder of the Ozaukee and Washington County populations in Districts 23 and 24) with an approximate Democratic baseline of 34% . Furthermore, drawing the districts in this manner would eliminate one split. Instead, Act 43 aggressively (and unnecessarily) cracks Democratic voters, burying strongly Democratic areas (or, in the case of District 13, a swing area) into districts with larger Republican concentrations in the 31.4%-34.3% Democratic baseline range.

Table 7 Act 43 Cracking of Milwaukee Area Assembly Districts					
District	District Dem Baseline	District Population In Milwaukee County		District Population Outside Milwaukee County	
		Population	Dem Baseline	Population	Dem Baseline
13	40.3%	33,325	47.4%	24,127	32.0%
22	33.7%	6,777	57.6%	50,718	31.4%
23	43.9%	25,111	53.7%	32,468	34.3%
24	41.9%	20,436	56.7%	36,846	33.3%
Total	39.8%	85,649	52.3%	144,159	32.6%

The Alternative Map demonstrates that these examples of cracking were wholly unnecessary. The areas in Milwaukee County in Districts 22-24 under Act 43 are now entirely contained within Milwaukee County in Democratic districts (nos. 5, 18, 25, and 72). The area previously included in District 13 is now mostly incorporated into district 40, also a Democratic district (baseline of 52.7%).

Figure 6
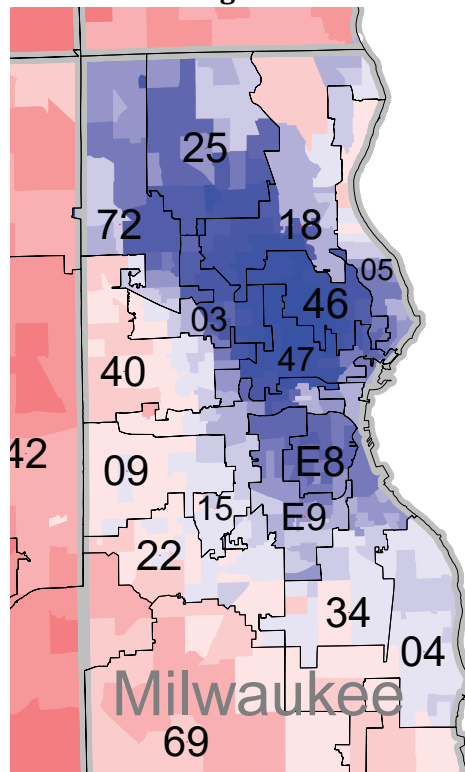
Additionally, the Alternative Map proves that the Act 43 district geography was not only not required, but also that it also deviated from traditional redistricting principles. Act 43 districts created eight splits of Milwaukee County (indicating districts that cross the Milwaukee County line to the north and east including the 13th, 14th, 15th, 22nd, 23rd, 24th, 83rd, and 84th Assembly districts). The Alternative Map contains only one split in the same region, and only two in all of Milwaukee County.

Region 4: Assembly District 31 (cracked)

Figure 7
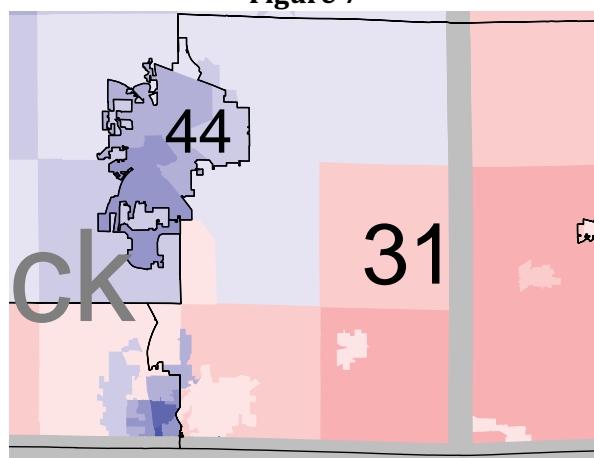
District 31 is in south central Wisconsin (Figure 7), and includes portions of the cities of Janesville and Beloit in the west, extending east through Rock County into parts of Walworth County. It has a Democratic baseline of 43.9%. It is contiguous with two strongly Democratic districts, the 44th (Democratic baseline 61.7%) and the 45th (59.2%).

Cracking is evident in the way that Democratic areas in the northwest corner and the far western portion of the district are submerged in Republican areas to the east. Concentrations of Democratic voters in Rock County (a contiguous population of 10,361 that includes parts of Janesville, and all of the Towns of Harmony, La Prairie, and Johnstown) and parts of the City of Beloit (population 7,292) have a total population of 17,653 and a Democratic baseline of 52.2%. This population is combined with larger and strongly Republican areas to the east (population 37,885, Democratic baseline 40.7%) to produce a reliable Republican district.

The Republican candidate received 56.5% of the vote in 2012, was unopposed in 2014, and received 64.1% in 2016.

The Alternative Map created a Democratic district in the area (District 63, Democratic baseline 54.6%, Figure 8), demonstrating that the cracking in Act 43 District 31 was unnecessary.

Figure 8
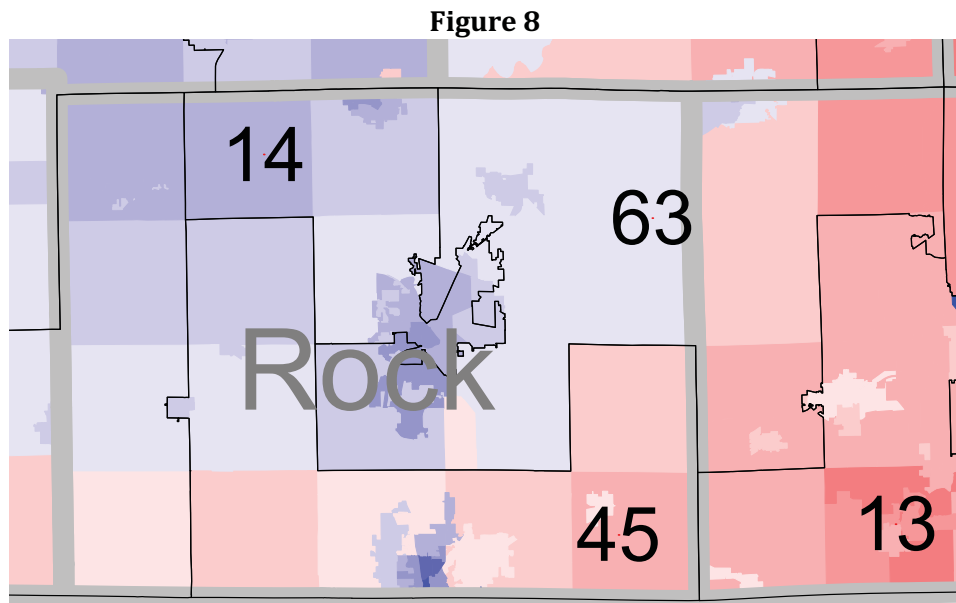
Region 5: Districts 25 (cracked) and 26 (cracked)

Districts 25 and 26 are stark examples of cracking. In both cases, a single Democratic city or contiguous community of interest that could have easily been included in a single Assembly district (which would have been a Democratic district) was cracked into two separate districts, creating in each case two Republican districts rather than one Democratic and one Republican district.

Figure 9
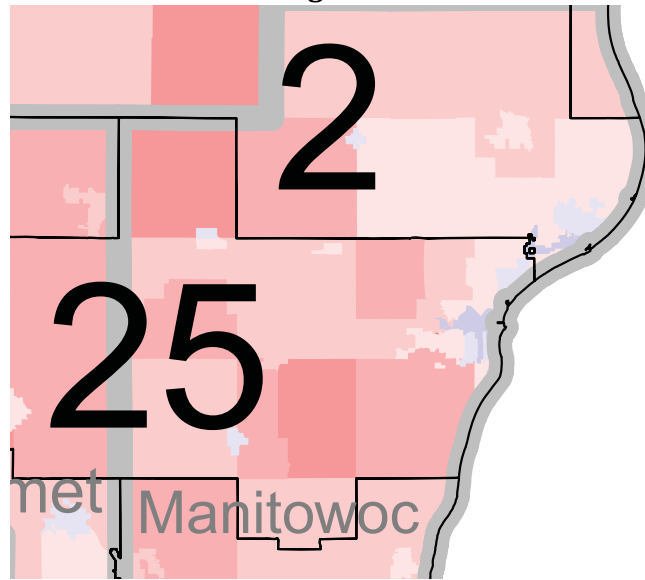
The 25th district, on the shores of Lake Michigan, includes the City of Manitowoc on the coast, extending west across Manitowoc County into eastern Calumet County. It has a Democratic baseline of 46.9%.

It is apparent that the Act 43 map drawers achieved this baseline by splitting the cities of Manitowoc and Two Rivers into separate districts. (Manitowoc in the 25th, and Two Rivers in the 2nd). Both cities are Democratic areas, and have a combined population that approaches the ideal for a single Assembly district: Manitowoc has a population of 33,738 and a Democratic baseline of 51.2%; Two Rivers has a population of 11,721 and a Democratic baseline of 54.9%. The total population of this area is 45,459 and has a Democratic baseline of 52.2%. As the image above shows, there are areas contiguous to the cities along the Lake Michigan shoreline that could easily have been included in a single district that was either Democratic or highly competitive. But by splitting the cities into separate districts, the map drawers created two Republican districts, the 25th and the 2nd (Democratic baseline 45.6%). The Alternative Map created a district that included both cities and extended westward, with a Democratic baseline of 50.1% (District 70).

Similarly, the 26th District (Figure 10) split the City of Sheboygan, placing 32,640 people (with a Democratic baseline of 55.2%) into the 26th, and 16,648 (with a Democratic baseline of 52.6%) in the 27th district. Sheboygan has a total population of 49,288 and a Democratic baseline of 54.3%. District 26 has a Democratic baseline of 43.7%, which the Act 43 map drawers achieved by combining part of Sheboygan with an overwhelmingly Republican area to the south (population 24,941, Democratic baseline 32.4%), cracking what *would* have been a Democratic majority in one district into minorities in two Republican districts.

Figure 10
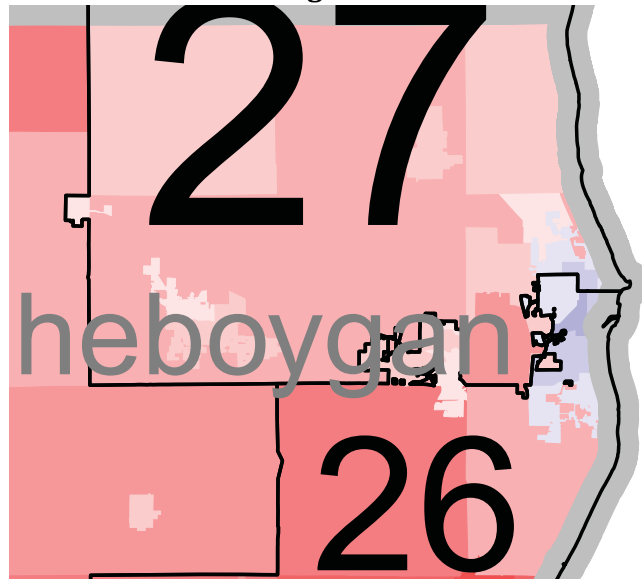
The Alternative Map placed 86% of Sheboygan in a single district, District 1, thereby creating a district with a Democratic baseline of 51.1% (Figure 11).

Figure 11
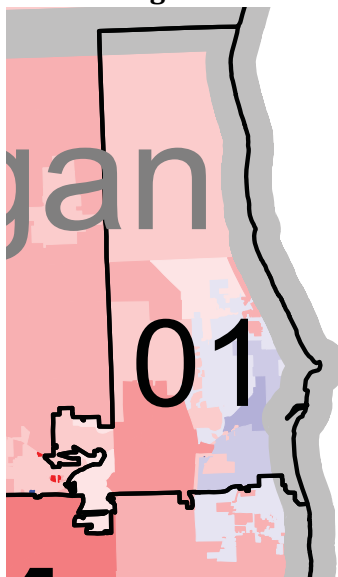
Region 8 – Assembly District 29 (cracked)

Assembly District 29 is in far western Wisconsin near the Minnesota border, and includes parts of St. Croix County to the west and parts of Dunn County to the east (Figure 12). It has a Democratic baseline of 49.5%. It is another instance of cracking a strongly and concentrated Democratic population by combining it with a larger population of Republican voters to create a Republican district.

Figure 12
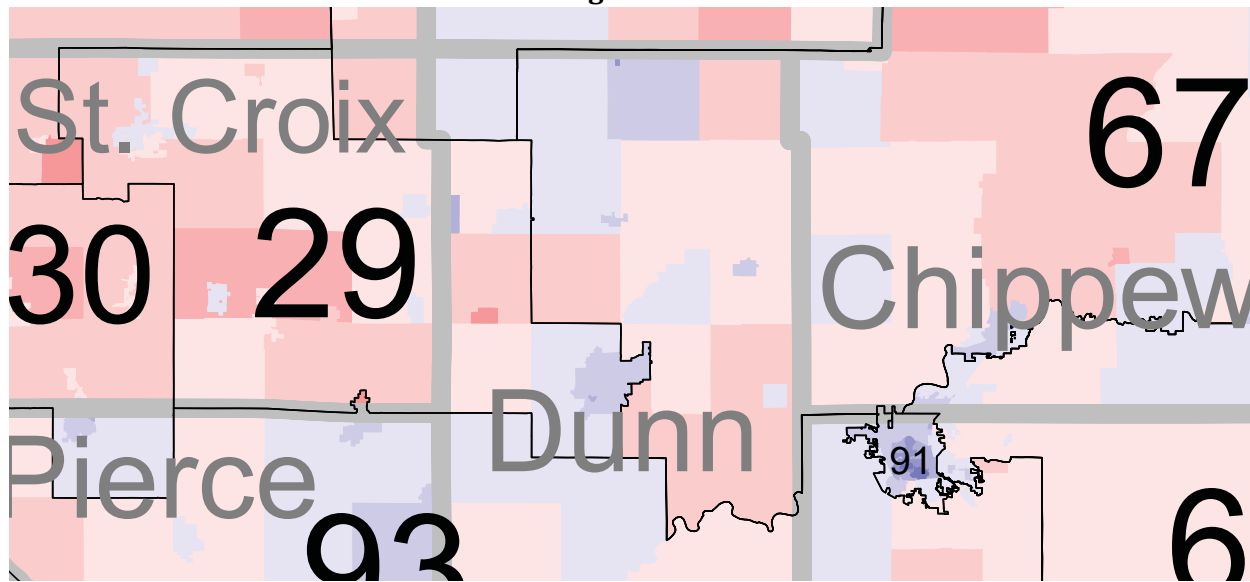
The easternmost part of the district consists of the City and Town of Menomonie, a contiguous and strongly Democratic area with a population of 19,630 and a Democratic baseline of 57.0%. As the district extends west, it picks up smaller municipalities with Democratic majorities: these include the cities of Boyceville (population 1,086 and Democratic baseline of 54.5%), Glenwood City (population 1,242 and Democratic baseline of 54.1%), and Village of Hammond (population 1,922 and Democratic baseline of 52.0%). The Democratic areas of the district (all municipalities with Democratic baseline > 50%) have a total population of 24,890 and a combined Democratic baseline of 56.2%. The district was drawn in a way that submerges these populations into a larger Republican population of 32,647 and a Democratic baseline of 44.6%, resulting in a Republican majority district.

Notably, there is a contiguous Democratic area to the immediate north and east of the 29th district that was split into *three* other districts (the 28th, 67th and 75th), and a contiguous Democratic area to the south that was placed in the 93rd District.. These two areas have a population of 25,724 and a Democratic baseline of 54.5%. When combined with the City and Town of Menomonie, this area has a total population of 45,354, with a Democratic baseline of 55.5% that was broken into five separate Assembly districts – all of which have a Democratic baseline below 50%.[12] Over the three cycles between 2012 and 2014, Democrats won only one election in these five districts. Republican candidates were 4-1 in 2012, 5-0 in 2014, and 5-0 in 2016.

The Republican candidate for Assembly in the 29th District received 55.9% of the vote in 2012, was unopposed in 2014, and won 61.1% in 2016.

In the Alternative Map, the City and Town of Menomonie were placed in a district (86) that included more Democratic areas in a single district, resulting in a district with a Democratic baseline of 50.2% (Figure 13).

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[12] The Democratic baselines are 46.0% (28th), 49.5% (29th), 48.7% (67th), 48.7% (75th), and 49.3% (93rd).

Figure 13
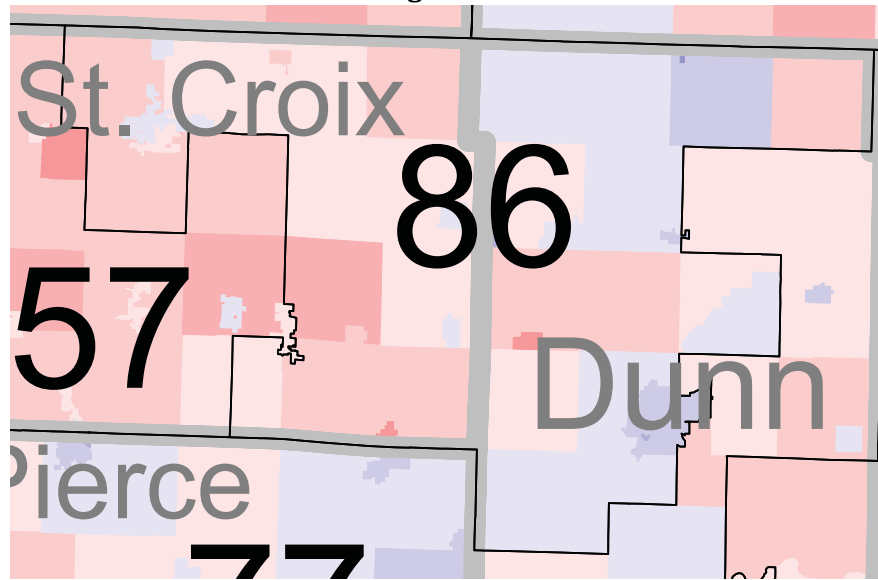
Region 9: Assembly Districts 67 (cracked) and 93 (cracked)

Both districts in this region, in the general area of Eau Claire, represent careful cracking of Democratic populations.

The 67th District is immediately east of the 29th (described in the above section), north of the City of Eau Claire in western Wisconsin (Figure 14). Most of the district area is in Chippewa County, with the western portion extending into Dunn County. It abuts the 93rd district in the southwest corner, and the 29th district to the west. The district has a Democratic baseline of 48.7%

Figure 14
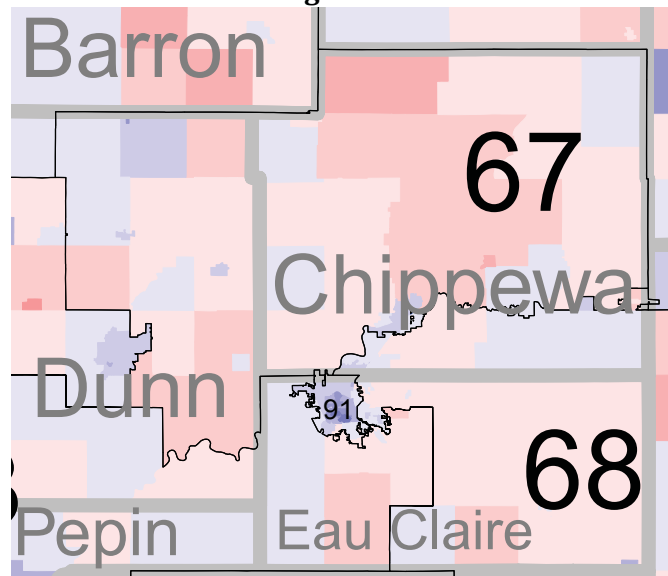
The 67th District is carefully drawn in a way that cracks *all* of the adjacent Democratic areas. It splits the Democratic region in the northwest between Districts 67, 29, and 75, and the areas to the southwest between Districts 67, 29, and 93. To the south, District 67 cleaves the City of Chippewa

Falls (population 13,661, Democratic baseline of 53.7%) from the adjacent Democratic area to the south, consisting of the Village of Lake Hallie and part of the City of Eau Claire (total population of 11,518 and a Democratic baseline of 52.7%).[13] The Democratic region in the southeast part of the district splits the Town of Goetz and the Village of Cadott (combined population 2,199 and Democratic baseline of 53.3%) into the 67th district and the adjacent Village of Boyd and the Towns of Sigel and Edson (combined population 2,685 and Democratic baseline of 53.1%) into the 68th.

The Republican candidate in District 67 received 53.3% in 2012, 60.6% in 2014, and 64.3% in 2016.

The 93rd district is in far western Wisconsin at the Minnesota border (Figure 15). It includes all of Pierce County except for the Town of River Falls in the north, and the part of the City of River Falls within the county. It has a Democratic baseline of 49.3%.

The Act 43 map drawers achieved this by combining a Democratic population in the district (the regions shaded blue, below) of 28,346 and a Democratic baseline of 53.0% with a larger and more strongly Republican population (population 29,202, Democratic baseline of 46.1%).[14] Notably, the notch in the northwest part of the district, which the Town of River Falls and the part of the City of River Falls within Pierce County into District 30, is a strongly Democratic area with a population of 14,122 and a Democratic baseline of 57.2%.

Figure 15

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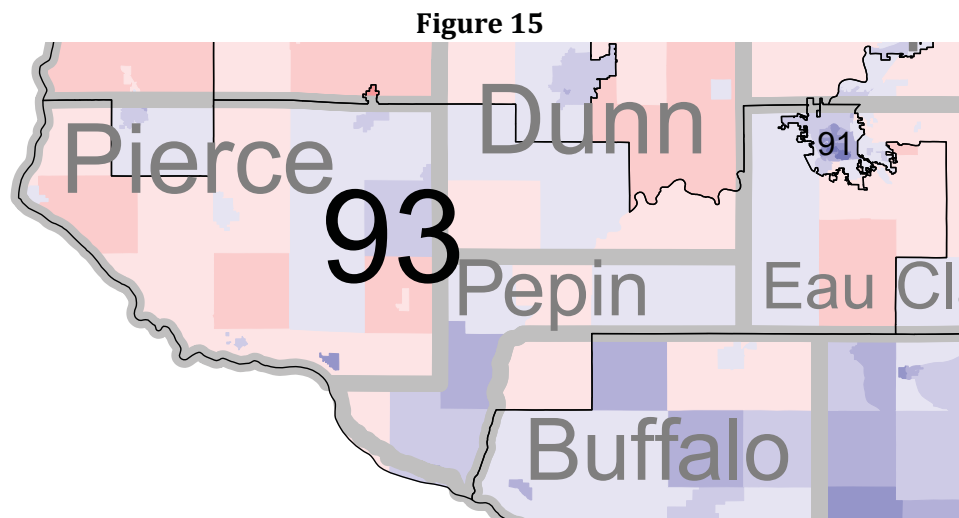
[13] in fact, the entire contiguous area of Democratic support in and around the City of Eau Claire (the cities of Chippewa Falls, Altoona, and Eau Claire, the Village of Lake Hallie, and the Towns of Union and Brunswick, with a total population of 96,991 and a Democratic baseline of 56.7%) is split into 4 districts - the 67th, 68th, 91st, and 93rd – packing Democratic voters in the City of Eau Claire into the 91st District (population 57,539 and a Democratic baseline of 59.0%) and cracking the remaining population of Democratic voters (population of 39,632 and Democratic baseline of 52.9%) into three districts.

[14] The Democratic municipalities in the 93rd district include the Towns of Brunswick, Drammen, and Union and part of the City of Eau Claire in Eau Claire County; the Towns of Dunn and Weston in Dunn County; the Towns of Albany, Frankfort, Lima, Pepin, and Waterville, and Villages of Pepin and Stockholm in Pepin County; and the Towns of El Paso, Gilman, Rock Elm, Salem and Spring Lake, and Villages of Bay City, Ellsworth, Elmwood, Maiden Rock and Spring Valley, and City of Prescott in Pierce County.

I have already noted how the 93rd District is part of an overall cracking strategy in the area, with adjacent Democratic populations split into multiple districts. In the 93rd, Democratic areas adjacent to the district in the North (the notch with the Town and City of River Falls placed in District 30; and the Town and City of Menomonie placed in District 29) are cleaved from the district; and to the South a contiguous population of 4,327 and a Democratic baseline of 56.9% is split into District 92.[15]

The Republican candidate received 50.8% in 2012, 55.4% in 2014, and ran unopposed in 2016.

The Alternative Map shows how the Democratic regions in Act 43 near Districts 67 and 93 were placed in more balanced Democratic districts (Figure 16). Most of the Democratic areas in the western portion of District 67 are now either in District 86 (which has a Democratic baseline of 50.2%) or District 77 (Democratic baseline of 50.5%). District 93 in Act 43 is now also mostly in Districts 77 and 86 in the Alternative Map.

Figure 16
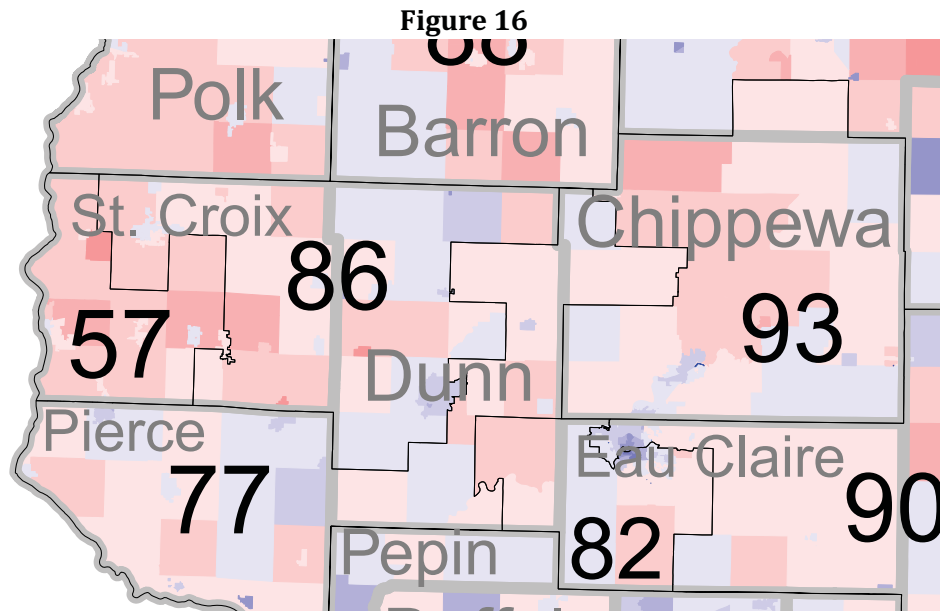
Under Act 43, most of this region was embedded in three Republican districts (the 67th, Democratic baseline 48.7%; the 29th, Democratic baseline 49.5%, and the 93rd, Democratic baseline 49.3%). In the Alternative Map, most of the region was placed in two Democratic districts (the 77th, Democratic baseline 50.5%; and the 86th, Democratic baseline 50.2%) and one Republican district (the 93rd, Democratic baseline 49.7%). Instead of a 3-0 Republican advantage under Act 43, achieved through careful cracking of Democratic voters, the region has a competitive 2-1 Democratic advantage under the Alternative Map, which reflects the actual political geography of the region.

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[15] The city of Alma, and the Towns of Alma, Belvidere, Canton, Gilmanton, Lincoln, Modena, and Nelson, and the Village of Nelson.

Region 10: Assembly Districts 70 (cracked) and 86 (cracked)

Assembly District 70 extends from the area surrounding the City of Stevens Point to the North and East, cutting West across Portage County, southwest through Wood County, into the western half of Jackson County and the northern half of Monroe County (Figure 17). It combines the contiguous Democratic areas to the north and west of Stevens Point in Portage County with the portion of Wood County immediately west of the Wisconsin River, picking up the Democratic City of Sparta (population 9,522 and Democratic baseline of 51.3%) and the narrowly Republican City of Tomah (population 9,093, Democratic baseline 49.8%). The district then extends into Republican areas of Jackson and Monroe counties: the portion of Jackson County in District 70 has a population of 1,482 and a Democratic baseline of 41.6%; the portion of Monroe County has a population of 30,930 and a Democratic baseline of 47.4%.

The population of the contiguous Democratic area around Stevens Point is 13,217, with a Democratic baseline of 55.5%.[16] The population of the cities of Sparta and Tomah, in the western edge of the district, is 18,615, and has a Democratic baseline of 50.5%. In effect, the Democratic concentrations around Stevens Point, Sparta, and Tomah are negated by a population of Republican concentration - a population of 25,996 and a Democratic baseline of 45.2%, resulting in a district with an overall Democratic baseline of 49.6%.

In 2012, the Democratic incumbent in District 70 (Amy Sue Vruwink) won with 50.3% of the vote (she had received 53.8% in 2010 and 69.6% in 2008). In 2014, Vruwink lost to a Republican challenger, winning 47.2% of the vote. The Republican incumbent won the district in 2016 with 62.3% of the vote.

Figure 17
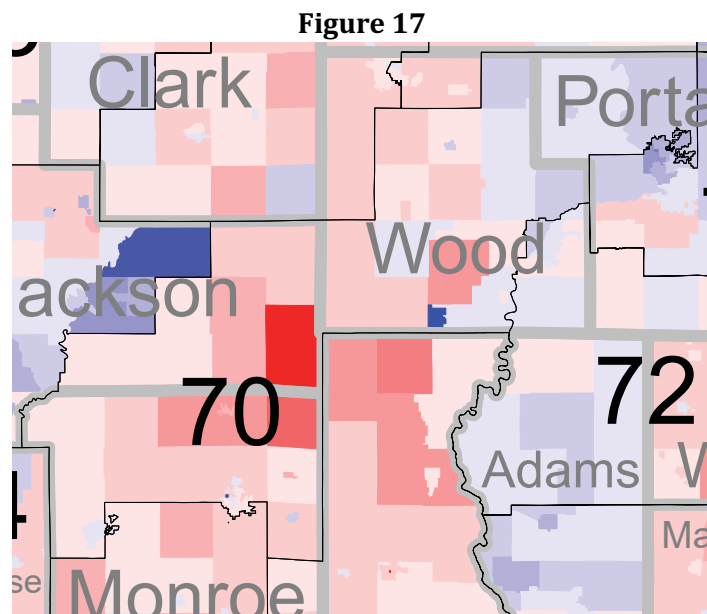
The 86th Assembly District has a Democratic baseline of 45.9%. It extends from an area of Marathon County north of the City of Wausau, wrapping around Wausau and the Village of Rothschild to include part of the Town of Weston, extending south through Marathon County into

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[16] This includes the Towns of Carson, Dewey, Eau Pleine, Hull, and Village of Junction City in Portage County; and Towns of Milladore, Rudoplh, Sherry, and Sigel and Villages of Milladore and Rudolph in Wood County.

Wood County, where it includes a jog with the Town and Village of Auburndale, the Town of Marshfield, and the Village of Hewitt. The westernmost portion splits the City of Marshfield.

Figure 18
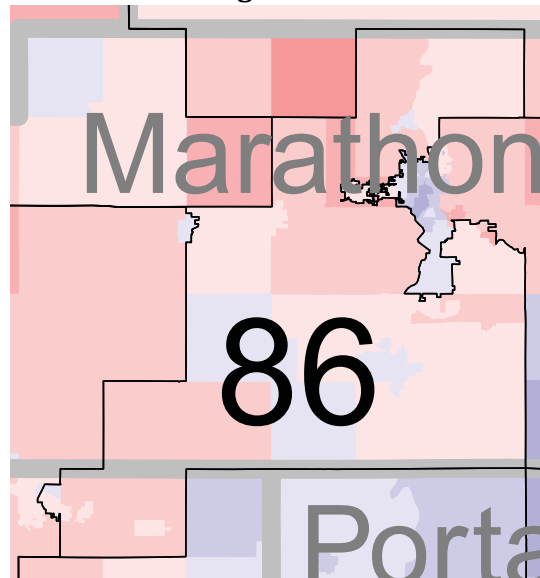
The cracking of Democratic voters in the 86th District is evident from the careful drawing of district boundaries that exclude Democratic concentrations of voters in the 70th, 71st and 85th Assembly Districts to the south and east (shown in Figure 19). This region includes a large and contiguous population of Democratic voters that is split into 4 separate districts.   These areas in Marathon, Wood, and Portage counties have a population of almost 150,000, enough for nearly three Assembly districts, and a Democratic baseline of more than 57%.

Yet, the Act 43 map drawers placed this population into five Assembly districts (Figure 19), packing Democratic voters into the 85th (Democratic baseline 52.3%) and 71st (Democratic baseline 58.8%) districts, and cracking the remaining Democratic populations in the 70th (Democratic baseline 49.6%), the 86th (Democratic baseline 45.9%) and the 72nd (Democratic baseline 49.1%). In effect, a Democratic majority in the region was cracked and packed into a 3-2 (or 60%) Republican seat majority.

Figure 19
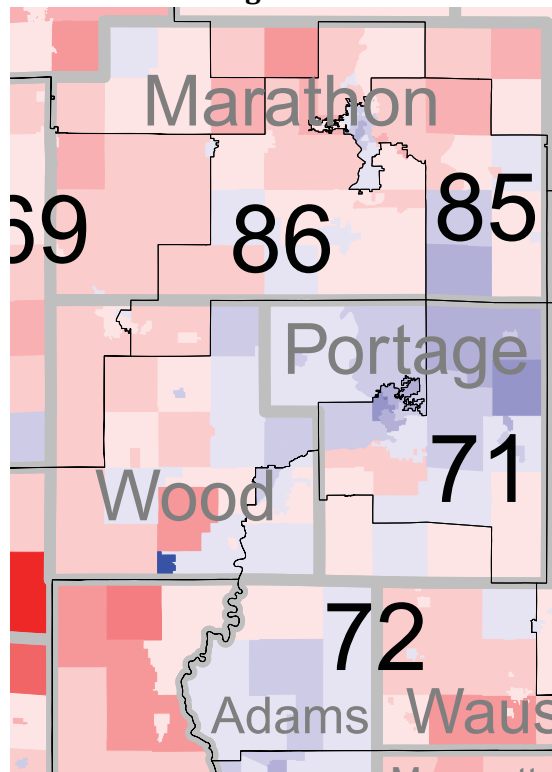
Region 11: Assembly Districts 50 (cracked) and 95 (packed)

Assembly District 50 is in central Wisconsin. It incorporates the entirety of Juneau County, and extends west and south into four other counties (Monroe, Sauk, Richland and Vernon). It has a Democratic baseline of 47.8%.

Cracking of Democratic voters is apparent from the district's geography (Figure 20). It combines two concentrations of Democratic voters, one in the southeastern part of the district near the city of Wisconsin Dells, and one in the southwest of the district in Richland County. These two regions[17] have a combined population of 21,192 and a Democratic baseline of 51.2%. The remainder of the district has a population of 36,432 and a Democratic baseline of 45.8%, producing a Republican district. Notably, the jogs into Monroe , Sauk and Vernon counties pick up Republican areas, and the eastern boundary does not extend into strongly Democratic Adams County. The extension into Sauk County, in particular, is carefully calibrated to add a net Republican gain to the district. The Democratic portion of Richland County in District 50 has a Democratic baseline of 52.2%. However, because the district continues south and west, picking up Republican areas, adding Richland County to District 50 adds a total population of 9,201 with a Democratic baseline of 49.6% -- in other words, a Republican area.

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[17] The region near Wisconsin Dells includes the Towns of Lyndon and Kildare in Juneau County, and the Towns of Delonia and Winfield and city of Reedsburg in Sauk County. The region in Richland County includes the city of Richland Center, the Village of Cazenovia, and the Towns of Henrietta, Rockbridge and Westford.

Figure 20
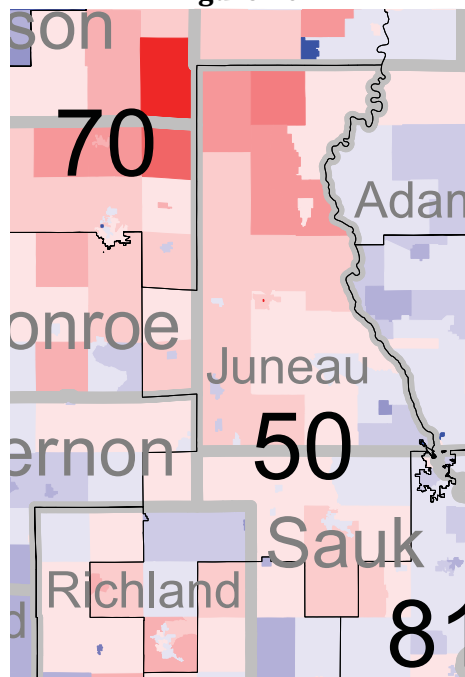
The Alternative Map of the region (Figure 21) placed the Democratic areas in Juneau and Sauk County cracked in Act 43 District 50 into a Democratic district (75, with a Democratic baseline of 51.5%) that included Adams County and additional parts of Sauk County.
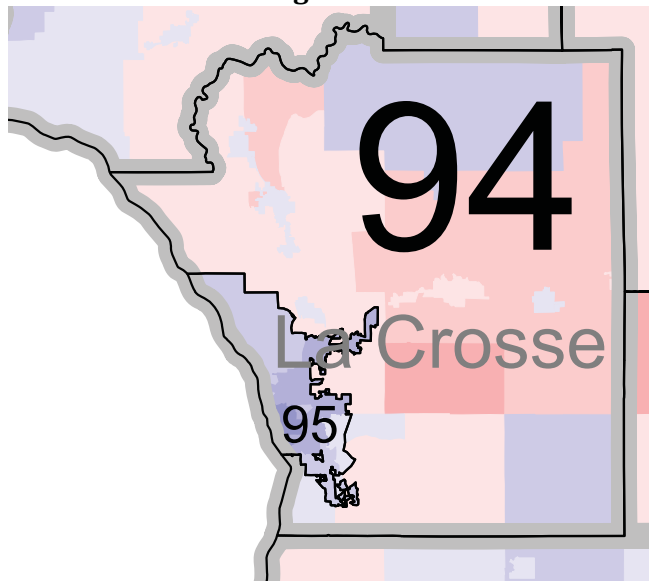
Figure 21
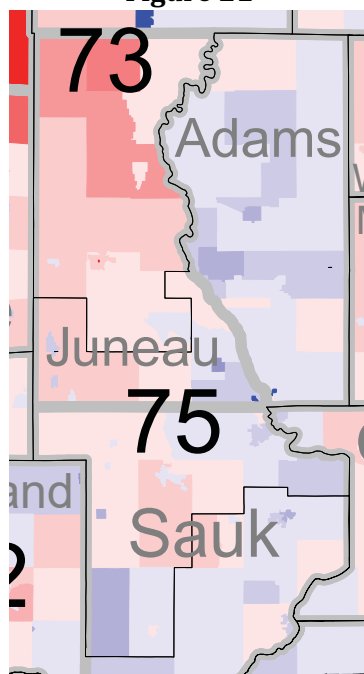
District 95 is another classic example of packing (Figure 22). District 95 consists of the city of La Crosse (population 51,320, Democratic baseline 62.3%), the Town of Campbell (population 4,314,

Democratic baseline 56.0%, and part of the Town of Shelby (population 1,738, Democratic baseline 52.2%). District 95 has an overall Democratic baseline of 61.4%.

Evidence of packing emerges from the fact that of the municipalities that are contiguous to La Crosse, there are two with Democratic majorities. The Act 43 map drawers included the *most Democratic* one (Campbell, to the immediate north), and the *most Democratic* part of the other (Shelby, to the south; the portion of Shelby in the adjacent 94th district has a population of 2,977 and a Democratic baseline of 50.8%).

Figure 22

The Democratic candidate was uncontested in District 95 in 2012, 2014, and 2016.

The Alternative Map placed most of the City of La Crosse into a much more balanced district (District 59, Democratic baseline 54.7%; Figure 23).

Figure 23
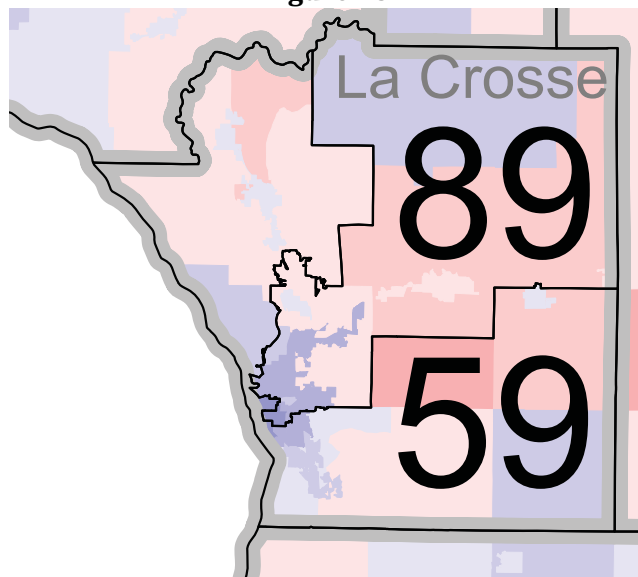
Region 12: Assembly Districts 38 (cracked) and 42 (cracked)

District 38 (Figure 24) extends from Democratic areas in Dane County (in the west), through Jefferson County and part of Waukesha County to the east. It has a Democratic baseline of 40.2%.
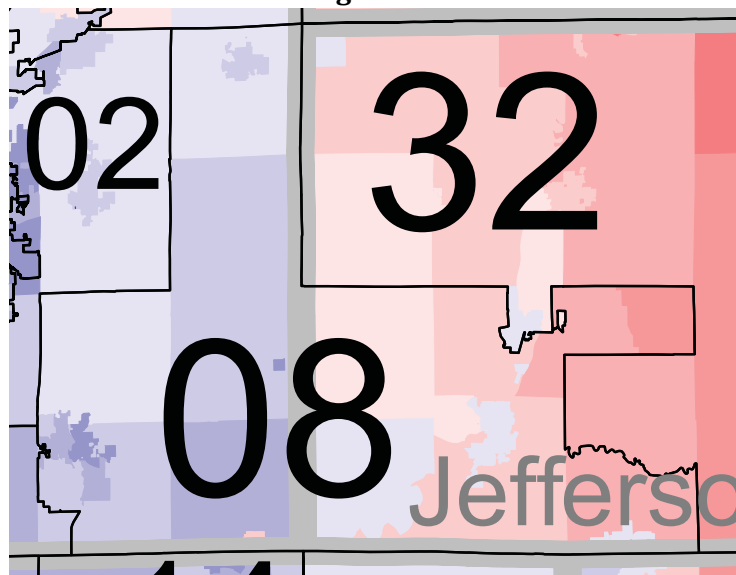
Figure 24
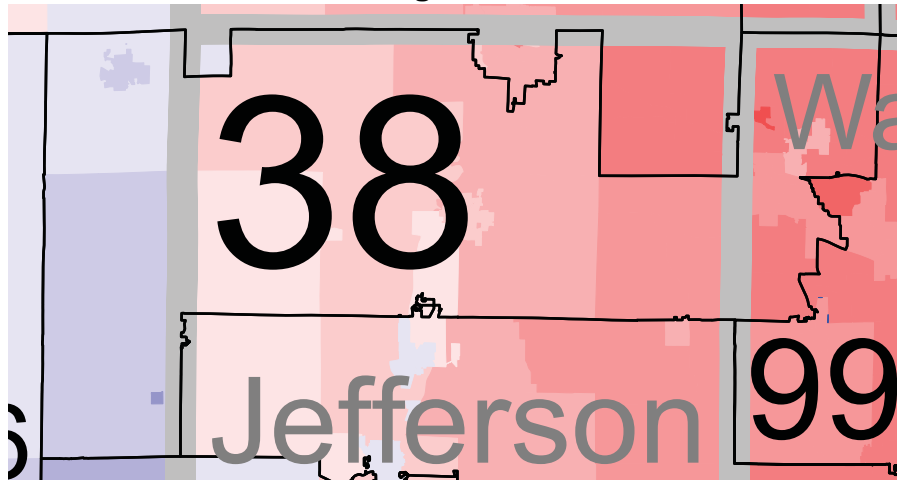
The cracking in District 38 is completely straightforward. The contiguous Democratic concentration in Dane County (population 11,939, Democratic baseline 57.1%) is rendered irrelevant by combining it with overwhelming Republican populations in Jefferson County (population 19,518, Democratic baseline 43.2%) and Waukesha County (population 26,036, Democratic baseline 31.6%).

The Republican candidate received 60.0% of the vote in 2012, 63.0% in 2014, and 62.8% in 2016.

The Alternative Map placed these Democratic voters in a more balanced Democratic district with a baseline of 55.1% (District 8, in Figure 25).
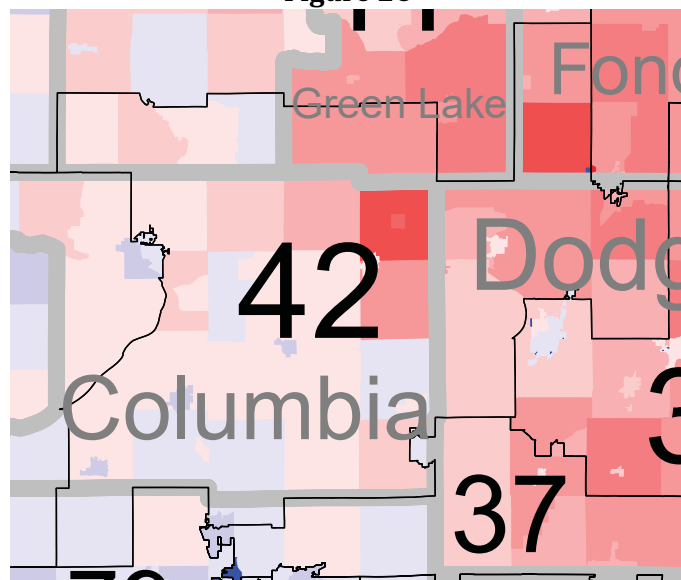
Figure 25

District 42 is just north of Madison (Figure 26), and includes parts of six counties: Columbia, Dane, Dodge, Fond du Lac, Green Lake, and Marquette. It has a Democratic baseline of 45.2%.

Here, too, the cracking is obvious. A strongly and mostly contiguous Democratic concentration in Dane and Columbia counties (population 15,178, Democratic baseline 55.0%) is cracked by placing it with an overwhelmingly Republican remainder (population 42,107, Democratic baseline 41.7%). The district extensions into Dodge County (Democratic baseline 37.3%) Fond Du Lac County (28.7%), and Green Lake County (31.4%) are uniformly and strongly Republican. Appending the southern portion of Marquette County (Democratic baseline 46.0%) reinforces the Republican advantage. The 42nd district also carefully excludes nearby Democratic cities of Beaver Dam (population 16,214, 52.0%Democratic baseline), Columbus (population 4,991, 53.3% Democratic baseline), and Portage (population 10,324, 55.4% Democratic baseline).
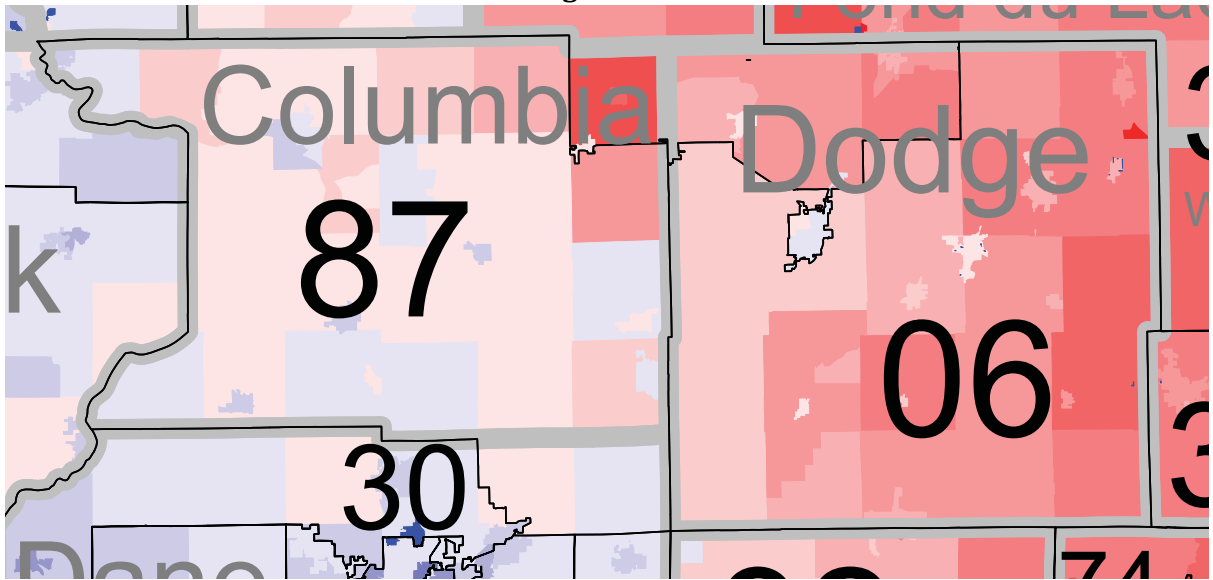
Figure 26

The Republican candidate received 56.6% of the vote in 2012, 57.5% in 2014, and 58.7% in 2016.

The Alternative Map (Figure 27) produced a more compact district with only a single county split, resulting in a district, District 87, with a Democratic baseline of 50.8%.

Figure 27

Region 13: Assembly Districts 10 (packed) and 18 (packed)

Assembly Districts 10 and 18 are in Milwaukee County. District 10 contains part of the City of Milwaukee and the City of Shorewood on the Lake Michigan shoreline. District 18 is located entirely in the City of Milwaukee, bordering the City of Wauwatosa on its western edge. District 10 has a Democratic baseline of 85.8%, and is the second most concentrated Democratic Assembly district. District 18 has a Democratic baseline of 83.3%, and has the 3rd highest Democratic concentration in Act 43.

Figure 28
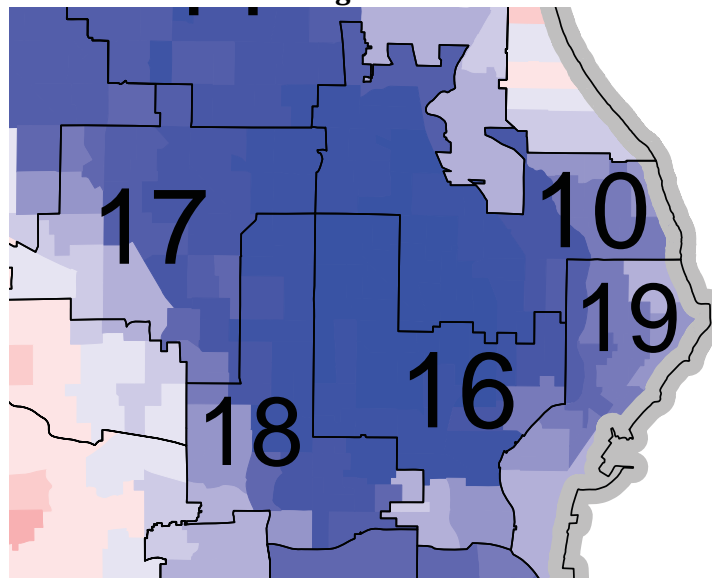
Both districts could easily have included less Democratic areas that are adjacent: District 10 avoided the less Democratic areas in District 23 immediately to the north; and District 18 avoided Republican areas immediately to the west in Districts 13 and 14. The packing of Democrats in these

districts is complementary to the cracking of Democratic voters in adjacent districts. As I demonstrated above, Districts 23 and 24 are both cracked, embedding Democratic areas of Milwaukee County with the much more Republican areas to the north; placing voters now in District 10 in either of these districts would result in more balanced districts, and could be accomplished without reducing the African American VAP majority in District 10 (61.8%).[18]

Similarly, I demonstrate above that District 13 cracks Democratic voters by including a handful of Democratic wards in Wauwatosa and Milwaukee (with a total population of 8,581 and a Democratic baseline of 53.7%), but not the more Democratic areas packed into District 18.

The Alternative Map shows how the voters now packed into Districts 10 and 18 were placed in more balanced districts:

Figure 29
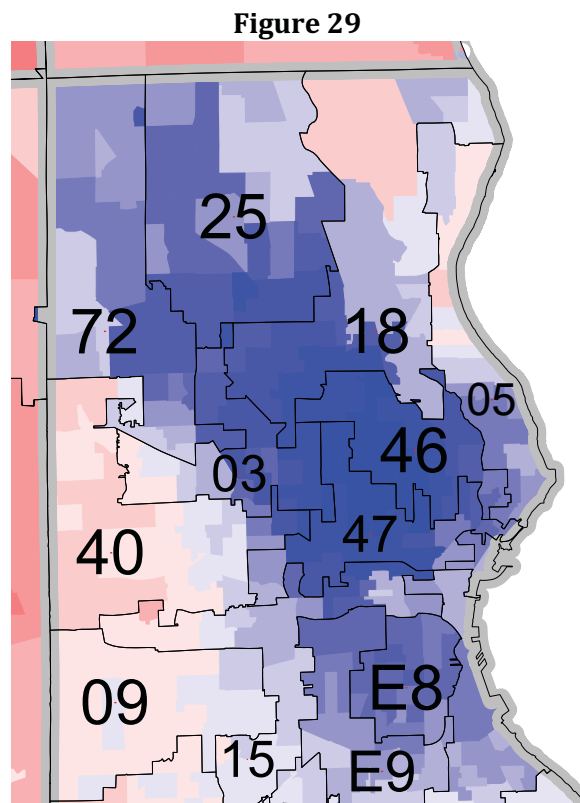
Here, Democratic voters previously packed in District 10 are now in Districts 5 and 18 (the core of District 10 is in Alternative Map District 46). District 5 has a Democratic baseline of 62.9%, and District 18 a baseline of 75.1%. District 18 remains an African American majority district, with 60.40% African American voting age population.

Many of these Democratic voters were previously cracked into Republican under Act 43, Districts 23 and 24.

Democratic voters packed in district 18 under Act 43 are placed in districts 15 and 40 under the Alternative Map, both of which have much more balanced partisanship: Democratic baselines of

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[18] District 10 includes the city of Shorewood, which had a 2010 population of 13,162 and a small concentration of African Americans (2.9%).

60.0% (district 15), and 52.7% (district 40). And, importantly, the cracking of Democratic voters in District 13 under Act 43 is avoided; many of these voters now reside in either District 15 or District 9 (Democratic baseline 49.4%) in the Alternative Map.

Region15: Assembly Districts 4 (cracked), 35 (cracked), and 88 (cracked)
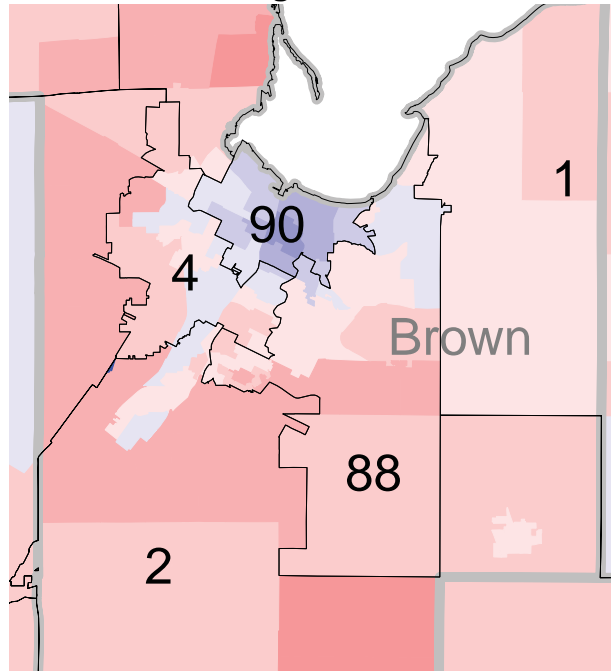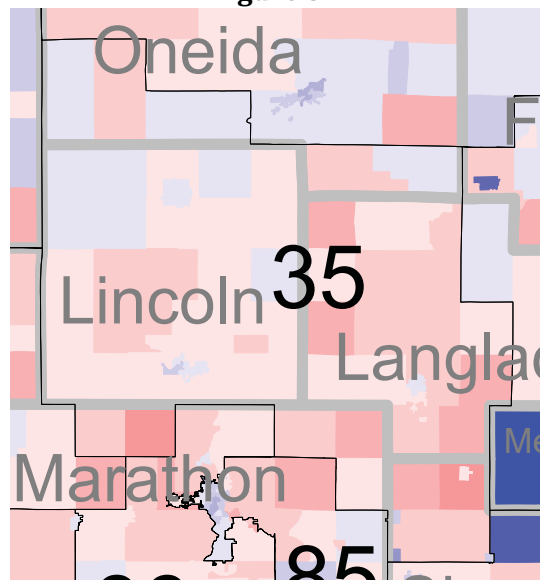
Figure 30

Figure 31

All three districts in this region (the 4th, 35th, and 88th Assembly Districts) are, again, classic examples of cracking and packing – packing Democrats into one district, and drawing adjacent districts lines in a way that embeds Democratic voters within much larger populations of Republican voters, resulting in reliably Republican districts.

The 4th and 88th Assembly Districts surround the City of Green Bay in Brown County (Figure 30). They bracket the 90th Assembly District, which comprises just over half of the City of Green Bay. Green Bay had a 2010 population of 104,057, and it was possible to draw one full district within the city (the ideal population of Assembly districts is 57,444), as well as draw a second district comprised of the rest of the city (46,613 people) and a remainder drawn from the surrounding area.

Instead, the Act 43 map drawers split Green Bay into four districts, packing Democrats into District 90 (baseline Democratic strength of 58.4%) and cracking the remainder of the city's voters into two safely Republican Assembly districts, the 4th and 88th.[19]

The 4th Assembly District is comprised of the western third of Green Bay; the villages of Ashwaubenon and Allouez to the south of Green Bay, and a portion of the Village of Howard to the north. The 88th Assembly District is comprised of the eastern third of Green Bay, extending south through the Village of Bellevue, part of the City of De Pere, part of the Town of Ledgeview, and the Town of Glenmore. Both districts incorporate areas of Democratic strength, but embed them in much more populous areas of Republican strength, resulting in cracked Democratic voters.

Assembly District 4 has a Democratic baseline of 46.3%. Act 43 map drawers achieved this by combining three separate areas of Democratic support (wards 1-3 in Allouez; wards 1-3 in Ashwaubenon, and wards 34 ,43 and 46 in the City of Green Bay; with a combined population of 16,234 and baseline Democratic strength of 52.9%) into a district with a larger population of strongly Republican areas (total population 41,252 and a Democratic baseline of 43.9%), producing a district that has a Democratic baseline of 46.3%.

In 2012, the Republican candidate in District 4 received 55.7% of the vote; in 2014, 59.1%, and in 2016, 59.7%.

Assembly District 88 has a Democratic baseline of 46.9%. It achieves this by combining a Democratic population in 5 Green Bay wards (wards 3, 4, 9, 10 and 14, with a combined population of 12,687 and a Democratic baseline of 53.1%) with a much larger Republican population in the rest of the district (44,869) that has a Democratic baseline of 45.4%).

In 2012, the Republican candidate in District 88 received 52.5% of the vote; in 2014, 56.2%; in 2016, 61.1%.

The 35th Assembly District is in northern Wisconsin, and includes parts of five counties: Langlade, Lincoln, Marathon, Oneida, and Shawano. It has a Democratic baseline of 47.6%. The Act 43 map drawers achieved this by combining Democratic parts of Lincoln County, Oneida County, and a handful of Democratic wards in Shawano County[20] (total population of 22,841, Democratic baseline

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[19]One Green Bay ward (ward 1, population 25) was placed in the 1st Assembly District.
[20] The areas are the City of Antigo wards 1-5 in Langlade County; the Towns of King, Russell, Somo, Tomahawk, and Wilson, and City of Merrill wards 1,2 and 5-19 in Lincoln County; Village of

of 53.2%) with Republican parts of these counties, as well a jog that extends southward, picking up Republican areas of Marathon County (total population of 34,721, with a 44.4% Democratic baseline).

In District 35, the Republican candidate received 56% of the two party vote in 2012; ran unopposed in 2014; and received 66% of the two party vote in 2016.

The Alternative Map demonstrated that the Act 43 divisions were neither necessary nor accidental. Using neutral criteria that did not take partisanship or election results into account (Figure 32), the map created one Republican district in the Green Bay area (the 53rd, with Democratic baseline of 45.2%), one Democratic district (the 96th, with a Democratic baseline of 52%), and one narrowly Democratic but competitive district (the 37th, with a Democratic baseline of 50.2%).
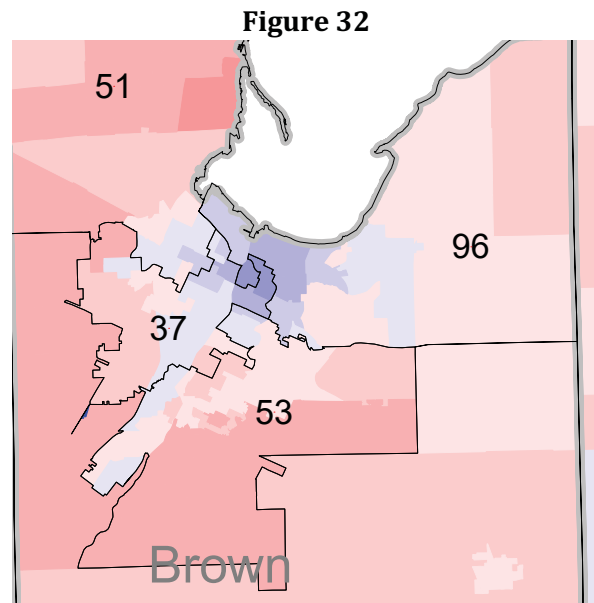
Figure 32

Similarly, in the area around Act 43's district 35, the Alternative Map (Figure 33) created a Democratic district (the 76th, Democratic baseline 50.4%).

Birnamwood ward 2 in Marathon County; the Towns of Lynne, Nokomis, Schoepke, and Woodboro in Oneida County; and Villages Bowler, Eland, and Birnamwood ward 1 in Shawano County.

Figure 33
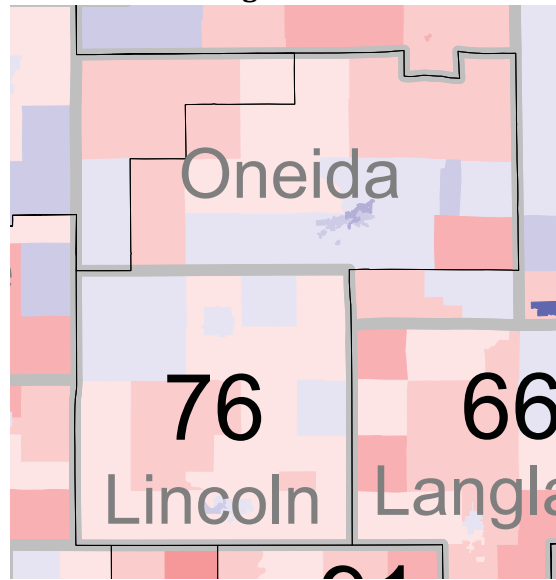
Additional Packed Districts: Assembly Districts 77 (packed) and 80 (packed)

District 77 is located entirely within the city of Madison, and has a Democratic baseline of 79.0% (the 5th most packed district under Act 43). District 80 is in the southwest corner of Dane County, extending west into Iowa County and south into Green County. It has a Democratic baseline of 60.8% (Figure 34).

Figure 34
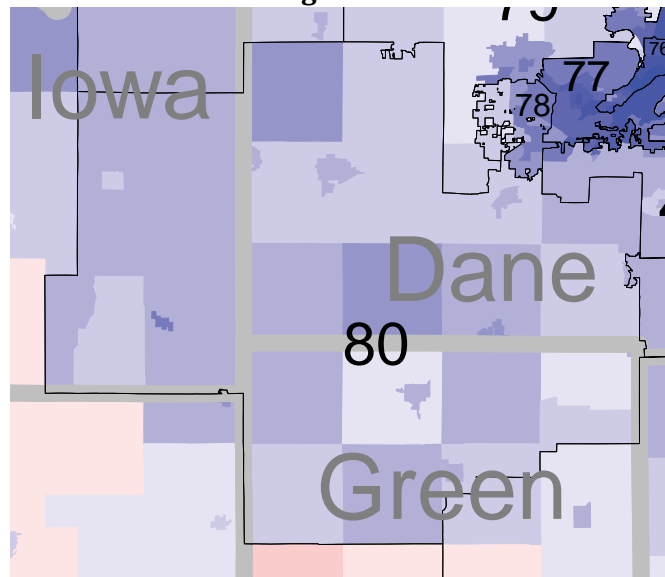
The packing of District 80 is evident in how the southern and western borders end *precisely* where municipalities switch from strongly Democratic to either swing or Republican.

The Alternative Map demonstrated that it is possible to draw districts in the area of the 77th and 80th that were more balanced (Figure 35). Much of the 77th district was incorporated into districts

2, 28, 79, and 80 which have Democratic baselines of (respectively) 63.9%, 74.7%, 72.6% and 80.0%, for an aggregate Democratic baseline of 73.5%. Most of the population in the 80th district was placed in the 11th, 21st, 30th, 65th, and 84th districts in the Alternative Map, which have Democratic baselines of 61.4%, 54.6%, 56.0%, 63.7%, and 54.7%, most of which are more balanced than the 80th; together these 5 districts in the Alternative Map have an aggregate partisanship of 58.4%.

Figure 35
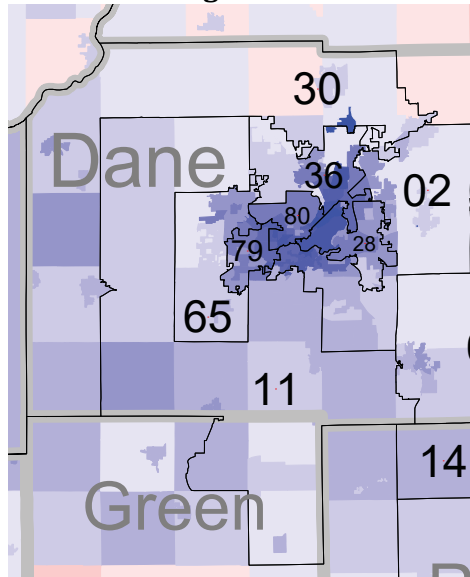
IV. Conclusions

There is no question that Act 43 intentionally and repeatedly cracked Democratic voters, strategically combining Democratic populations with larger Republican populations to create reliably Republican districts. Often, this involved drawing irregular district lines that crossed county or municipal boundaries to knit together separated Democratic areas into Republican districts, or unnecessary extensions and jogs that picked up contiguous Democratic populations that could easily have been combined to create Democratic districts.

The Alternative Map – drawn using neutral criteria – uniformly created more balanced districts in these areas, demonstrating that the cracking was unnecessary and not justified by neutral factors. In many regions, the Alternative Map resulted in fewer municipal splits.

There is, similarly, no question that Act 43 intentionally packed Democratic voters into districts where they constituted overwhelming majorities, often as a complement to cracking in adjacent districts. This reduced the number of seats Democratic candidates had a realistic opportunity to win.

The result was the archetype of a partisan gerrymander: a map that packed and cracked Democratic voters in a way that resulted in far fewer Democratic districts than a neutral plan. Act 43 was such an effective gerrymander that it deprived Democrats not only of a significant number of seats, but very likely deprived Democrats of a majority of the Assembly in 2012.

And, there is ultimately no question that the results of Act 43 created a concrete harm to Democratic voters and Democratic party organizations. By intentionally depriving Democrats of seats, Act 43 reduced ("eliminated" is a more accurate term) Democratic influence over Assembly legislative outcomes, and produced much more conservative policy outputs. Act 43 made it more difficult for Democratic party organizations to raise money, recruit quality challengers, contest Republican-held seats, mobilize supporters, and, ultimately, compete for political and legislative power.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge.

Kenneth R. Mayer
October 15, 2018

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