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Redistricting Report
Washington State
April 4, 2022

I. Introduction

The enclosed report details two congressional redistricting plans for Washington state, each motivated by the same goal: to increase political competition. Both plans seek to maximize the number of politically competitive districts within legal constraints. The first plan creates the mathematical maximum number of competitive districts, drawing seven such districts. Only after ensuring seven competitive districts does the plan optimize for good government characteristics. As a result, the first plan draws less compact districts for the sake of competition, illustrating the costs of optimizing for only one outcome. The second plan prioritizes competition but places a greater emphasis on good government principles; it starts from the first plan, replacing the least compact districts with less competitive but highly compact alternatives. The second plan thus illustrates a compromise between solely focusing on good government principles and solely optimizing for competition.

Creating these maps came with numerous challenges. In Washington, Democrats far outnumber Republicans, and the state voted decisively for President Biden in 2020. While the state has a large Republican minority, liberal and conservative voters tend to live in geographically distinct areas of the state: Republicans dominate the state's east while the Puget Sound region in the west contains most of the state's Democrats. As a result, creating competitive, compact districts which preserve political subdivisions and communities of interest required careful consideration.

This report details how each proposal approached this tradeoff between traditional, good government principles and competitiveness. The remainder of the paper is organized into two sections, one for each plan. Within each section, the report discusses the proposal's legality under state, federal, and constitutional provisions before explaining precisely how the plan was constructed. Each section also compares the relevant proposal to the state's recently enacted redistricting plan for this cycle.

The next section — focusing on the first plan — can be read as a stand-alone report, but the second report heavily references analysis and data from the first section. Therefore, readers interested in the second plan should review the first report to understand the context for the second proposal. The first report begins on page 2, and the discussion of the second plan begins on page 25.

II. Max Competition Plan

This proposal is a max competition plan for Washington, aiming to create the maximum number of politically competitive districts. I define a competitive district as a district where the difference between the Republican and Democratic vote shares in the 2020 presidential election was at most five percentage points. Under this definition, the plan has seven competitive districts (districts 4-10), a substantial improvement over both the previous map (used in the 2020 election) and the enacted plan, which each have one competitive district. While the plan attempted to be nonpartisan, independent analyses suggest the plan favors Republicans.

With seven competitive districts, the plan achieves the maximum number possible. The other three districts are safe Democratic seats, with over 40 percentage point Democratic margins in the 2020 presidential election. Based on Washington's high Democratic vote shares, it is not possible to create another competitive district: such a district would require adding Republicans to one of the safe Democratic districts, and there are not enough Republicans to do so without sacrificing another competitive district.

The plan's high levels of competition traded off with other considerations. For example, the proposal's districts are less compact than the enacted plan. Moreover, the plan combines disparate communities, potentially sacrificing community of interest considerations. These tradeoffs largely resulted from the geographic separation between the state's Republicans — which populate the south and east of the state — and the state's Democrats, who are largely clustered in the Puget Sound region.

These tradeoffs help explain why Washington's previous two rounds of redistricting produced low levels of competition, measured by the number of competitive districts. However, there is middle ground between a plan which maximizes competition and plans which produce only one competitive district, and some of the strategies and considerations from this plan's construction could help create more competitive maps in the future.

The remainder of the report is organized as follows. Section A discusses the plan's legality under the Constitution, federal law, and state law. Section B provides a more detailed explanation of the plan's considerations and how the plan navigated various tradeoffs that emerged during the redistricting process. Section C then examines how this proposal compares to the state's enacted plan from this redistricting cycle. Section D concludes.

Figure 1: Max Competition Proposal, Washington State

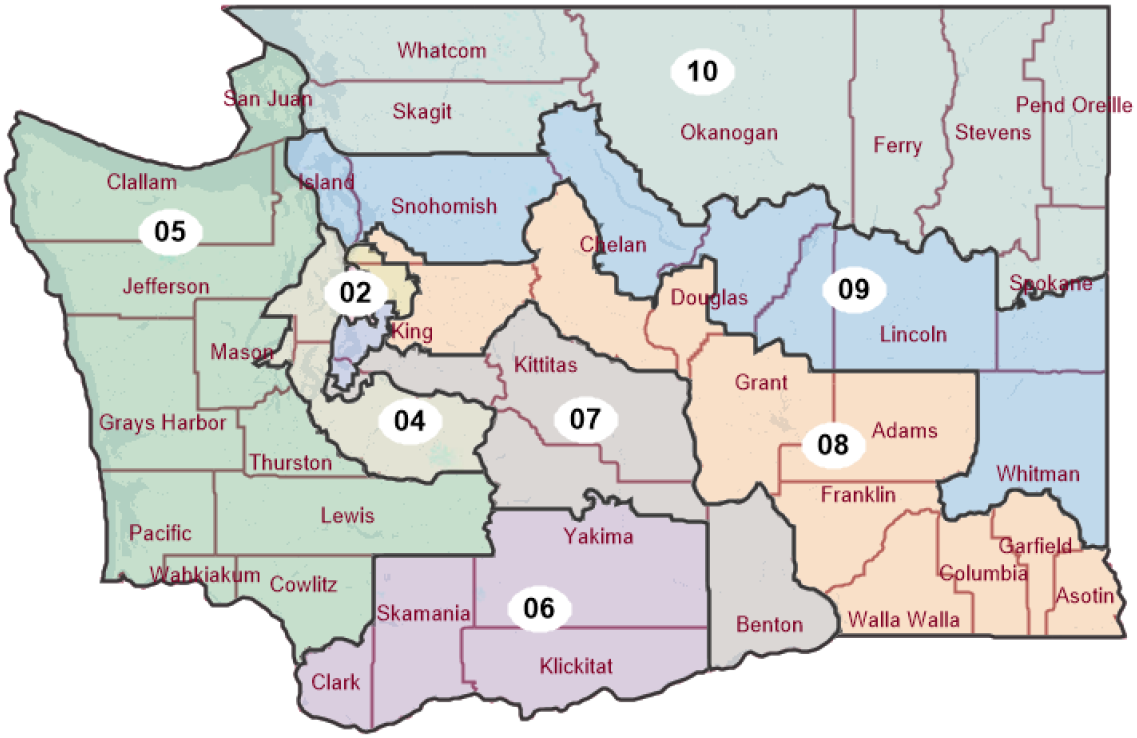
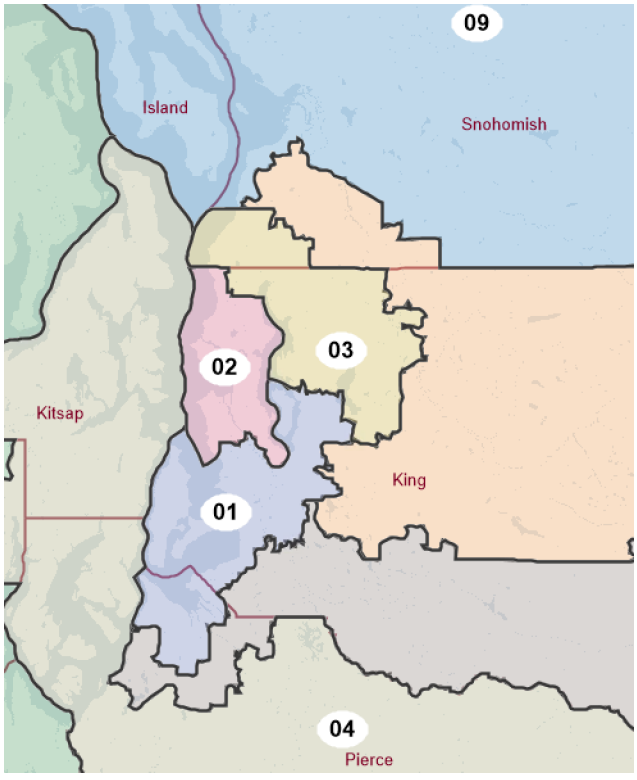


Figure 2: Max Competition Proposal, Seattle Area



A. Compliance with Legal Requirements

This map complies with all constitutional, federal, and state requirements for redistricting plans. Under the Constitution, plans must satisfy one person, one vote requirements and they may not gerrymander on the basis of race. Proposals must also adhere to section 2 of the Voting Rights Act, which imposes requirements designed to ensure a minority group's opportunity to elect candidates of their choice. The only Washington state requirements that go beyond these provisions mandate that districts are compact and contiguous and that mapmakers respect political subdivisions.[1] The next four sections examine each set of requirements in turn, concluding that the plan is legal.

1. Constitutional Requirements: One Person, One Vote

The one person, one vote principle requires that all districts have equal population, with every deviation justified by consistently applied, legitimate interests.[2] These legitimate interests include respect for political subdivisions, minimizing population shifts between districts, or preventing incumbents from competing against one another.[3] The Court has recognized that using registered voters or total population as the basis for equal population districts is legal.[4]

This plan satisfies one person, one vote requirements, using P.L. 94-171 total population data. Using this data, the ideal district would have 770,528 people. There is only one district that deviates from this ideal: district 1 (770,529 people). Therefore, the difference between the smallest and largest districts is just one person. Thus, the plan reaches perfect population equality.

2. Voting Rights Act, Section 2

Section 2 of the Voting Rights Act ensures that "the political processes leading to nomination or election in the State" are equally open to racial minorities and majorities. Specifically, violations occur when a minority group's "members have less opportunity than other members of the electorate to participate in the political process and to elect representatives of their choice."[5] In determining whether a state has violated Section 2 with respect to a particular minority community, courts first require that challenges satisfy three threshold conditions. First, the minority group in question must be

[1] Wash. Rev. Code § 44.05.090
[2] Karcher v. Daggett, 462 US 725 (1983)
[3] Tennant v. Jefferson County, 567 U.S. 758 (2012)
[4] Burns v. Richardson, 384 U.S. 73 (1966); Evenwel v. Abbott, 578 U.S. ___ (2016)
[5] 52 U.S.C. § 10301(b)

large and compact enough to form a majority of a single member district. Second, the minority community must be politically cohesive. Third, racially polarized voting must ordinarily lead majorities to defeat minority candidates of choice.[6] After meeting these so-called *Gingles* prongs, challengers must then satisfy the "totality of the circumstances" test, proving that some of the Senate factors are present. Proving these factors requires plaintiffs to illustrate how past and present discrimination and racial polarization conspire to harm minority groups and their electoral chances.[7]

In subsequent cases, the Court has expounded on how to determine when particular minority groups satisfy the *Gingles* prongs. On the first prong, the Court determined that minority groups must be able to form a strict majority of a single member district to bring a Section 2 claim.[8] When evaluating whether a minority group forms a majority, lower courts often use citizen voting age population (CVAP) as the denominator. In addition, the Court has attached a cultural compactness strand to the first prong, requiring that a group must be culturally cohesive to bring a Section 2 claim.[9]

When weighing the "totality of the circumstances," the Court has ruled that achieving proportionality (where a minority group controls a share of districts comparable to their share of the state's population) is not a safe harbor, though it does weigh in favor of the plan.[10]

When the *Gingles* prongs and Senate factors are present, the Court has clarified the state's obligations in *Johnson v. DeGrandy*, holding that a state is not required to draw the maximum possible number of majority minority districts.[11] However, a state may not trade one group's majority minority district for another, unless the state cannot accommodate both groups' claims.[12]

Washington has no single racial minority group which could bring a Section 2 claim, as none are large and compact enough to constitute a majority in a single member district. However, it is possible to create a majority minority district in the Puget Sound region, where Hispanics, African-Americans, and Asian-Americans could together form a majority. The newly enacted plan's district 9 (EN9) creates such a district between Seattle and Tacoma, which is majority minority by voting age population (VAP) but not CVAP.

The map below displays this district, where darker red indicates higher concentrations of minorities (by VAP), and lighter yellow indicates lower concentrations. The maroon lines indicate county boundaries, and the black lines denote districts. In the table's headings, NH and H refer to Non-Hispanic and Hispanic, while BLK and ASN refer to Black and Asian respectively. All

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[6] Thornburg v. Gingles, 478 U.S. 30 (1986)

[7] *See* Senate Judiciary Committee Report on the Voting Rights Act Amendments of 1982, S. Rep. No. 97–417, 97th Cong, 2d Sess. (1982)

[8] Bartlett v. Strickland, 556 US 1 (2009)

[9] League of United Latin American Citizens v. Perry, 548 US 399 (2006)

[10] Johnson v. De Grandy, 512 U.S. 997 (1994)

[11] Johnson v. De Grandy, 512 U.S. 997 (1994)

[12] League of United Latin American Citizens v. Perry, 548 US 399 (2006)

demographic data are presented in percentages. Note that VAP numbers are from the Census data, while CVAP numbers come from survey data estimates.

Figure 3: Enacted District 9: Majority Minority District, Puget Sound Region

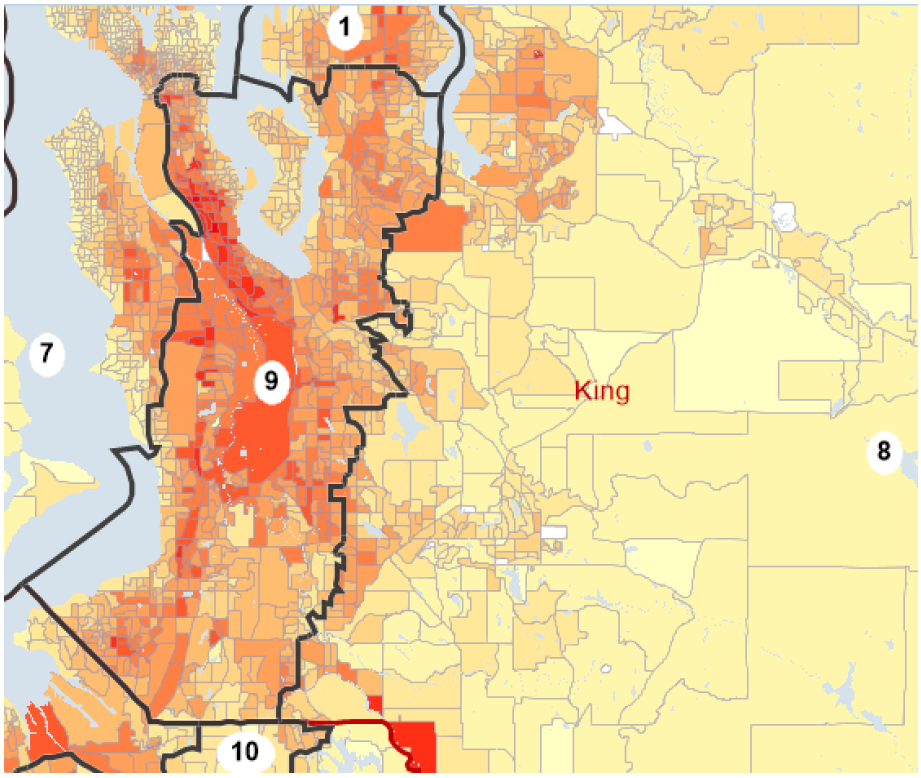


Table 1: Demographics of Enacted District 9

District	NH_BLK _CVAP	BLK_VAP	NH_ASN_ CVAP	ASN_VAP	H_CVAP	H_VAP	NH_WHT _CVAP	NH_WHT _VAP
EN9	12.29%	13.27%	20.53%	26.69%	6.93%	12.3%	55.75%	44.38%

However, while this district is possible, it is likely not required by the Voting Rights Act. To sue for such a district, challengers would have to argue that these three minority groups were both politically cohesive and culturally compact, which would likely prove difficult. Moreover, the Puget Sound region likely does not have enough racially polarized voting to satisfy the third *Gingles* prong, since multiple majority white Puget Sound region districts (previous districts seven and ten) elected minority candidates using the previous map.

3. Constitutional Requirements: Racial Gerrymandering

The Court's precedent on racial gerrymandering focuses on minority opportunity districts. Under *Shaw v. Reno*, if race is the predominant factor in the construction of a particular district, then the map is subject to strict scrutiny.[13] To show race predominated, courts often assess whether the district violated traditional redistricting criteria like compactness and contiguity in service of race-motivated goals such as creating a majority minority district.

As this map did not consider race and does not contain any majority minority districts, the plan is not vulnerable to a *Shaw* challenge.

4. Washington State Law

Washington state law on redistricting comes from RCW 44.05.090, which requires mapmakers to respect political subdivisions and construct compact, contiguous districts.[14] The next two sections examine these requirements, concluding the plan is likely legal under Washington state law.

a. Compactness

To my knowledge, the state courts have not specifically examined the compactness requirement of RCW 44.05.090. However, the state examined similar requirements for local redistricting in 2004 in *Kilbury v. Franklin County Board of County Commissioners*. In that case, the court granted broad deference to redistricting bodies to use their discretion when drawing compact districts, concluding that courts should only take issue with the compactness requirement if governments exercised their discretion in an "arbitrary and capricious" manner.[15]

As a result, the state courts are likely to find most maps legal. Moreover, the proposal creates reasonably compact districts, with mean Reock, Polsby-Popper, and Ehrenburg scores of 0.3, 0.22, and 0.3, respectively.[16] While these numbers could be higher if the map did not prioritize competitiveness, they indicate that the map's districts are fairly compact, likely satisfying any RCW 44.05.090 challenge.

b. Contiguity

[13] Shaw v. Reno, 509 US 630 (1993)
[14] Wash. Rev. Code § 44.05.090
[15] 90 P.3d 1071 (Wash. 2004).
[16] Note on interpreting compactness scores: on the Reock, Polsby-Popper, and Ehrenburg measures, higher numbers indicate greater degrees of compactness.

Each district is contiguous, preventing contiguity challenges.

c. Respect for Political Subdivisions

To my knowledge, there are no cases interpreting the state's requirements that districts should respect political subdivisions. However, the court's reasoning in *Kilbury* applies to this requirement as well; the state court found that since the law also asks mapmakers to consider other factors "to the extent possible," the law conferred broad discretion to local redistricting bodies.[17] Similarly, RCW 44.05.090 requires that districts prevent splitting precincts "whenever practicable" and maintain compactness "insofar as practical."[18] The logic of *Kilbury* therefore implies that mapmakers would have broad latitude in determining the appropriate number of political subdivisions to split.

Moreover, this proposal does not unduly split political subdivisions: the map splits nine counties, 15 precincts, and 40 cities/towns. In contrast, the previous map split nine counties, one precinct, and 37 cities/towns. However, as precincts are often redrawn between redistricting cycles, the number of current precinct splits in the previous map is likely not informative. Therefore, this proposal and the previous map have similar levels of political subdivision splits. Since the previous map presumably met the state's standard for respecting political subdivisions, this proposal likely does as well.

B. Plan Description

This proposal seeks to maximize the number of competitive congressional districts. This map had only one source of data on partisanship: election returns from the 2020 presidential election. As a result, I use that dataset as the basis for determining how competitive each district is, defining a competitive district as one in which the difference between the Republican and Democratic vote shares in the 2020 elections was no more than five percentage points. The following table displays the partisan breakdown of each district (where "MC" indicates the district is from the max competition proposal), as well as a categorization of whether districts are competitive or safe Democratic districts (there are no safe Republican districts). In this classification, a safe district for either party is simply a non-competitive district which that party carried in the 2020 presidential election.

Table 2: Partisan Breakdown of Proposed Districts

[17] 90 P.3d 1071 (Wash. 2004).
[18] Wash. Rev. Code § 44.05.090

District	Dem. Vote Share	Rep. Vote Share	Difference (Dem. minus Rep.)	Classification
MC1	71.86%	28.14%	43.72%	Safe Democratic
MC2	90.22%	9.78%	80.44%	Safe Democratic
MC3	73.93%	26.07%	47.87%	Safe Democratic
MC4	52.16%	47.84%	4.32%	Competitive
MC5	52.43%	47.57%	4.86%	Competitive
MC6	51.39%	48.61%	2.78%	Competitive
MC7	50.52%	49.48%	1.05%	Competitive
MC8	51.76%	48.24%	3.52%	Competitive
MC9	49.89%	50.11%	-0.22%	Competitive
MC10	52.33%	47.67%	4.66%	Competitive

I started by examining the statewide distribution of Democrats and Republicans. As the figures below illustrate, I found that Democrats dominated the Puget Sound region in the west, while the state's Republicans primarily lived in the east. The two images below show the density of Democratic voters in the 2020 presidential election, where darker blue indicates a higher proportion of Democrats. As usual, the black lines show the proposed districts and the maroon lines indicate county borders.

Figure 4: Population Density of Democrats, Washington State

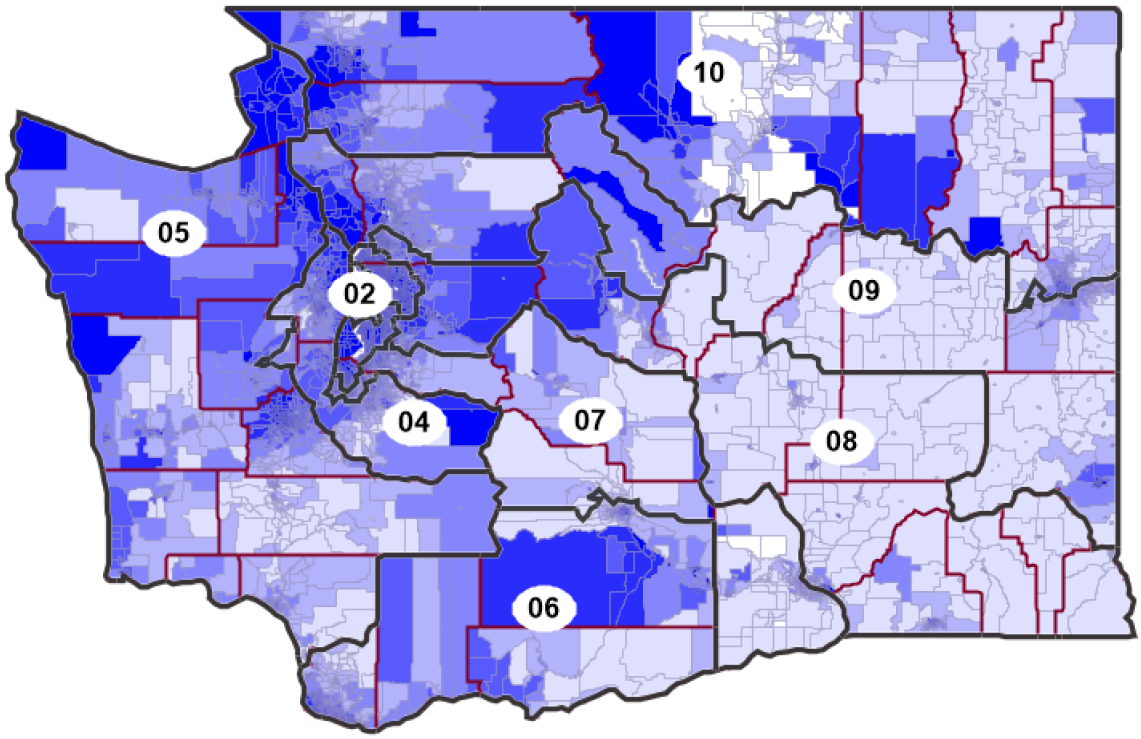
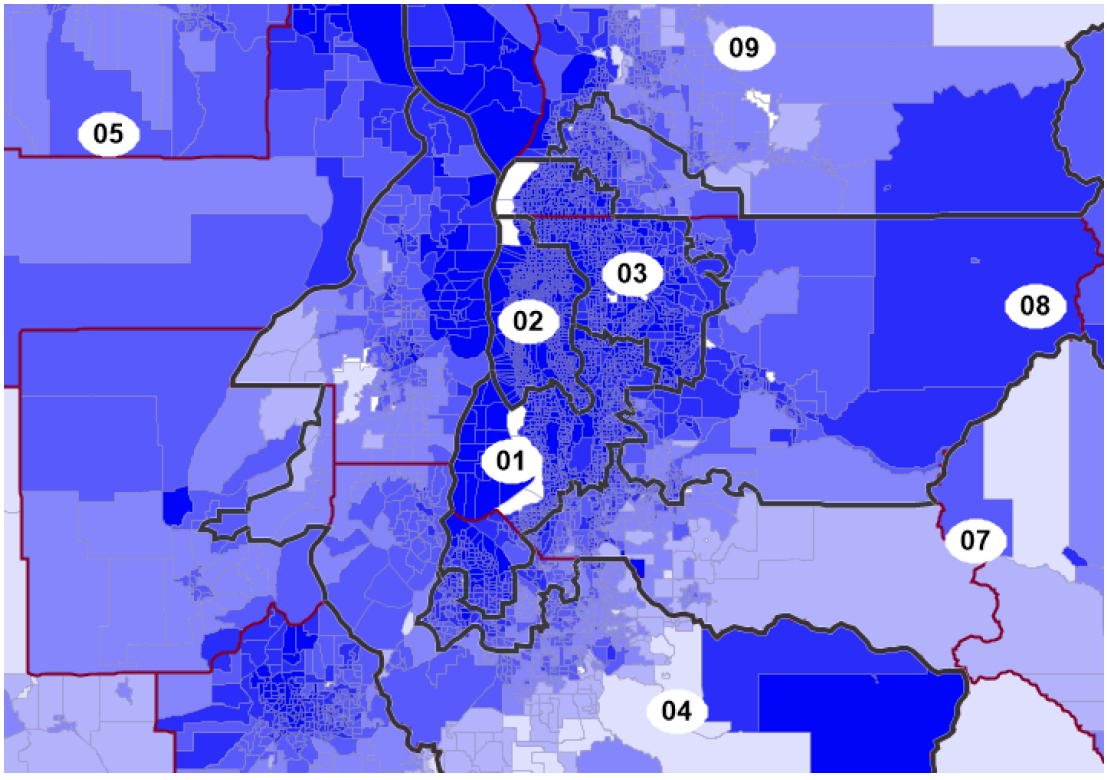


Figure 5: Population Density of Democrats, Seattle Area

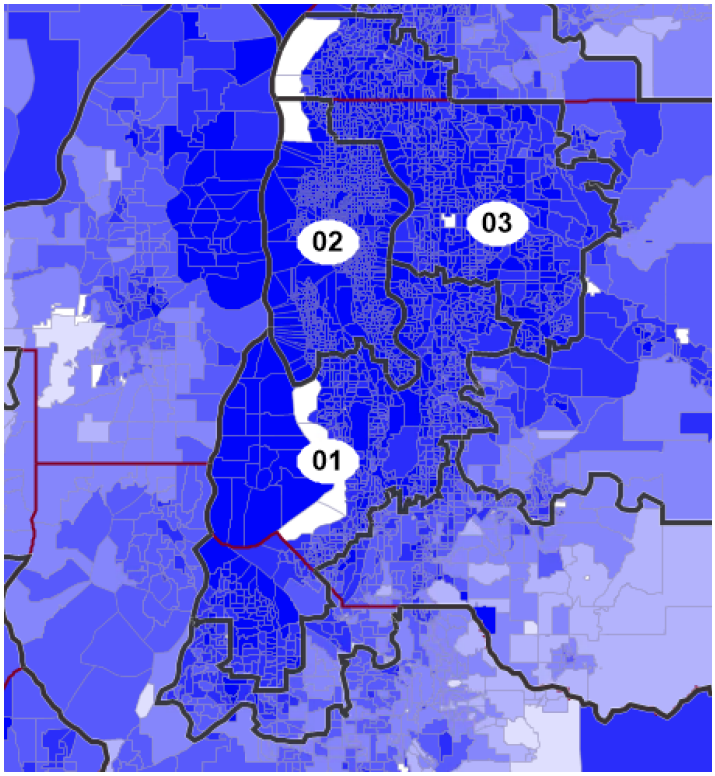


Overall, Maptitude's data revealed that Democrats had a 59.93% vote share in the 2020 presidential election. I calculated that if I created three safe Democratic districts with over 78% Democratic vote shares, the rest of the state would be on average 51-52.5% Democratic. Thus, with three overwhelmingly Democratic districts, the remainder of the state would have a competitive balance between Democrats and Republicans. With careful line drawing, it might be possible to make all seven remaining districts competitive.

I also calculated that this was the mathematical maximum of competitive districts. The only way to create eight competitive districts would be for the other two districts to have 90% or higher Democratic vote shares. However, it does not appear possible to create two districts with such high concentrations of Democrats. Thus, the maximum possible number of competitive districts is seven.

I began by drawing the three safe Democratic districts. The highest concentrations of Democrats are in and around Seattle, so I placed these districts in that area. I started with what became district 2, creating a district which encompassed all of Seattle. Seattle itself is slightly too small to be its own district, so I added the suburb of Bryn Mawr-Skyway and part of Shoreline, splitting the town to achieve population equality. I then drew district 1, folding in most of the suburbs south and east of Seattle, covering towns such as Newcastle and Normandy Park. Searching for areas of higher Democratic vote shares, I also added the city of Tacoma to district 1. District 3 then begins at the northern border of district 1, absorbing the rest of Seattle's eastern suburbs and moving northwest to cover Seattle's northern suburbs as well.

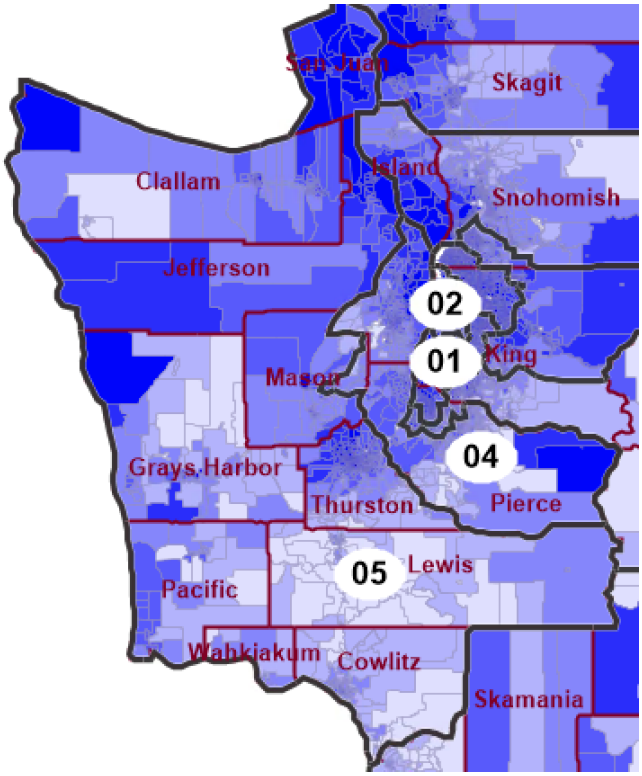
Figure 6: Population Density of Democrats, Districts 1-3



These first three districts had an average Democratic vote share of 78.67%, achieving the 78% threshold I had set. The next step was to create a plan to cover the rest of the state with purely competitive districts. The areas south and west of Seattle naturally have relatively even numbers of Republicans and Democrats, leaving aside some Democratic strongholds in the Tacoma suburbs. These areas thus became districts 4-6.

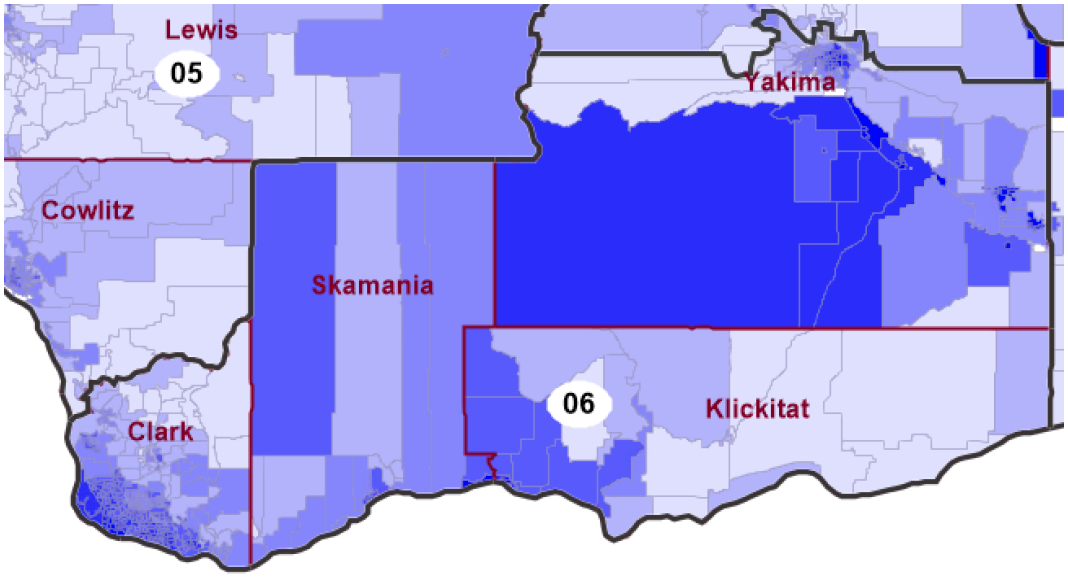
I started with district 5, which stretches along the west coast of Washington. Formed almost entirely of whole counties, district 5 starts in the liberal Thurston county, home of Olympia. The district then absorbs Mason county before moving to the coastal counties of Pacific, Grays Harbor, Jefferson, and Clallam. Notably, Pacific, Mason, Grays Harbor, and Clallam counties are naturally competitive, with relatively even concentrations of Republicans and Democrats. However, the district was still dominated by Democrats — because of liberal Thurston and Jefferson counties — and severely underpopulated. To even out the levels of Democrats and Republicans, I added Wahkiakum, Cowlitz, and Lewis counties. To create population equality, district 5 lost parts of Mason county.

Figure 7: Population Density of Democrats, District 5



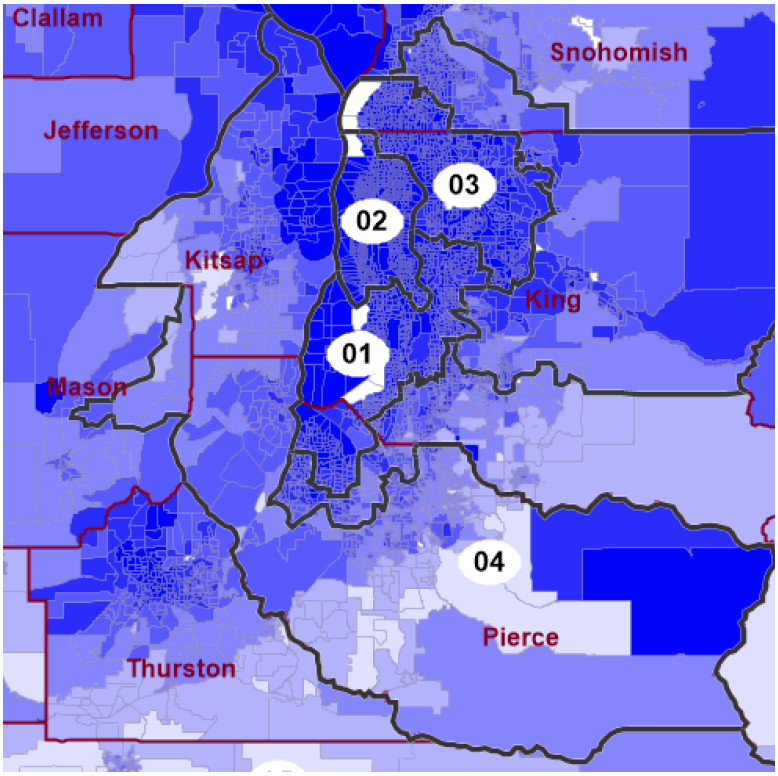
I then constructed district 6 on the state's southern border with Oregon. I started with Vancouver, a Democratic stronghold in the southwest of the state. Fortunately, Vancouver is surrounded by more rural, conservative areas such as Skamania and Klickitat counties. To achieve population equality and bolster the district's Democratic population, I added the liberal southern half of Yakima county. When adding parts of Yakima county, I took care not to split the Indian reservation which forms much of the county, placing the entire reservation in district 6. Taking advantage of the natural distribution of Republicans around Vancouver allowed district 6 to become a highly compact and competitive district.

Figure 8: Population Density of Democrats, District 6



I then turned to district 4, tasked with absorbing the rest of the areas west and south of the Puget Sound. District 4 starts in liberal Kitsap county, takes the parts of Mason county that district 5 left behind, and dives into Pierce county. To maintain competitiveness, district 4 navigates around the immediate suburbs of Tacoma, which would add too many Democrats to the district. The district absorbs the rest of Pierce county, whose rural areas add enough Republicans to make district 4 competitive.

Figure 9: Population Density of Democrats, District 4



These three districts took advantage of the relatively even distribution of Republicans and Democrats in the state's south and west to form relatively compact, highly competitive districts, as the table below illustrates.

Table 3: Compactness Scores for Districts 4-6

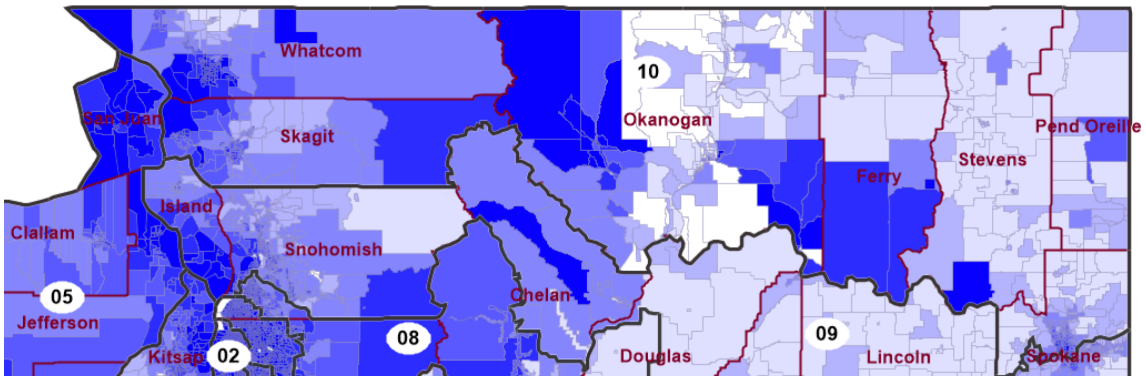
District	Reock	Polsby-Popper	Ehrenburg
MC4	0.3	0.18	0.27
MC5	0.4	0.26	0.3
MC6	0.4	0.39	0.37

After drawing districts 4-6, I turned to the eastern part of the state, untouched until now. The entirety of the state's east is Republican dominated, with very few pockets of Democrats. As a result, any district drawn purely in the east would be heavily Republican. At the same time, the remaining Seattle and Tacoma suburbs in the Puget Sound region were overwhelmingly liberal, and any district drawn in that area would be heavily Democratic. Thus, drawing competitive districts 7-10 required combining these regions with districts stretching from east to west, sacrificing compactness and

breaking up potential communities of interest (eg. this approach requires splintering eastern Washington into four districts). The result is relatively non-compact districts that maintain competition.

I began with district 10, drawing it along the northern border with the state. As much as possible, I aimed to keep counties intact, and the district splits only Spokane county to achieve population equality. At the same time, I tried not to split the Indian reservation (called the Colville reservation) in northern Washington, stretching across Okanogan and Ferry counties. District 10 therefore combines parts of the competitive Spokane county with conservative Okanogan, Ferry, Pend Oreille, and Stevens counties and liberal, Puget Sound counties of Whatcom and Skagit.

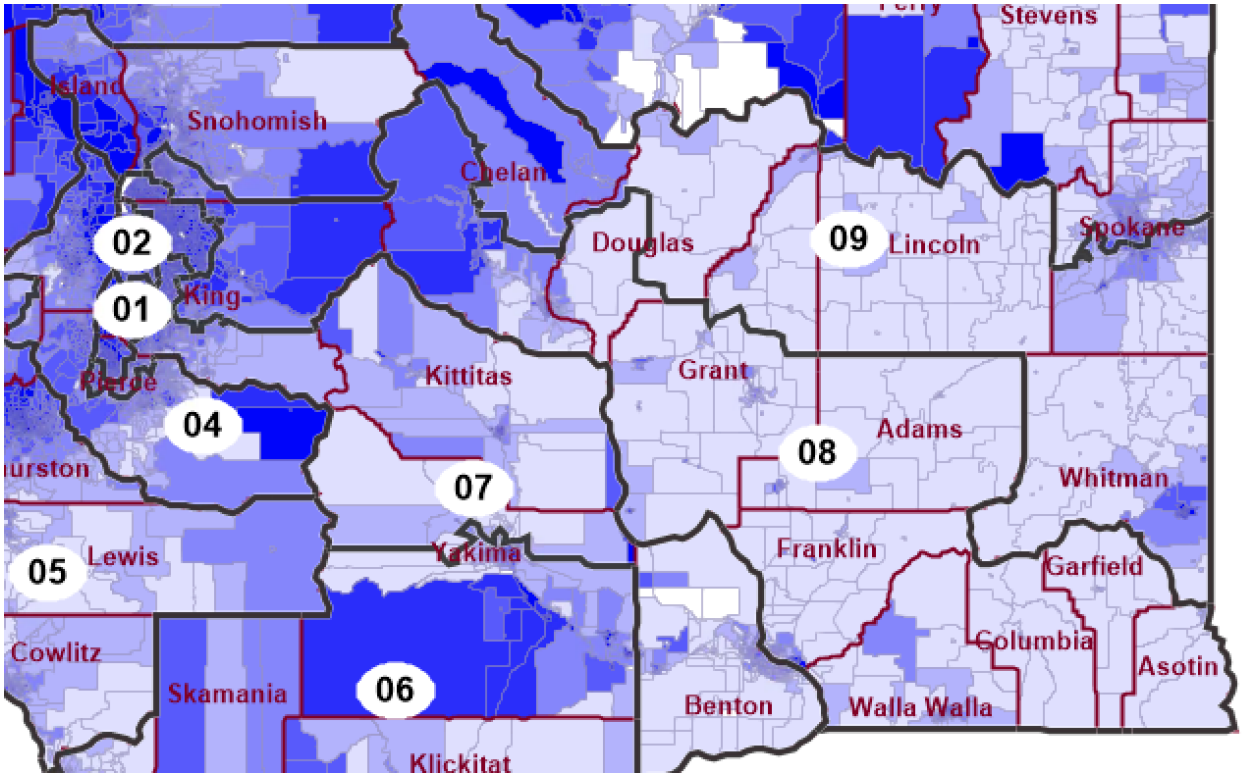
Figure 10: Population Density of Democrats, District 10



I then turned to district 7, which combined the liberal Tacoma suburbs left behind from district 4 with rural areas such as Benton county in the southeast. After district 7, I began to draw districts 8 and 9. At this point, the unassigned area stretched from Snohomish county on the Puget Sound to Asotin county in the southeastern corner of the state. However, there was only a one county wide strip through the center of the state combining these two regions.

I was therefore left with a choice. On one hand, I could draw one Democratic district on the Puget Sound and a Republican district in the east, splitting only one county for population equality. On the other hand, I could draw two competitive districts combining these two regions, splitting multiple counties through the center of the state to make each district contiguous. To maximize competition, I chose the second option. As a result, districts 8 and 9 cut through Chelan, Douglas, and Grant counties. Moreover, both districts had to absorb parts of Snohomish county, since the county contained too many Democrats to stay entirely in one district.

Figure 11: Population Density of Democrats, Districts 7-9



The result of these decisions was that my map split many counties for the sake of competition and often sacrificed compactness considerations. The following table shows the compactness scores for districts 7-10, illustrating the tradeoff this proposal makes between competitiveness and compactness.

Table 4: Compactness Scores for Districts 7-10

District	Reock	Polsby-Popper	Ehrenburg
MC7	0.21	0.14	0.29
MC8	0.18	0.13	0.22
MC9	0.16	0.11	0.14
MC10	0.23	0.25	0.27

At the end of this process, I was left with a plan which created the highest possible level of competition based on my predetermined metrics. However, it's worth considering whether this type of competition is desirable. Some may see this process as a Democratic gerrymander — Democrats have

majority vote shares in all but one district, where they lag by less than a quarter of a percentage point. Moreover, there are three safe Democratic districts and no safe Republican districts. Looking at these data, it looks probable that Democrats may win congressional seats at rates that far exceed their statewide vote shares.

Despite this concern, I believe this strategy does not result in unfair maps. Each competitive district — where the difference in party vote shares is less than five percentage points — should have a high probability of voting for either party. Since Democrats have a slight advantage in each district, they will perhaps win four of the seven competitive districts on average. Given the statewide numbers of Republicans and Democrats, this appears to be a fair outcome. In this map, each party has a large chance of winning seats out of proportion to their average statewide vote shares — in a blue wave year, all 10 districts may vote Democrat, while a red wave might cause seven districts to vote Republican. The fact that there are three safe Democratic districts and no safe Republican districts simply reflects the fact that Washington has many more Democrats than Republicans; it is not a sign of political bias.

Even if the map slightly upsets the statewide balance between the two parties, the benefits of increased competition may be worth the tradeoff. With competitive districts, voters can better hold their elected representatives accountable, since each general election would have two viable candidates. Competitive districts therefore empower voters, as they can have more confidence that their vote or their advocacy can alter the outcome of an election.

Surprisingly, analysis of the data does not convincingly support either theory — that the map may be a Democrat gerrymander or that the map is fair. An independent assessment of the proposal's political bias reveals that the map favors Republicans: across a set of scenarios, PlanScore predicts that Democrats would win 54% of votes statewide but just 49% of the congressional seats. Conversely, Republicans would win 46% of votes statewide but form 51% of the state's representatives. The reason is that PlanScore predicts each competitive seat has a higher likelihood of voting Republican than Democrat.

This finding is hard to reconcile with the fact that Democrats have higher 2020 presidential vote shares than Republicans in all but one of the competitive districts. This indicates that PlanScore interprets voting data differently than I did. Indeed, PlanScore runs each plan through a suite of election scenarios, using those outcomes to determine the probability that each district votes a particular way. Given multiple theories that Democrats overperformed in the 2020 presidential election relative to their performance in the House and Senate that year, it is possible that my dataset was biased toward Democrats to begin with.[19] If I created competitive districts with a dataset that favors Democrats, then the Democratic vote shares in my analyses are biased upwards; in reality,

[19] *See* William A. Galston, *Why did House Democrats underperform compared to Joe Biden?*, BROOKINGS (December 21, 2020),
https://www.brookings.edu/blog/fixgov/2020/12/21/why-did-house-democrats-underperform-compared-to-joe-biden/

districts that are competitive using 2020 presidential election data may be biased toward Republicans when analyzed against other data. Indeed, the PlanScore analysis finds that when isolating for the 2020 presidential election, efficiency gap metrics indicate that the plan favors Democrats. But when PlanScore takes other elections into account, the plan becomes Republican-biased. This raises questions over which data to use when evaluating the partisanship of congressional plans, and there does not appear to be a clear answer.

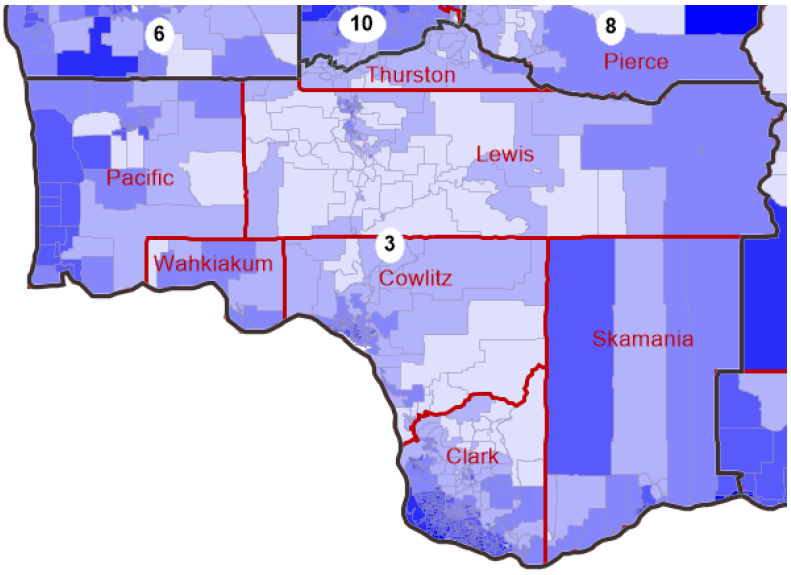
Overall, the plan created a competitive map using 2020 presidential data, but that dataset may not be the best one to use. Regardless, the methods used in the creation of this plan — from my initial calculations determining the possible number of competitive districts, to the construction of each safe district, to the division of the rest of the state into competitive districts — can be applied to redistricting with any other partisanship dataset.

C. Comparison to Enacted Plan

Washington's enacted congressional plan for this redistricting cycle appears to be a good government plan based on the previous districts. Therefore, comparing the enacted plan to my max competition plan illustrates the tradeoff between traditional redistricting criteria and competition.

As expected, the max competition proposal has dramatically higher levels of competition, with seven competitive districts. In contrast, the enacted plan has only one competitive district: enacted district 3 (EN3), containing Vancouver and the surrounding counties. Interestingly, the enacted plan's competitive district is similar to my district 6. Both districts contain Clark and Skamania counties, but EN3 stretches north whereas MC6 stretches east. The figure below shows EN3 on a Democratic population density map, and Figure 8 shows MC6 on the same density map.

Figure 12: Population Density of Democrats, Enacted District 3



Conversely, the enacted plan has significantly more compact districts than the max competition proposal. The enacted plan has mean Reock, Polsby-Popper, and Ehrenburg scores of 0.41, 0.32, and 0.36 respectively, showing that the enacted plan has highly compact districts. In comparison, the max competition proposal has mean Reock, Polsby-Popper, and Ehrenburg scores of 0.3, 0.22, and 0.3 respectively; while these numbers indicate fairly compact districts, they are significantly lower than the enacted plan's averages.

One district where this comparison is particularly clear is with enacted district 8. This district contains Kittitas and Chelan counties, as well as large parts of King, Pierce, and Snohomish counties. EN8 therefore encompasses much of the territory that MC7, MC8, and MC9 used to connect the Puget Sound with the eastern end of the state. Where MC7-MC9 divide this territory into thin, non-compact strips, EN8 creates a highly compact district in the center of the state. The map below shows EN8, and the table illustrates the difference in compactness between EN8 and MC7-MC9. As the table shows, EN8 is twice as compact as MC8 and MC9 on each metric.

Figure 13: Enacted District 8

Table 5: Compactness Scores for EN8, MC7, MC8, and MC9

District	Reock	Polsby-Popper	Ehrenburg
EN8	0.54	0.26	0.49
MC7	0.21	0.14	0.29
MC8	0.18	0.13	0.22
MC9	0.16	0.11	0.14

Surprisingly, the enacted good government plan does not respect political subdivisions any more than the max competition proposal. The enacted plan splits seven counties, 27 cities/towns, and 80 precincts, while the max competition plan splits nine counties, 40 cities/towns, and 15 precincts. While the enacted plan splits fewer counties and cities/towns, the max competition plan splits significantly fewer precincts. Overall, it appears that both plans respected political subdivisions to a similar extent.

In a less quantifiable sense, the two plans also differ significantly in their respect for communities of interest. For example, the max competition plan splits the eastern region of the state into four districts (MC7, MC8, MC9, and MC10), connecting these areas with disparate communities on the other side of the state. MC7 is emblematic of this trend: the district connects liberal suburbs of Tacoma with rural Benton county. In contrast, the enacted plan creates two districts (EN4 and EN5)

which together encompass the entire eastern region of the state. The figures below illustrate the comparison between the two approaches.

Figure 14: Enacted Plan, Eastern Washington

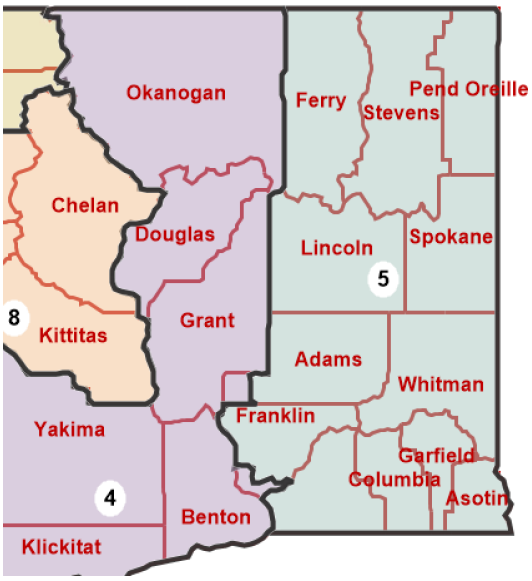
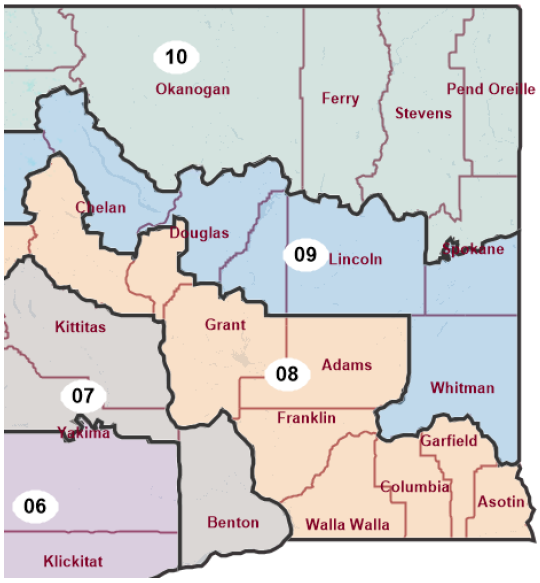


Figure 15: Max Competition Plan, Eastern Washington



However, there are some cases where the max competition proposal better respects communities of interest. For example, the max competition proposal takes care to keep the Colville

reservation intact, placing it in MC10. However, the enacted plan splits the reservation into districts EN4 and EN5. The maps below demonstrate the plans' different treatment of the Indian reservation.

Figure 16: Colville Reservation in the Enacted Plan

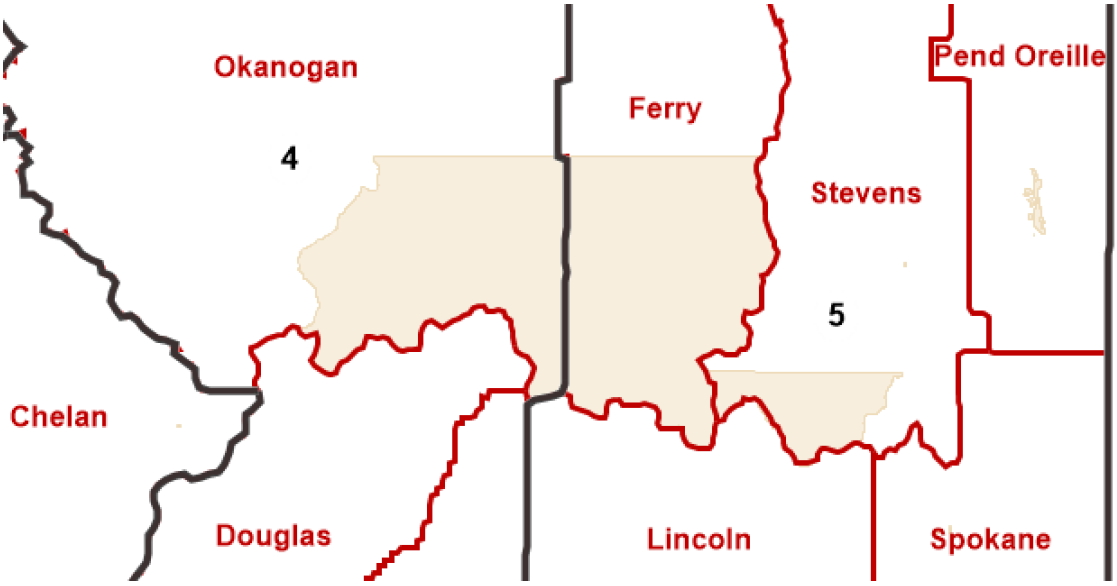
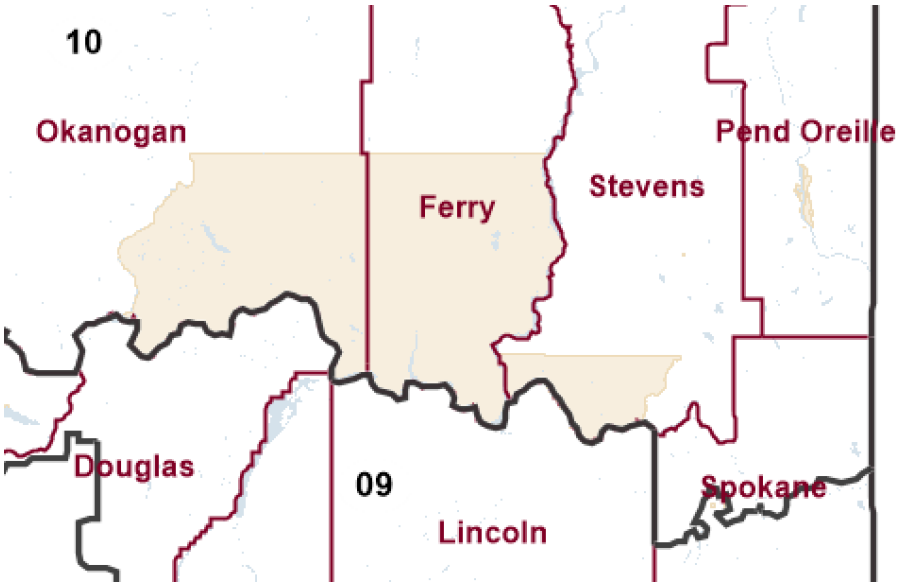


Figure 17: Colville Reservation in the Max Competition Plan



Overall, the enacted plan performs better on good government characteristics, creating more compact districts. The enacted plan also appears to better respect communities of interest. However,

the cost of this emphasis on good government characteristics is a lack of competition, and the proposal has only one competitive district. In contrast, the max competition proposal has seven, creating a much more competitive political playing field.

D. Conclusion

This plan reveals that redistricting in Washington can yield highly competitive maps. During the next redistricting cycle, mapmakers can apply some of the tactics this plan used to generate more competition. However, this map also shows that an emphasis on competition comes at the cost of traditional, good government principles such as compactness and respect for communities of interest. As a result, this map illustrates the cost of creating the mathematical maximum number of competitive districts. Future plans should endeavor to strike a middle ground, increasing competition without sacrificing too much in the way of good government principles. For an example of such a plan, see the hybrid plan discussed in the next section.

III. Hybrid Plan: Max Competition and Good Government

Defining a competitive district in the same way, this plan starts from the max competition proposal discussed in the previous section. This proposal seeks to maximize the number of competitive districts while still emphasizing good government principles, aiming for greater degrees of compactness than the max competition proposal. In that vein, this hybrid plan preserves the max competition proposal's districts MC1 through MC6. As districts MC7 through MC10 were relatively non-compact and combined the state's rural east with Puget Sound region suburbs, this plan replaces those districts. The new districts 7 through 10 (HB7 through HB10) are much more compact and preserve communities of interest to a greater extent, but they are less competitive. In essence, this hybrid proposal strikes a middle ground between relatively non-competitive good government maps and more competitive but less compact maps.

The result is four competitive districts (districts 4-6 and district 9), a substantial improvement over both the previous map (used in the 2020 election) and the enacted plan, each of which have one competitive district. However, the plan falls short of the max competition plan's seven competitive districts.

The remainder of the proposal is organized as follows. Section A discusses the plan's legality under the Constitution, federal law, and state law. Section B provides a more detailed explanation of the plan's considerations and how the plan navigated various tradeoffs that emerged during the redistricting process. Section C then examines how this proposal compares to the state's enacted plan from this redistricting cycle. Section D concludes.

Figure 18: Hybrid Proposal, Washington State

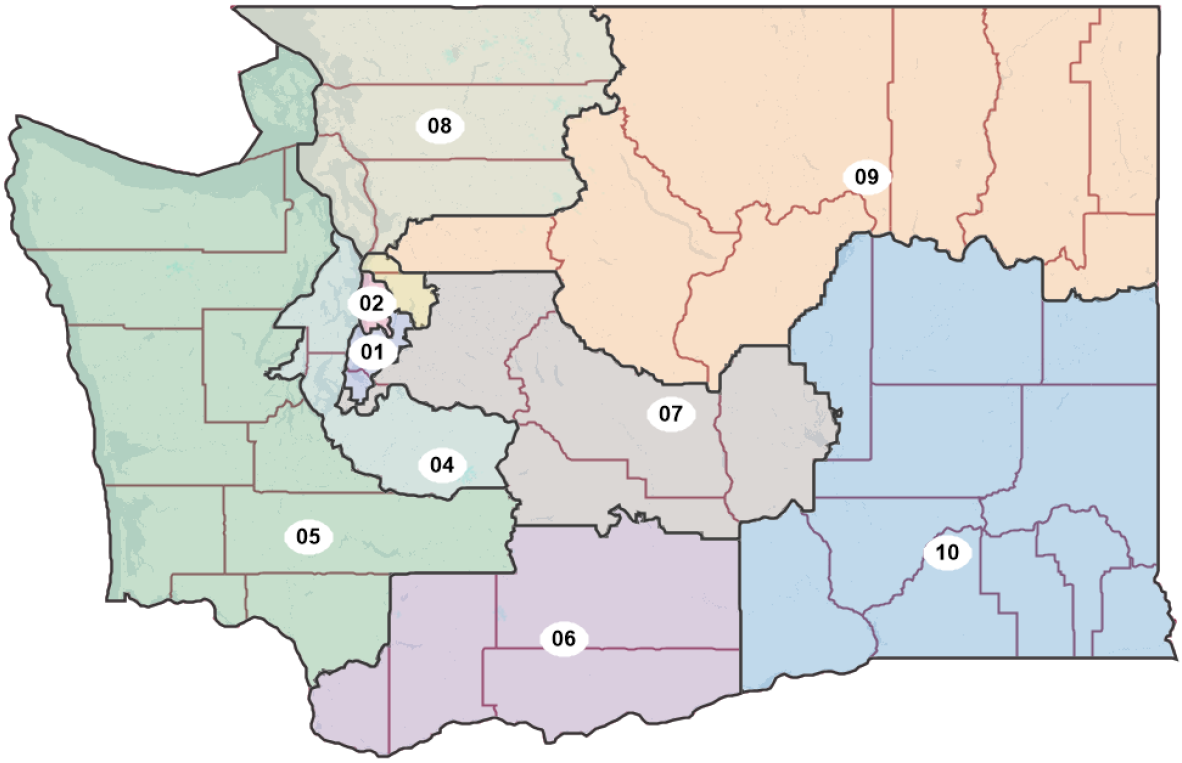
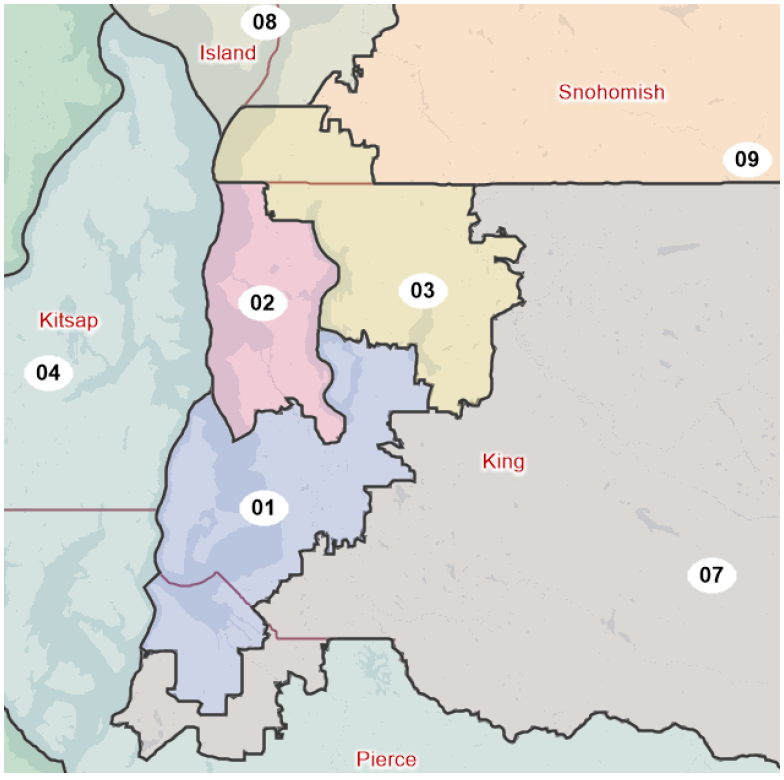


Figure 19: Hybrid Proposal, Seattle Area



A. Compliance with Legal Requirements

The analysis in section II.A concluding that the max competition proposal is legal also applies to this map. The map reaches perfect population equality, satisfying one person, one vote requirements. As section II.A.2 argued that the Voting Rights Act does not require the construction of any majority minority districts, this plan meets the mandates of the Voting Rights Act. Without any majority minority districts, the map is not vulnerable to any *Shaw* claims. As the districts in this proposal are contiguous and more compact than those in the max competition proposal, the plan likely complies with Washington's compactness and contiguity requirements. Moreover, the proposal respects political subdivisions to a similar extent as the max competition proposal — splitting two fewer counties, one more town, and two more precincts — and therefore likely complies with the state's requirement that districts avoid splitting political subdivisions.

B. Plan Description

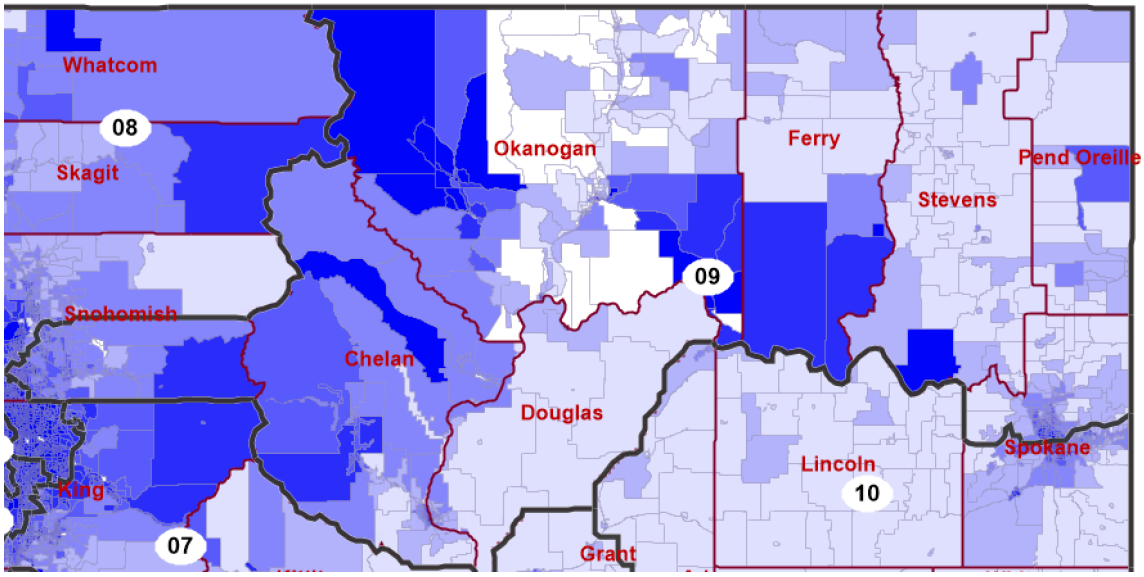
This proposal preserves the first six districts from the max competition proposal; as discussed in section II.B, these districts attained high compactness scores while maintaining competition, making them well-suited to the hybrid proposal's goals. This proposal changes only districts MC7 through MC10. An explanation of the decisions I made to create districts MC1 through MC6 (which are also districts HB1 through HB6, under this plan's numbering system) can be found in section II.B.

I began by drawing district HB8 in the state's north. Attempting to keep counties together and maintain compactness, the district starts by absorbing Whatcom, Skagit, and Island counties. The district then dives into Snohomish county, taking on suburban towns near Seattle along the northern border of HB3. While HB3 already absorbed parts of Snohomish, the remainder of the county is still too large to fit entirely in HB8.

Figure 20: Hybrid District 8

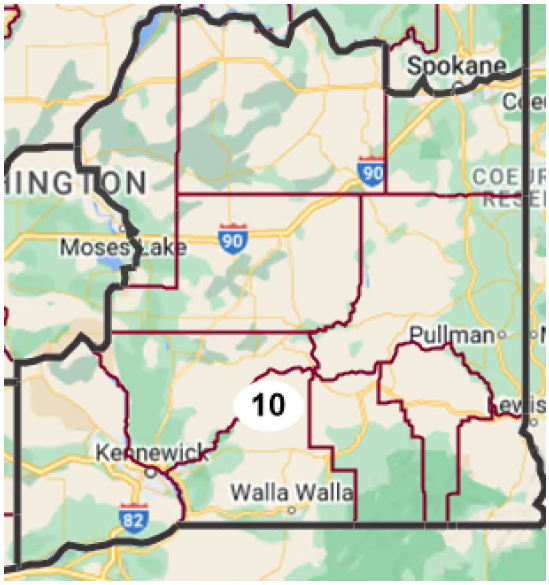
District 9 starts in the rural areas of Snohomish county, left behind by districts 3 and 8. I originally tried extending district 9 southward into King county, but doing so would have added another split in King county. As the county was already on track to be split across four districts, I opted not to introduce another. District 9 thus extends east, absorbing more rural areas. In doing so, I took care to avoid splitting the Colville reservation in Okanogan and Ferry counties. To reach population equality, district 9 splits Spokane county. Because Spokane county has fairly liberal areas in the north, which is the part closest to the rest of HB9, the district took on enough Democrats to become competitive, creating the map's fourth competitive district.

Figure 21: Population Density of Democrats, District 9



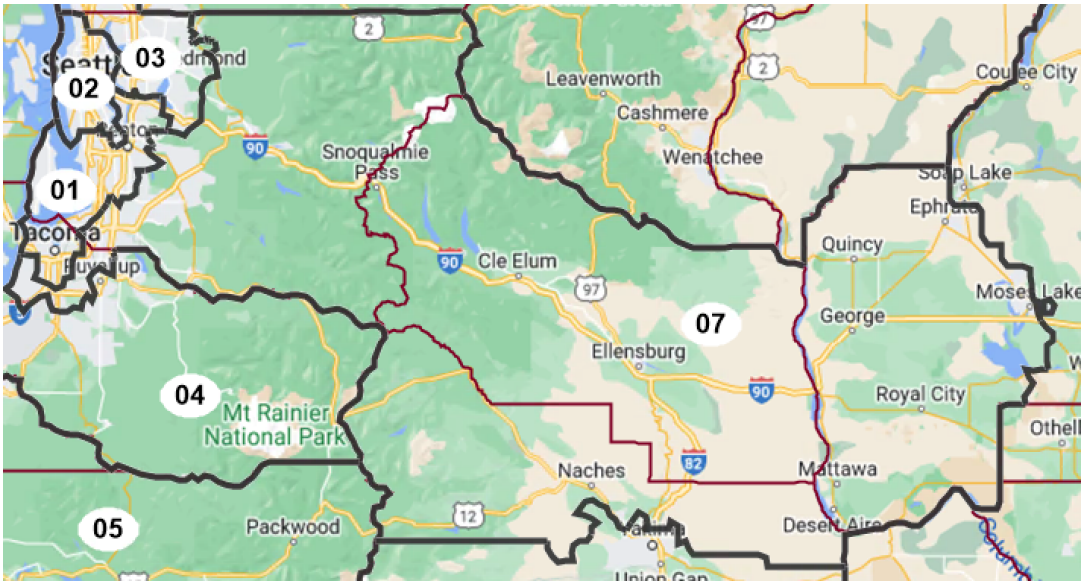
I then drew district 10, covering the rest of the eastern region of the state. I made sure to avoid splintering the eastern region (the max competition plan splits the eastern region into four districts), showing this plan's increased emphasis on respecting communities of interest. To achieve population equality, district 10 splits Grant county. When dividing the county, I avoided splitting towns while maximizing district 10's compactness.

Figure 22: Hybrid District 10



District 7 then fills in the rest of the map, combining the suburbs of Tacoma in Pierce county with rural areas of King, Kittitas, Grant, and Yakima counties.

Figure 23: Hybrid District 7



Overall, the hybrid plan makes different decisions than the max competition proposal, sacrificing competitiveness but dramatically improving compactness. The following table demonstrates the tradeoffs between the two plans.

Table 6: Compactness and Partisanship of Districts HB7-HB10 and MC7-MC10

District	Reock	Polsby-Popper	Ehrenburg	Dem. Vote Share	Rep. Vote Share	Difference (Dem. minus Rep.)	Classification
HB7	0.34	0.17	0.25	54.21%	45.79%	8.41%	Safe Democratic
HB8	0.49	0.39	0.56	57.38%	42.62%	14.76%	Safe Democratic
HB9	0.35	0.29	0.32	48.33%	51.67%	-3.33%	Competitive
HB10	0.55	0.43	0.58	43.89%	56.11%	-12.23%	Safe Republican
MC7	0.21	0.14	0.29	50.52%	49.48%	1.05%	Competitive
MC8	0.18	0.13	0.22	51.76%	48.24%	3.52%	Competitive
MC9	0.16	0.11	0.14	49.89%	50.11%	-0.22%	Competitive

MC10	0.23	0.25	0.27	52.33%	47.67%	4.66%	Competitive

In comparison to the max competition plan, the hybrid plan has a safe Republican district in HB10, and an additional two safe Democratic districts in HB7 and HB8. It appears the addition of safe districts for both parties reduced the partisan bias of the plan, according to PlanScore analyses. For the hybrid plan, PlanScore predicts that Democrats would win 54% of the statewide vote and 52% of the seats, while Republicans would win a 46% vote share but form 48% of the state's congressional delegation. These numbers indicate slightly less Republican bias than the max competition plan, which PlanScore predicted would grant Democrats just 49% of the state's seats and give Republicans the remaining 51%. Under the hybrid plan, PlanScore still predicts that Republicans would win each competitive seat.

C. Comparison to Enacted Plan

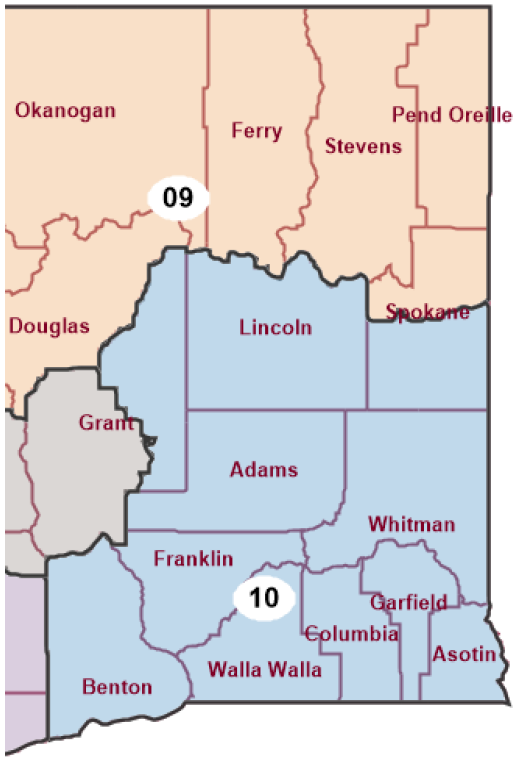
The hybrid plan is similar to the enacted plan on good government characteristics, but the hybrid plan is more competitive. Where the enacted plan has only one competitive district, the hybrid plan has four, creating a vastly more competitive map.

At the same time, the plans appear to have similar levels of compactness. The enacted plan has mean Reock, Polsby-Popper, and Ehrenburg scores of 0.41, 0.32, and 0.36 respectively, while the hybrid proposal has mean Reock, Polsby-Popper, and Ehrenburg scores of 0.4, 0.29, and 0.38 respectively. Thus, the hybrid plan has slightly lower Reock and Polsby-Popper scores and a slightly higher Ehrenburg score, indicating the plans have similar average levels of compactness.

Overall, the plans appear to perform similarly on respecting political subdivisions. The enacted plan splits seven counties, 27 cities/towns, and 80 precincts, while the hybrid plan splits seven counties, 41 cities/towns, and 17 precincts. The proposals split the same number of towns, and while the enacted plan splits fewer towns, the hybrid plan splits significantly fewer precincts.

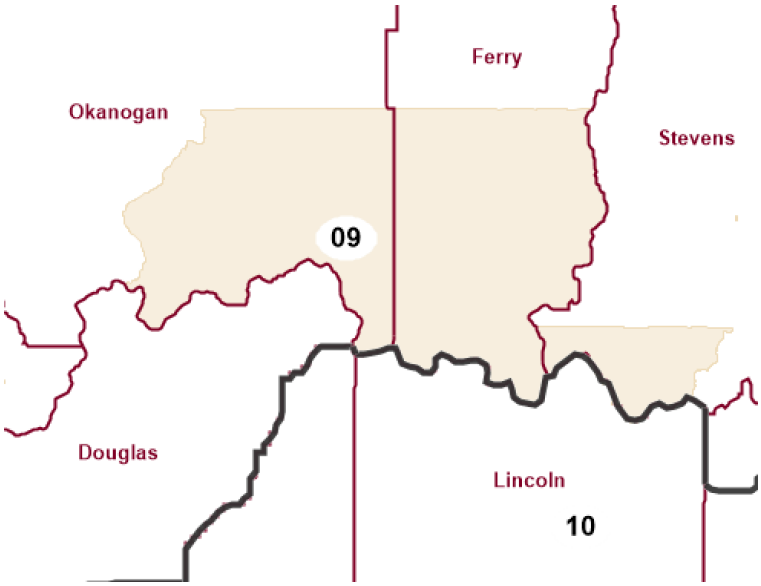
However, when examining communities of interest, the enacted plan appears to perform slightly better. For example, while the hybrid plan improves on the splintering of eastern Washington in the max competition proposal, it does not keep the community together as well as the enacted plan. As shown in Figure 14, the enacted plan keeps eastern Washington contained in two districts. The hybrid plan comes close, placing the vast majority of eastern Washington into two districts (HB9 and HB10), as shown in the figure below. However, the enacted plan performs better here, as the hybrid plan allocates parts of Grant county to HB7, separating it from the rest of eastern Washington. Moreover, HB7 connects these areas of Grant county to liberal Tacoma suburbs in the Puget Sound region, combining disparate communities.

Figure 24: Hybrid Plan, Eastern Washington



There are other cases where the hybrid proposal respects communities of interest to a greater extent than the enacted plan. As discussed in section II.C, the enacted plan splits the Colville reservation, breaking up an Indian reservation in the north of the state. In contrast, the hybrid proposal takes care to keep the reservation intact, placing it in district 9. To compare the varying treatment of the Colville reservation, see Figures 25 and 16.

Figure 25: Colville Reservation in the Hybrid Plan



Overall, the enacted plan appears to better respect communities of interest. However, the hybrid proposal comes close, in some cases exceeding the enacted plan's respect for communities of interest. The plans split comparable numbers of political subdivisions and have similar compactness measures. However, the hybrid proposal far exceeds the enacted plan's levels of competitiveness, creating three more competitive districts than in the enacted plan.

D. Conclusion

This plan reveals that redistricting in Washington can produce competitive maps with limited tradeoffs. While the plan respects communities of interest to a lesser extent than good government alternatives, the differences are quite small. There also do not appear to be significant tradeoffs to district compactness or respect for political subdivisions. In contrast, the differences in competition are large, and this proposal has four times the number of competitive districts as the enacted plan. Future redistricting in Washington should consider placing a greater emphasis on competition while maintaining compact, contiguous districts that respect political subdivisions.