

**ARIZONA PROPORTIONAL PLAN**

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**DRAW CONGRESS**

## INTRODUCTION

Once the bastion of Goldwater Conservatism, Arizona has become one of the nation's newest swing states. The state began the last decade thirteen points more Republican leaning than the rest of the country but was carried in 2020 by a Democratic presidential candidate for only the second time in more than seventy years.<sup>1</sup> Given the deepening urban-rural divide and the explosion of the state's Latino population, it is likely 2020 was an inflection point signaling a new era in Arizona politics.<sup>2</sup> Therefore, to create congressional districts that accommodate Arizona's changing politics, I created this plan with two goals in mind: ensure proportional representation and comply with the law.

I faced three key challenges in creating this plan. The first was how to allocate an odd number of districts. With nine districts in play, I had to choose between allocating five to Democrats and four to Republicans, or to create a plan where both parties win four districts and compete for a fifth. I chose the former and created a plan where in an environment where there is no generic ballot advantage, Democrats would win a fifth district. Although Candidate-Biden only won the state with .36 percent of the vote in 2020, this solution is fair because the state is likely to lean more Democratic over the coming decade as the urban-rural divide expands and as more young Latinos become eligible to vote.<sup>3</sup>

The second major challenge I encountered was creating competitive districts. The Arizona Constitution favors competitive districts when creating them poses "no significant

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<sup>1</sup> Nathaniel Rakich, *How Arizona Became a Swing State*, FiveThirtyEight (Jun. 29, 2020, at 7:33 AM), <https://fivethirtyeight.com/features/how-arizona-became-a-swing-state/>; Dan Merica, Biden carries Arizona, flipping a longtime Republican stronghold, CNN (Nov. 13, 2020 at 8:33 AM), <https://www.cnn.com/2020/11/12/politics/biden-wins-arizona/index.html>.

<sup>2</sup> Rakich, *How Arizona Became a Swing State*, FiveThirtyEight.

<sup>3</sup> *Arizona Election Results*, N.Y. Times (last visited Apr. 2, 2022), <https://www.nytimes.com/interactive/2020/11/03/us/elections/results-arizona.html>.

detriment” to other goals like ensuring the integrity of political subdivisions.<sup>4</sup> However, the requirements of the Voting Rights Act and the state’s grid system tend to yield districts that are safe for incumbents. In the end, I departed from the grid system to create three districts where neither party is expected to win more than fifty-five percent of the vote share. While it is possible to create more competitive districts, this plan would survive scrutiny because the margins of competitive districts are not specified by the law and creating more competitive districts would require extending district boundaries well beyond city lines in Maricopa County.

The third and final challenge was complying with the Voting Rights Act without splitting reservations. Arizona’s Hispanic community is sufficiently compact that it is possible to draw two majority-minority districts. Unfortunately, the Hispanic population of Tucson is not large enough to constitute a majority without connecting it to Hispanic communities in Phoenix and along the state’s southern border. In the end, I had to split one reservation in order to increase the second majority-minority district’s Hispanic population above the fifty-percent threshold without reducing the Hispanic population in the first majority-minority district below fifty percent. While unfortunate, this is preferable to reducing precincts with majority White voters near the border because doing so would eliminate travel contiguity.

This report proceeds in three parts. First, it discusses compliance with relevant law. It then evaluates the plan as a whole across traditional redistricting criteria. Finally, it includes a plan description where I discuss what I prioritized across each district. Through this report, I compare this plan to the maps enacted in 2012 and 2022 where data is available.

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<sup>4</sup> Ariz. Const. art. IV. pt. 2 § 1 (14).

## LEGAL COMPLIANCE

This plan complies with applicable federal and state law. The following analysis focuses the one-person one-vote requirement, the requirements of the Voting Rights Act and the prohibition on racial gerrymandering, and current law regarding partisan performance and political subdivisions.

### I. The Plan Complies with the One-Person One-Vote Requirement

In 1964, the Supreme Court established that “diluting the weight of votes because of place of residence impairs basic constitutional rights under the Fourteenth Amendment.”<sup>5</sup> However, the Court recognized there is a limit to what map makers can practicably do to achieve equal population.<sup>6</sup> As a result, the Court later held there “are no *de minimis* population variations, which could practicably be avoided, but which nonetheless meet the standard of Art. 1 §2, *without justification* (emphasis added).”<sup>7</sup> Deviations from equal population that are not the result of a good-faith effort to achieve population equality can only be justified by showing they are required to achieve a particular state objective.<sup>8</sup> The Arizona Constitution contains similar language, requiring districts have equal population to the extent practicable.<sup>9</sup>

This plan complies with both federal and state constitutional requirements. The ideal district population is 794,611 people, and no district in this plan deviates by more than five people.<sup>10</sup> One-person one-vote was not even raised when the 2010 plan was challenged, and the Arizona

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<sup>5</sup> *Reynolds v. Sims*, 377 U.S. 533, 566 (1964).

<sup>6</sup> *Wesberry v. Sanders*, 376 U.S. 1, 7-8 (1964) (“the command of Art I. s 2, that Representatives be chosen ‘by the People of the several States means that as nearly as is practicable one man’s vote in a congressional election is to be worth as much as another’s”).

<sup>7</sup> *Karcher v. Daggett*, 462 U.S. 725, 734 (1983).

<sup>8</sup> *Id.* at 741.

<sup>9</sup> Ariz. Const. art. IV. pt. 2 § 1 (14).

<sup>10</sup> See *infra* Appendix 1.



Supreme Court has held that the Arizona Intendent Redistricting Commission has significant discretion to enact districts to pursue a variety of constitutional objectives, many of which could lead to deviation from equal population.<sup>11</sup> As this plan is a good faith effort to achieve equal population, it would likely be upheld if enacted by the Commission.

## **II. This Plan Complies with the Section Two of the Voting Rights Act**

A plaintiff challenging a redistricting plan under section two must meet all three prongs of the test established in *Thornburg v. Gingles*. First, the plaintiff must demonstrate that a minority group is sufficiently large and compact to constitute a majority of a congressional district. The plaintiff then must demonstrate the minority group is politically cohesive. Lastly, the plaintiff must demonstrate the White majority votes as a bloc that allows it to defeat the minority's preferred candidates. If all prongs are met, states are required to produce a district that allows minority voters to elect their preferred candidates.<sup>12</sup>

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<sup>11</sup> *Leach v. Arizona Independent Redistricting Com'n*, No. CV 2012-007344, 2017 WL 9500782 at \*2 (Ariz. Super. Mar. 16, 2017) (granting summary judgment in case challenging Arizona's 2012 enacted congressional map); *Arizona Minority Coalition for Fair Redistricting v. Arizona Independent Redistricting Com'n*, 208 P. 3d 676, 686 (Ariz. 2009) ("deciding the extent to which various accommodations are 'practicable' also requires commissioners to make judgments that the voters have assigned to the commission, not the courts").

<sup>12</sup> *Thornburg v. Gingles*, 478 U.S. 30 (1986).

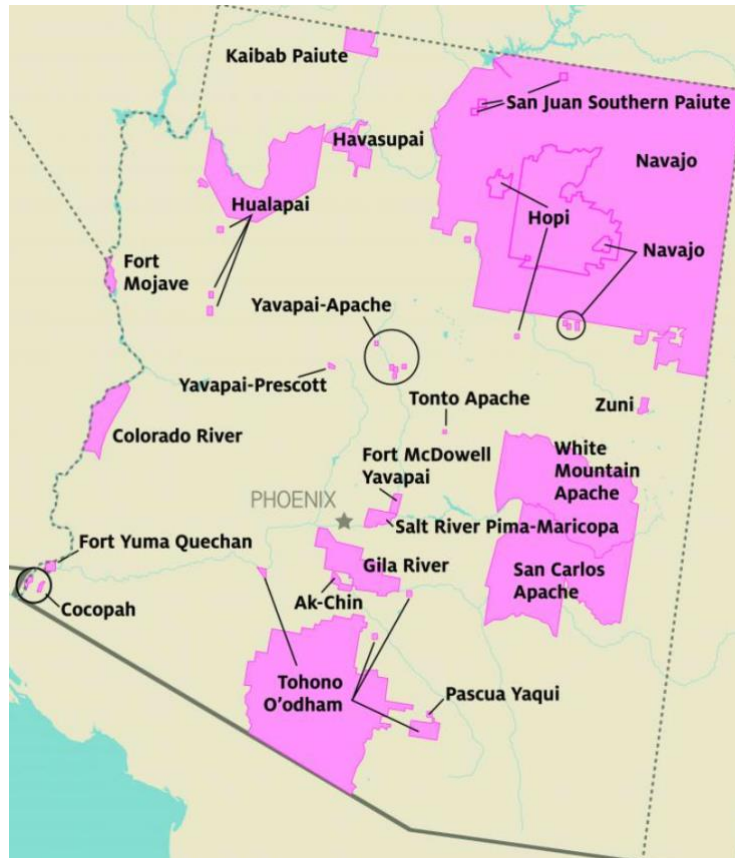


Figure 1: Arizona's Tribes.<sup>13</sup>

Arizona's three largest minority groups are Hispanic and Latinos, Native Americans, and African Americans.<sup>14</sup> Based on the voting age population, only the Hispanics and Latino population as well as Native American population are large enough to be a majority of a congressional district.<sup>15</sup> However, the Native American population fails the first prong of the *Gingles* test. While Native Americans are 5.76 percent of the voting age population and could make be a majority in a single district, they are not sufficiently compact to create a majority

<sup>13</sup> *Federally Recognized Tribes in Arizona*, Arizona State Museum (last visited Apr. 2, 2022), <https://statemuseum.arizona.edu/programs/american-indian-relations/tribes-arizona>.

<sup>14</sup> *Arizona's Population More Than 7 Million in 2020, Up 11.9% Since 2010*, U.S. Census Bureau (Aug 25, 2021), <https://www.census.gov/library/stories/state-by-state/arizona-population-change-between-census-decade.html>.

<sup>15</sup> *Ratings: Final Arizona Proportional Map*, Dave's Redistricting App (last visited Apr. 2, 2022), <https://davesredistricting.org/maps#ratings::f82f0fad-d820-4572-ac19-505417e8bbc5>.

district.<sup>16</sup> Figure 1 demonstrates that Arizona's tribes are scattered across the state rather than in close proximity. Therefore, the Voting Rights Act would not require a majority-Native American district.

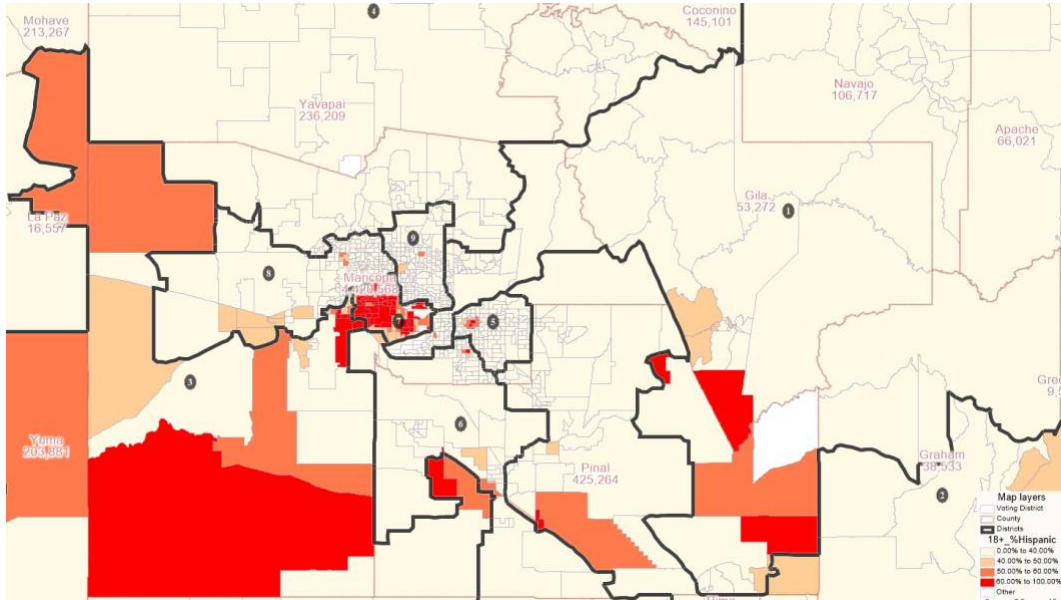


Figure 2: Distribution of Hispanic Voters in Maricopa County.

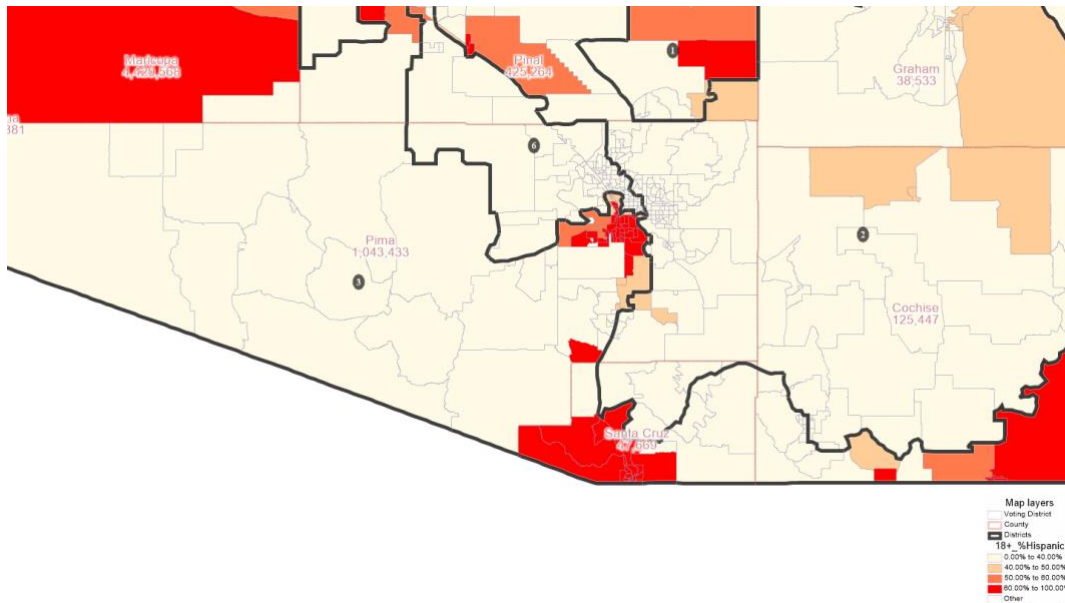


Figure 3: Distribution of Hispanic Voters in Pima County.

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<sup>16</sup> *Id.*

By contrast, Arizona’s Hispanic population meets the first *Gingles* prong. The population is sufficiently large – 30.7 percent of Arizona’s population is Hispanic or Latino and 23.6 percent are eligible to vote.<sup>17</sup> Hispanic voters are therefore large enough to be a majority in two congressional districts.<sup>18</sup> Likewise, the population is sufficiently compact to be a majority in two districts. Figures 2 and 3 show most of the Hispanic population is concentrated in Phoenix and Tucson. They also demonstrate there are significant pockets of Hispanic voters across the state’s southern border that can be drawn together into one district.

In creating these districts, I did not have access to granular data on bloc voting. That said, general statistics on voting behavior suggest political cohesion among Hispanic voters and that White voters tend to defeat candidates preferred by Hispanic voters. Arizona’s Hispanic community overwhelmingly favors Democrats. In 2020, sixty-one percent voted for then-candidate Biden while only thirty-seven percent voted for President Trump.<sup>19</sup> By contrast, fifty-two percent of White Arizona voters supported President Trump while forty-six supported candidate Biden.<sup>20</sup> Looking only at statewide exit polls does not convey the extent to which White voters can deny Hispanic voters their preferred candidate. Consider that seventy-four percent of Arizona’s 2020 electorate was White while Hispanic voters only accounted for nineteen percent.<sup>21</sup> With these margins, and the fact that conservative White voters tend to live outside of liberal cities, it is likely suburban and rural White voters drawn into the same district

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<sup>17</sup> *Arizona’s Population More Than 7 Million in 2020, Up 11.9% Since 2010*, U.S. Census Bureau; Interactive Map of Latino Electorate, Pew Research Center (last visited Apr. 2, 2022), <https://www.pewresearch.org/hispanic/interactives/mapping-the-latino-electorate/iframe/>.

<sup>18</sup> Dave’s Redistricting App, *supra* note 15.

<sup>19</sup> *Exit poll results and analysis from Arizona*, Wash. Post (last visited Apr. 2, 2022), <https://www.washingtonpost.com/elections/interactive/2020/exit-polls/arizona-exit-polls/>.

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

as urban Hispanic voters would block the Hispanic community’s candidate from winning. This is especially visible in Maricopa County. A comparison of Figures 2 and 4 shows that if Phoenix’s Hispanic population was split and half of it was drawn to the left with Peoria, Surprise, or Youngtown, it is much less likely a Democrat would be elected. Therefore, Hispanic voters meet all elements of the *Gingles* test.

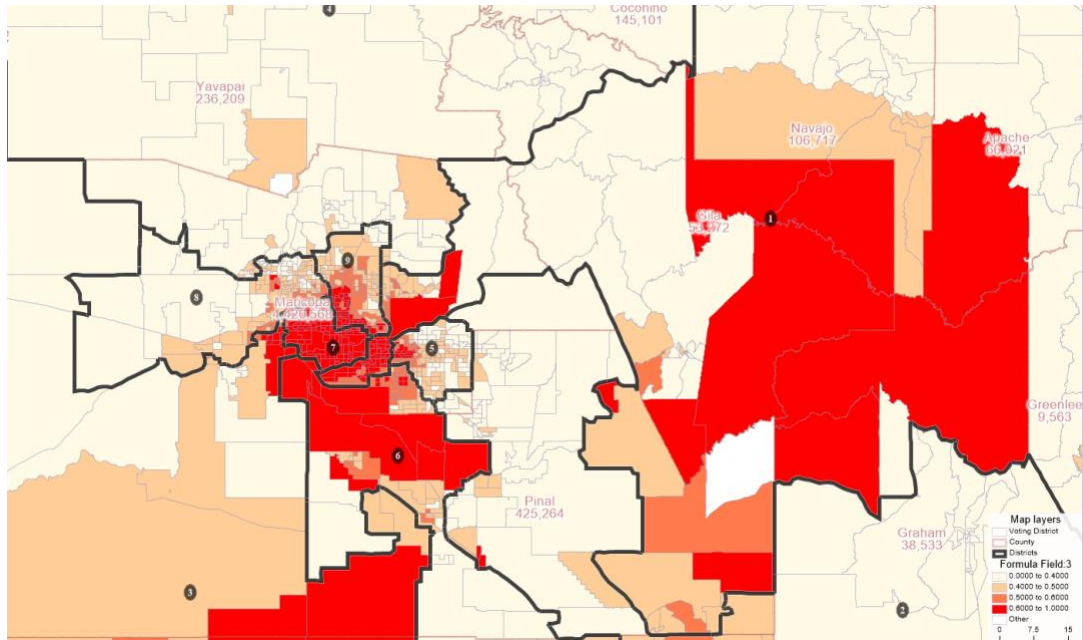


Figure 4: Distribution of Democratic Voters in Maricopa County.

To comply with the Voting Rights Act, I drew two Hispanic-majority districts. District Seven encompasses most of Phoenix’s Hispanic citizen voting age population, which accounts for 52.7 percent of the district’s voters (see Figure 2).<sup>22</sup> Likewise, District Three includes some of Phoenix’s Hispanic citizen voting age population as well as Hispanic communities in Tucson and along the southern border, which together make up 50.3 percent of the district’s voters (see Figure 3).<sup>23</sup> Since there are two majority-Hispanic districts, this plan would survive a Voting Rights Act challenge.

<sup>22</sup> See *infra* Appendix 1.

<sup>23</sup> *Id.*

### III. This Plan is Not a Racial Gerrymander

There are two primary ways plaintiffs challenge redistricting plans on the grounds that they are unconstitutional racial gerrymanders. The first is when a plan is so irregular it can only be explained as an effort to segregate races for the purposes of voting.<sup>24</sup> The second is when a plaintiff can show race was the predominant factor motivating the design of a redistricting plan.<sup>25</sup> This can be shown by demonstrating that a legislature subordinated traditional redistricting principles, like compactness, contiguity, and respect for political subdivisions, to racial considerations.<sup>26</sup>

As discussed above, mapmakers can only consider the Hispanic population to comply with the Voting Rights Act. This means that it would be illegal to draw a district that attempted to segregate Native Americans, African Americans, or Asians from White voters.

Districts Two through Nine can easily withstand a *Shaw* challenge. The district with the highest concentration of African American voters (12.2 percent of the citizen voting age population) is District Seven, which is itself a Voting Rights Act district.<sup>27</sup> African Americans comprise at most 5.8 percent at least 1.37 percent of the other districts, variations which are de minimis.<sup>28</sup> Likewise, the Asian population only ranges from 1.9 percent to 4.5 percent across all districts.<sup>29</sup>

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<sup>24</sup> *Shaw v. Reno*, 509 U.S. 603, 649 (1993).

<sup>25</sup> *Miller v. Johnson*, 515 U.S. 900, 916 (1995).

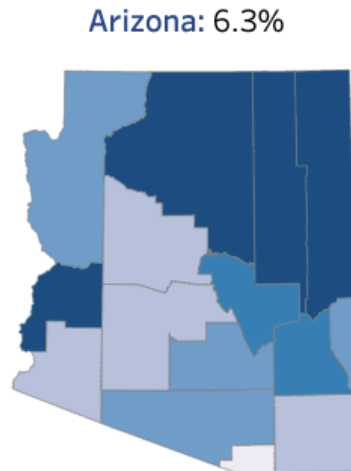
<sup>26</sup> *Id.*

<sup>27</sup> *See infra* Appendix 1.

<sup>28</sup> *Id.*

<sup>29</sup> Note that District Six, one of the narrowest districts in this plan, is thin because of my efforts to create a majority-minority district in District Three. I had to include the Hispanic population under Highway 84 in Casa Grande to achieve a majority. *See id.*

**Percent American Indian and Alaska Native Alone or in Combination,  
Total Population by County: 2020**



*Figure 5: Native Americans by County. Darker Colors Indicate Higher Native American Populations.<sup>30</sup>*

District One is more amenable to a *Shaw* challenge because Native American voters comprise 19.74 percent of the population, but never pass five percent in any other district. Still, the district would survive. As discussed above, Arizona requires counties be added in a grid pattern. Figure 5 shows the first counties to be selected in the north of the state, Coconino, Navajo, and Apache, have a higher concentration of Native Americans than anywhere else in the state. As long as those counties are together in one district, that district will naturally have a higher Native American population than any other. Furthermore, the 2012 Arizona map had an isthmus splitting Mojave County in order to include the Hualapai tribe.<sup>31</sup> This map was never challenged in federal court, and a state court found evidence of departure from the grid system did not satisfy the burden of production for a claim that the map violated the Arizona

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<sup>30</sup> U.S. Census Bureau, *supra* note 14.

<sup>31</sup> *See infra* Appendix 3.



Constitution.<sup>32</sup> This is relevant because the Arizona Constitution requires congressional districts conform with federal law prohibiting racial gerrymanders.<sup>33</sup> Therefore, District One in this plan, which extends south to cover the San Carlos Apache Tribe, would likely survive a *Shaw* challenge.

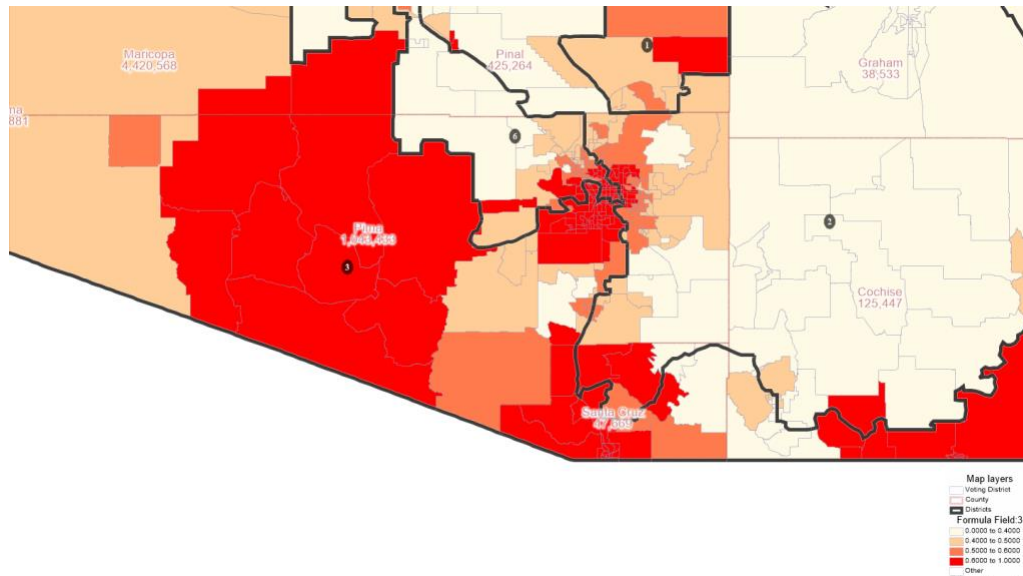


Figure 6: Distribution of Democratic Voters in Pima County.

Finally, all districts in this plan would survive a *Miller* challenge. The predominant goal was to achieve proportional representation. This is evident in District One, which splits Maricopa County to include not just to the Fort McDowell Yavapai reservation but also Tempe to ensure the district performs for Democrats (see Figure 4). This can also be seen in District Six, which splits three counties to connect pockets of Democratic voters (see Figure 6). Along the way, it picks up enough Hispanic voters to account for 21.8 percent of the citizen voting age population.<sup>34</sup> This is a sizeable minority but as the 64.9 percent of the voters in the district are

<sup>32</sup> *Leach*, No. CV 2012-007344, 2017 WL 9500782 at \*4 (“the constitution does not dictate the mechanics of how the Commission is to adjust the Grid Map”).

<sup>33</sup> Ariz. Const. art. IV, pt. 2 § 1 (14).

<sup>34</sup> See *infra* Appendix 1.



White, it can hardly be considered an attempt at purposeful segregation.<sup>35</sup> In the end, this plan complies with federal laws preventing discrimination in redistricting.

#### **IV. This Plan Complies with Partisanship and Political Subdivisions Laws**

In 2019, the Supreme Court ruled that partisan gerrymandering is a non-justiciable issue.<sup>36</sup> Therefore, this plan cannot be challenged in federal court for excessive partisanship. That said, the Arizona Constitution imposes three related requirements for mapmakers: 1) to the extent practicable, districts shall use visible features, such as cities and counties, as boundaries; 2) districts must be constructed in a grid pattern, meaning apart from Maricopa County, whole counties must be assigned into districts in a clockwise fashion; and 3) favor competitive districts where there is no detriment to other goals of the Arizona Constitution.<sup>37</sup> These requirements are not rigid. The Arizona Independent Redistricting Commission may depart from the grid requirement to accomplish six constitutional goals, such as complying with the Voting Rights Act.<sup>38</sup>

Given the significant discretion afforded to the Commission, this plan would survive scrutiny. To comply with the Voting Rights Act, this plan departs from the grid requirement to connect Hispanic communities and create the majority-Hispanic District Three (see Figure 3). After completing the initial grid, I created an additional Voting Rights Act district in Phoenix (see Figure 2). Complying with the Voting Rights Act created two safe Democratic districts because Arizona Hispanic voters overwhelmingly support Democrats.<sup>39</sup> I then incorporated

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<sup>35</sup> *Id.*

<sup>36</sup> *Rucho v. Common Cause*, 139 S. Ct. 2484, 2506-07 (2019) (“partisan gerrymandering claims present political questions beyond the reach of federal courts.”).

<sup>37</sup> Ariz. Const. art. IV, pt. 2, § 1 (14).

<sup>38</sup> *Arizona Minority Coalition*, 208 P. 3d at 686.

<sup>39</sup> Wash. Post, *supra* note 19.

partisan data and departed further from the grid pattern to achieve proportional representation and equal population, while respecting city, county, and tribal boundaries to the extent practicable. This created three districts where neither party is expected to win more than fifty-five percent of the vote.<sup>40</sup> It is possible to create a map with more than three competitive districts and where the expected vote shares of the winning party are lower. However, Arizona law does not mandate a required number of competitive districts nor the margin of victory, so challenging this plan for abusing discretion in departing from the grid plan would fail.<sup>41</sup>

### **EVALUATION BASED ON REDISTRICTING CRITERIA**

This section evaluates this plan on four major criteria: partisan performance, minority representation, compactness, and splitting political subdivisions. Where data is available, I compare this plan to the maps enacted in 2012 and in 2022. Compared to these maps, my plan is more proportional, affords minorities similar ability to influence the political process, and is similarly compact but it splits more counties.

#### **I. This Plan is More Proportional than the 2022 Enacted Map**

Arizona is a changing state, so it is important to distinguish whether a proportional plan is intended to reflect how the state has voted in the past or how it will vote in the future. I built this plan based on the assumption that trends like the expansion of the urban-rural divide and the growth in the state's Hispanic population will continue this decade. In practical terms, this means that unless the plan is an unfair partisan gerrymander, it will become easier for Democrats to consistently win five congressional seats over the next decade as they have done for the last two

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<sup>40</sup> See *infra* Appendix 1.

<sup>41</sup> See *e.g.*, *Leach*, No. CV 2012-007344, 2017 WL 9500782 at \*4 (“the constitution does not dictate the mechanics of how the Commission is to adjust the Grid Map”).

cycles.<sup>42</sup> It also means that to determine whether districts proportionally represent the population, it is better to use PlanScore instead of Dave’s Redistricting App data, the latter of which uses a composite of the last four election cycles which does not place enough weight on recent changes in the electorate.<sup>43</sup>

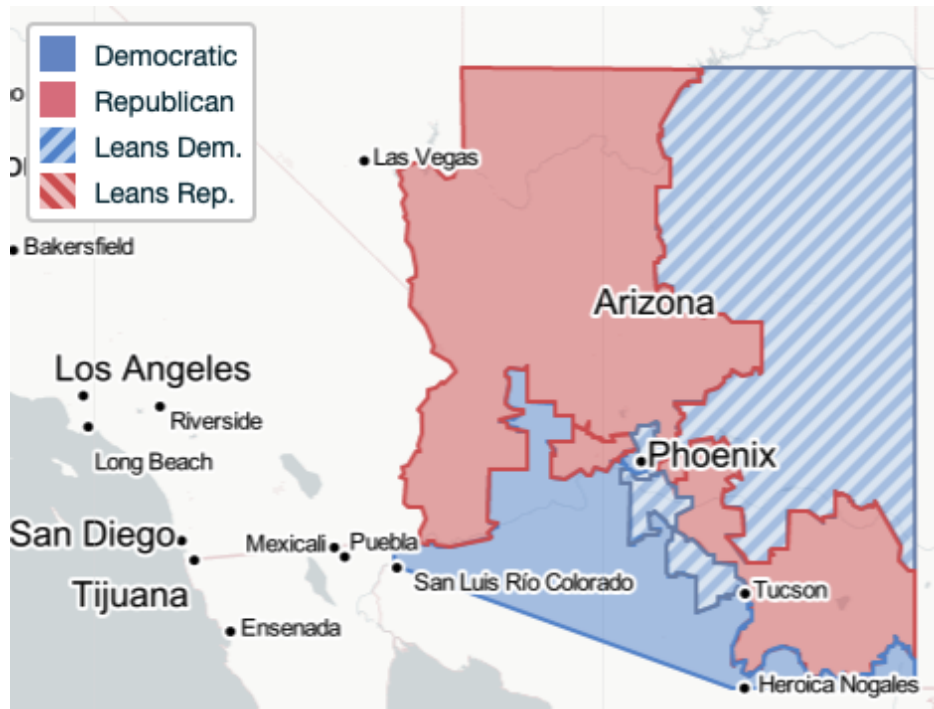


Figure 7: PlanScore Analysis of my Plan.<sup>44</sup>

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<sup>42</sup> *Arizona House Election Results 2018*, POLITICO (last visited Apr. 2, 2022), <https://www.politico.com/election-results/2018/arizona/house/>; *Arizona House Election Results 2020*, NBC (last visited Apr. 2, 2022), <https://www.nbcnews.com/politics/2020-elections/arizona-house-results>.

<sup>43</sup> Dave’s Redistricting App, *supra* note 15.

<sup>44</sup> *AZ proportional Plan*, PlanScore (last visited Apr. 2, 2022), <https://planscore.campaignlegal.org/plan.html?20220401T072347.569356976Z>.

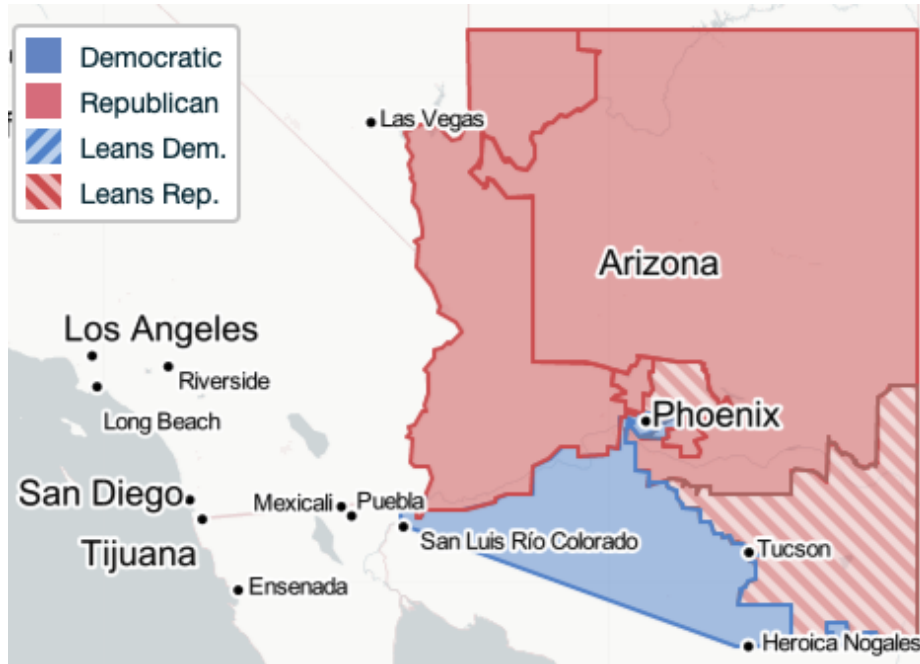


Figure 8: PlanScore Analysis of the Enacted 2022 Map.<sup>45</sup>

PlanScore data shows this plan (see Figure 7) is clearly more proportional than the 2022 enacted map (see Figure 8). The efficiency gap is .1 percent Republican, and the partisan bias is .2 percent Republican.<sup>46</sup> In other words, this plan is almost perfectly fair. Few votes are wasted, and Democrats are given an appropriate chance to perform at least as well as they have done in the last two cycles and win five congressional seats. By comparison, the enacted map has an efficiency gap of 8.5 percent Republican, and the partisan bias is 9.1 percent in favor of Republicans.<sup>47</sup> This is simply unfair. After winning five congressional seats in the last two cycles, the Arizona Independent Redistricting Commission favors Democrats to win at most three seats when there is no generic ballot advantage.

<sup>45</sup> Arizona Enacted 2022 Map, PlanScore (last visited Apr. 2, 2022), <https://planscore.campaignlegal.org/plan.html?20220221T044319.633209951Z>.

<sup>46</sup> PlanScore, *supra* note 44.

<sup>47</sup> PlanScore, *supra* note 45.

The Commission would counter that regardless of how the map would perform in an even election, this map is superior because it is more competitive and is more responsive to swings in the generic ballot. Both this plan and the 2022 enacted map have three districts that are not classified as “safe” for either party.<sup>48</sup> Of those districts, the smallest vote share expected by the likely winner in this plan is fifty-three percent in an even election.<sup>49</sup> The smallest in the enacted plan is fifty-one percent.<sup>50</sup> That said when the generic ballot Swings, it often swings dramatically. Four times in the last decade, the generic ballot favored one party by more than five points on election day, enough to elicit a response in the competitive districts under both plans.<sup>51</sup> Therefore, the marginally higher responsiveness of the enacted plan is not enough to offset the inequity of priming Democrats to only win four seats without a generic ballot advantage.

## **II. This Plan Provides Equitable Representation to Minorities**

This plan affords minorities similar opportunity to influence the political process as the enacted map. Both maps create two majority-Hispanic districts. Hispanic and Latino voters account for 50.3 percent of the citizen voting age population (CVAP) of District Three and 52.7 percent of District Seven’s population.<sup>52</sup> By comparison, they account for fifty-one percent of CVAP in both of the enacted majority-Hispanic districts.<sup>53</sup> The differences between these two plans are due to how Phoenix is split. In this plan, District Three’s Phoenix isthmus has several

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<sup>48</sup> Compare PlanScore, *supra* note 44 (this plan); with PlanScore, *supra* note 45 (2022 map).

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

<sup>51</sup> See e.g., *2014 Generical Congressional Vote*, Real Clear Politics (last visited Apr. 2, 2022), [https://www.realclearpolitics.com/epolls/other/generic\\_congressional\\_vote-2170.html](https://www.realclearpolitics.com/epolls/other/generic_congressional_vote-2170.html); *2018 Generical Congressional Vote*, Real Clear Politics (last visited Apr. 2, 2022), [https://www.realclearpolitics.com/epolls/other/2018\\_generic\\_congressional\\_vote-6185.html](https://www.realclearpolitics.com/epolls/other/2018_generic_congressional_vote-6185.html).

<sup>52</sup> See *infra* Appendix 1.

<sup>53</sup> See *infra* Appendix 2.

voting districts that are between forty to sixty percent Latino, whereas immediately to the right of the isthmus are many voting districts that are above sixty percent (see Figure 2). By comparison, the enacted District Three takes more of these voting districts above sixty percent.<sup>54</sup> This means the enacted plan is slightly more likely to have two districts that perform according to the preferences of the Hispanic community, but the difference is minimal.

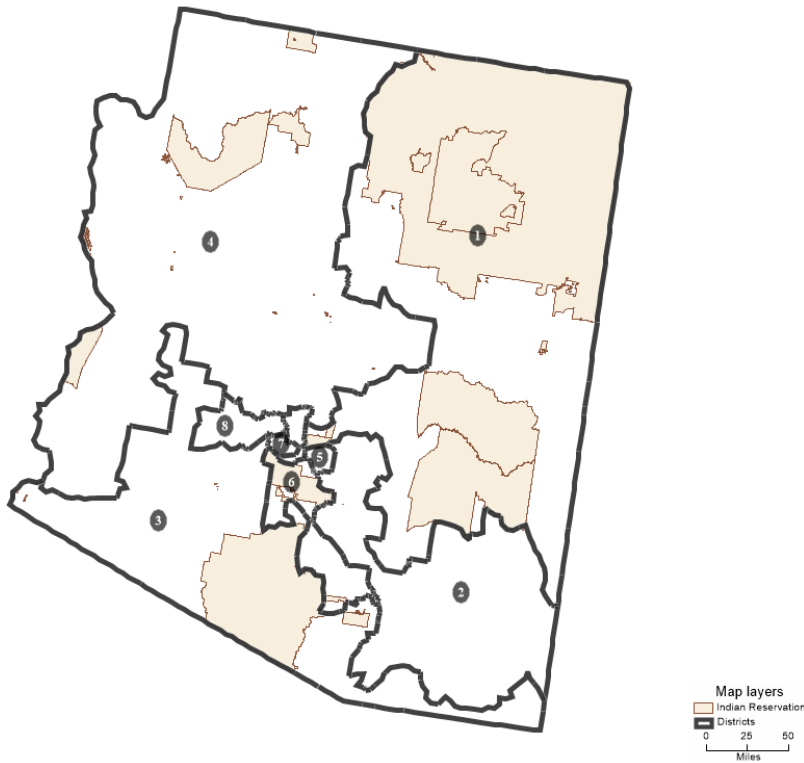


Figure 9: Distribution of Reservations Across Districts.

Likewise, this plan compares favorably to the enacted map in terms of representation for the Native American community. Tribal lands cover 27.1 percent of the state but are spread out such that Native Americans can never be a majority of any one district (see Figure 9).<sup>55</sup> District One

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<sup>54</sup> See *infra* Appendix 2.

<sup>55</sup> Julia Shumway, *Fact Check: Gosar right on public land in Ariz*, AZ Central (Apr. 13, 2015, 4:34 PM), <https://www.azcentral.com/story/news/politics/fact-check/2015/04/13/fact-check-gosar-correct-private-land-arizona/25740527/>.

of this plan has the highest percentage of Native American voters at 19.74 percent, only slightly less than the 20.5 percent in the 2012 enacted district and the twenty-one percent in the 2022 enacted district (this is labeled District Two in the 2022 map).<sup>56</sup> My district has a lower Native American population because I moved the Kaibab Paiute, Hualapai, and Havasupai tribes to District Four to equalize population.<sup>57</sup> In addition, this map splits the Tohono O’odham tribe to make District Three majority-Hispanic, but the enacted map created a majority-Hispanic district without this split.<sup>58</sup> There are several reasons the Arizona Independent Redistricting Commission was able to achieve this result, including that it did not create as deep an isthmus into Pima County.<sup>59</sup> That said, the plans are very similar in the opportunity they afford Native Americans.

Lastly the plans give similar representation to African Americans and Asians. In this plan as well as the 2012 and 2022 enacted plans, the maximum African American population in a district is between nine and twelve percent.<sup>60</sup> The Asian population of each district also floats between 1.5 and 5 percent.<sup>61</sup> In short, both plans provide minorities similar representation.

### **III. This Plan is as Compact as the Enacted 2022 Map**

This plan and the enacted 2022 map share a number of districts that are similarly constructed. For example, the majority-Hispanic district along the southern border has a Reock of .19 in both plans because both must span almost the entire border to comply with the Voting Rights Act.<sup>62</sup> This is change from 2012, where the district stopped at the edge of Santa Cruz County and

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<sup>56</sup> See *infra* Appendices 1-2.

<sup>57</sup> *Id.*

<sup>58</sup> *Id.*

<sup>59</sup> *Id.*

<sup>60</sup> See *infra* Appendices 1-3.

<sup>61</sup> *Id.*

<sup>62</sup> See *infra* Appendices 1-2.

Hispanic voters comprised 55.2 percent of the voting age population and the district has a .27 Reock.<sup>63</sup> At the other end of the spectrum the highest Reock of any district in this plan is .65 whereas the 2022 enacted plan maximum is .63 and the 2012 enacted plan maximum was .67.<sup>64</sup> Although the maximum Reock is similar among all plans, the maximum occurs in a different district for each plan. My highest comes from District Five based in Mesa, while the 2022 enacted maximum comes from Flagstaff and the 2012 maximum comes from Scottsdale.

Although my least compact and most compact districts are as compact or more than the districts in the enacted 2022 plan, on average I score slightly less on compactness than the 2022 plan on Dave's Redistricting App.<sup>65</sup> This suggests that while both plans have similar districts, at the margins I created narrower districts to achieve proportional representation. District Six is illustrative. This district has a Reock of .23 because it aims to connect two predominantly Democratic areas without denying District Three a Hispanic majority.<sup>66</sup> As a result, there are two districts with a Reock .23 or below in this map, while there is only one in the enacted 2022 map.<sup>67</sup> These differences are real but are so marginal that the plans are almost equally compact.

#### **IV. This Plan Splits More Counties than the 2022 Enacted Plan**

Achieving equal population requires eight county splits.<sup>68</sup> However, achieving proportional representation requires more. This plan splits ten counties a total of twenty times, and Maricopa County has eight splits, the highest of any county.<sup>69</sup> By contrast. the enacted 2022 plan splits

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<sup>63</sup> See *infra* Appendix 3.

<sup>64</sup> See *infra* Appendices 1-3.

<sup>65</sup> Compare Dave's Redistricting App, *supra* note 15; with *Ratings: AZ 2022 Congressional*, Dave's Redistricting App (last visited Apr. 2, 2022), <https://davesredistricting.org/maps#ratings::4ee8ecf2-14b7-4a8d-99bc-82fa633a9305>.

<sup>66</sup> See *infra* Appendix 1.

<sup>67</sup> See *infra* Appendices 1-2.

<sup>68</sup> Dave's Redistricting App, *supra* note 15.

<sup>69</sup> *Id.*



seven counties fifteen times, and splits Maricopa County seven times.<sup>70</sup> There are two ways of looking at this disparity. The first is that this plan is strictly worse for splitting more counties. The second is that for only five more county splits than the 2022 enacted map, I achieved proportional representation. Given how close the number of county splits, minority representation, and compactness are between the two plans, my plan is superior to the 2022 enacted map because it goes a step further to guarantee proportional representation.

### **PLAN DESCRIPTION**

This section describes my process for creating this plan and compares each district against those enacted in 2012 and 2022. In compliance with Arizona law, I first assigned counties to districts in a clockwise fashion. Then I departed from the grid plan to create a majority-Hispanic district along the southern border. Once I completed the initial grid, I turned to Maricopa County and created another majority-Hispanic district in Phoenix. Thereafter, I used data on partisan performance and municipality lines to split counties to achieve proportional representation while minimizing the number of political subdivisions split.

The remainder of this section compares each district in this plan to the districts enacted in 2012 and 2022. Since the only demographic information for the 2012 plan is voting age population rather than citizen voting age population, the 2012 plan will appear to have a more diverse electorate than it did in practice. Uses of this data will also not capture population growth over the last decade.

#### **1. Northeast Arizona**

This was the first district I competed after finishing the grid plan and creating the majority-Hispanic districts. My goal was to create a district that would perform for Democrats without

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<sup>70</sup> *AZ 2022 Congressional, Dave's Redistricting App.*

splitting contiguous tribal land. To do this, I drew the district as far south as the San Carlos Apache tribe, included most of Coconino County, and created isthmus into Maricopa County that reached Tempe. One of the biggest challenges I had creating this district was ensuring travel contiguity. Fortunately, I was able to find a combination of Highway 87, 288, and 60 that would allow Tempe voters to travel within the district.

This district performs much better for Democrats than the districts enacted in 2022 (which is labeled District Two on the 2022 map) and 2012. Democrats have an eighty six percent chance to win under this plan but only an eleven percent chance to win under the 2022 enacted district.<sup>71</sup> This is because this district includes Tempe while the enacted district does not and instead merges Tempe with Mesa to create a separate district. Similarly, Democrats are expected to win fifty-five percent of the vote in this district, much better than the 51.6 percent they won in the 2020 election where they enjoyed a sizeable generic ballot advantage.<sup>72</sup> This once again has to do with district design. The district enacted in 2012 does not run to liberal Tempe but instead wraps through Pinal County to create an isthmus that runs through more conservative areas south of Phoenix.<sup>73</sup>

This district is similarly diverse as the ones enacted in 2022 and 2012. This district has roughly one percent more African American and Asian voters.<sup>74</sup> Hispanic voters also account for 13.2 percent of the citizen voting age population in this district, close to the fourteen percent in the 2022 enacted district.<sup>75</sup> While Hispanic voters accounted for 18.1 of the enacted 2012

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<sup>71</sup> Compare PlanScore, *supra* note 44 (this plan); with PlanScore, *supra* note 45 (2022 map).

<sup>72</sup> PlanScore, *supra* note 44; *Arizona House Election Results 2020*, NBC; *2020 Generic Congressional Vote*, Real Clear Politics (last visited Apr. 2, 2022), [https://www.realclearpolitics.com/epolls/other/2020\\_generic\\_congressional\\_vote-6722.html](https://www.realclearpolitics.com/epolls/other/2020_generic_congressional_vote-6722.html).

<sup>73</sup> See *infra* Appendix 3.

<sup>74</sup> See *infra* Appendices 1-3.

<sup>75</sup> See *infra* Appendices 1-2.

district's voting age population, the 2012 district is likely not that much more diverse as it is not drawn through voting districts with denser Hispanic populations than the ones included in this district.<sup>76</sup>

There are also slightly fewer Native American voters in my district than the district in other plans. Native Americans comprise 19.74 percent of the voters in this plan's district as compared to twenty-one percent in the 2022 enacted district and 20.5 percent in the 2012 enacted district.<sup>77</sup> This difference is attributable to my decision to include the Kaibab Paiute, Havasupai, and Hualapai tribes in District Four to achieve equal population instead of creating an isthmus into Mohave County to connect them with the Navajo tribe in the northeast.<sup>78</sup>

Finally, this district is as compact as the 2012 enacted district but much less so than the 2022 enacted district. This district's Reock is .43.<sup>79</sup> By comparison, the 2012 district has a .48 reock and the 2022 district has a .63 Reock.<sup>80</sup> The 2022 district is more compact because it does not try to connect deep into Maricopa County. Both this district and the 2012 enacted district enter Maricopa County, but my entry is narrower, which accounts for the lower Reock.

## **2. Southeast Arizona**

I created this district after finalizing District One, District Five, and District Six, so all of the remaining population in the southwest was included in one district. Since I included the liberal, diverse areas around Tucson in District Six, this district performs much better for Republicans than the districts enacted in 2022 (which the 2022 plan labels District Six) and 2012. Democrats only have a seven percent chance of winning this district but have a thirty-seven percent chance

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<sup>76</sup> See *infra* Appendix 2.

<sup>77</sup> See *infra* Appendices 1-3.

<sup>78</sup> *Id.*

<sup>79</sup> See *infra* Appendix 1.

<sup>80</sup> See *infra* Appendices 1-2.

of winning the enacted 2022 district.<sup>81</sup> Furthermore, Democrats are expected to win only forty-three percent of the vote share, much lower than the 55.1 percent they earned in 2020.<sup>82</sup>

Moving the Tucson suburbs to District Six also makes my district slightly less diverse and less compact as it needs to extend into the outskirts of Maricopa County to achieve equal population. The citizen voting age population of my district is 19.6 percent Hispanic, 3.7 percent African American, 2.4 percent Asian, and 1.41 percent native American.<sup>83</sup> By contrast, the voting and citizen voting age population for the enacted 2022 and 2012 districts are roughly twenty one percent Hispanic, three percent African American, between three and two and half percent Asian, and between one and two percent Native American.<sup>84</sup> Finally, the isthmus into Maricopa County leads to a Reock score of .38, as compared to .4 in 2022 and .52 in 2012.<sup>85</sup>

### **3. Southern Arizona**

This was the first district where I departed from the grid plan to comply with the Voting Rights Act. I knew from the outset that I would have to include Tucson's Hispanic population and try to connect it with other pockets of Hispanic voters. That said, I did not realize how hard it would be to create a Hispanic majority without taking some of the heavily Hispanic voting districts in Phoenix. I took almost every significant pocket of Hispanic voters south of Phoenix but still did not have a majority. When I finally decided to take some of the districts in Phoenix, I became worried I would not have enough left over to create another majority-Hispanic district. Therefore, I decided to split the Tohono O'odham tribe rather than majority White areas in the west or east of the state because the later would lose travel contiguity.

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<sup>81</sup> Compare PlanScore, *supra* note 44 (this plan); with PlanScore, *supra* note 45 (2022 map).

<sup>82</sup> PlanScore, *supra* note 44; *Arizona House Election Results 2020*, NBC.

<sup>83</sup> See *infra* Appendix 1.

<sup>84</sup> See *infra* Appendices 2-3.

<sup>85</sup> See *infra* Appendices 1-3.

Predictably, this district heavily favors Democrats. Democrats are ninety six percent likely to win this district, as compared to ninety nine percent under the enacted 2022 district.<sup>86</sup> This slight variation is due to the Arizona Independent Redistricting Commission’s decision to include more heavily Hispanic Phoenix voting districts in this plan (compare to District Seven in the 2022 enacted plan). Democrats are likely to win fifty-eight percent of the vote share in this district in an even election as compared with 64.6 percent in the 2020 election where the generic ballot favored Democrats.<sup>87</sup> In short, the partisan performance of this district is similar across all plans compared in this report.

By contrast, this district has a less robust Hispanic majority than the 2022 enacted district. Hispanic voters account for 50.3 percent of the citizen voting age population of this district as compared with fifty-one percent in the enacted 2022 district.<sup>88</sup> This is also attributable to the Commission’s decision to split the Phoenix Hispanic community to a greater extent. Consequently, the second majority-Hispanic district in this plan has more Hispanic voters than its analogue in the enacted 2022 map (see discussion of District Seven below).

It is possible this plan and the enacted 2022 plan have fewer Hispanic voters than the 2012 enacted district, where Hispanic voters accounted for 55.2 percent of the voting age population.<sup>89</sup> This might reflect more than a discrepancy in available population metrics because the 2012 district stops at the edge of Santa Cruz County.<sup>90</sup> This suggests the Commission had an easier time drawing a majority-Hispanic map in 2012 because the Hispanic community was more

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<sup>86</sup> Compare PlanScore, *supra* note 44 (this plan); with PlanScore, *supra* note 45 (2022 map).

<sup>87</sup> PlanScore, *supra* note 44; *Arizona House Election Results 2020*, NBC; *2020 Generic Congressional Vote*, Real Clear Politics.

<sup>88</sup> See *infra* Appendices 1-2.

<sup>89</sup> See *infra* Appendix 3.

<sup>90</sup> *Id.*

concentrated. However, it is difficult to make an accurate comparison without granular citizen voting age population statistics from 2012.

Aside from the Hispanic community, this district is similarly diverse to the enacted districts. The Asian population of all district's hovers around two percent, and the African American and Native American population vary by no more than one percent among the plans.<sup>91</sup>

Lastly, this district is as compact as the 2022 enacted plan. Both have a Reock of .19 which reflects the challenges faced to ensure travel contiguity.<sup>92</sup> Similarly, both districts are less compact than the 2012 enacted district, which has a Reock of .27 because it stops at Santa Cruz County.<sup>93</sup>

#### **4. Northwest Arizona**

This district was finalized last and includes voters who were on the edge of District One, District Three, District Eight, and District Nine. This district has a similar design to the 2022 and 2012 enacted districts but extends further into Coconino County and not as far into Maricopa County.

This district is incredibly similar to the one enacted in 2022 (labeled District Nine in the 2022 enacted map) and in 2012. Democrats have less than a one percent chance to win this district and their expected vote share is thirty-one percent in an even election, slightly above the 30.2 percent they received in the 2020 cycle.<sup>94</sup>

The key difference between this district and the enacted districts is that it is less diverse but more compact. The citizen voting age population of this district is 10.4 percent Hispanic, 1.6

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<sup>91</sup> See *infra* Appendices 1-3.

<sup>92</sup> See *infra* Appendices 1-2.

<sup>93</sup> See *infra* Appendix 3.

<sup>94</sup> PlanScore, *supra* note 44; PlanScore, *supra* note 45; *Arizona House Election Results 2020*, NBC.

percent African American, 1.9 percent Asian, and 2.38 percent Native American.<sup>95</sup> By comparison both the voting age and the citizen voting age Hispanic population is above fourteen percent in the enacted districts and the African American citizen voting age population of the 2022 enacted district is five percent (the deviation from my district's Asian and Native American population is minimal).<sup>96</sup> This change is a product of my decision not to extend the district further into Maricopa County, which has a more diverse population. However, it led to a more compact district. The Reock score for this district is .42 as compared to .28 in 2022 and .39 in 2012.<sup>97</sup>

### **5. Mesa, Gilbert, and Chandler**

This district was created after I created District One and District Six. At this point, I knew I needed four Republican leaning districts to achieve proportional representation. Fortunately, Mesa, Gilbert, and Chandler provided enough votes to create a relatively compact district.

This district performs for Republicans, albeit not as well as the enacted 2022 and 2012 districts. Democrats have a seven percent chance of winning this district but only a two percent chance under the enacted map.<sup>98</sup> Likewise, Democrats will win forty three percent of the vote in an even election but only won 41.1 percent of the votes in the enacted district in 2020 when the national environment was favorable to them.<sup>99</sup> These discrepancies arise because my district stays close to major cities while the enacted 2022 and 2012 districts go further east, which allows them to incorporate more Republican voters.

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<sup>95</sup> See *infra* Appendix 1.

<sup>96</sup> See *infra* Appendices 2-3.

<sup>97</sup> See *infra* Appendices 1-3.

<sup>98</sup> PlanScore, *supra* note 44; PlanScore, *supra* note 45.

<sup>99</sup> PlanScore, *supra* note 44; *Arizona House Election Results 2020*, NBC; *2020 Generic Congressional Vote*, Real Clear Politics.

As a result of my choice to keep to major cities, this district is more diverse than the enacted districts. This district's citizen voting age population is 17.3 percent Hispanic, 4.2 percent African American, 3.1 percent Asian, and 2.14 percent Native American.<sup>100</sup> By contrast the enacted 2022 district is fourteen percent Hispanic, four percent African American, five percent Asian and one percent Native American.<sup>101</sup> Similarly, the voting age population of the 2012 district is sixteen percent Hispanic, 2.8 percent African American, 4.2 percent Asian, and .8 percent Native American.<sup>102</sup> All told, this district is more diverse than the enacted districts in all categories except for Asian voters. The differences in minority representation likely occur because the enacted districts appear to split Mesa's Hispanic population.

Likewise, my choice to stay within major cities leads to greater compactness over the enacted districts. My district has a Reock of .65 whereas the 2022 enacted district has a score of .54 and the 2012 enacted district has a score of .55.<sup>103</sup> The improvement in Reock score results from including all of Mesa, which leads to a more circular shape.

## **6. Interstate 10 Corridor**

I created this district after finalizing District Nine. This means that I need to create one more district that favored Democrats to achieve proportional representation. My theory was to connect heavily Democratic areas outside Phoenix with those in Tucson. However, I could not move the district far west without diluting a majority-Hispanic district and I could not move it far east without denying myself the opportunity to create an isthmus for District Two into Maricopa County in order to achieve equal population. In the end, I decided to follow Interstate 10 to

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<sup>100</sup> See *infra* Appendix 1.

<sup>101</sup> See *infra* Appendix 2.

<sup>102</sup> See *infra* Appendix 3.

<sup>103</sup> See *infra* Appendices 1-3.



create a narrow strip linking the two pockets of Democratic voters. This design varies significantly from the design of the 2022 and the 2012 enacted maps, neither of which attempt to create a district just based off the Phoenix and Tucson suburbs. Therefore, the closest analog for this district is the 2022 enacted plan's sixth district and the 2012 plan's second district.

This district performs better for Democrats than the 2022 and 2012 enacted district. Democrats are seventy-nine percent likely to win this district but are only thirty-seven percent likely to win the 2022 enacted district.<sup>104</sup> This difference is because the enacted district only includes liberal areas near Tucson instead of Phoenix and expands much wider to include more conservative areas. The expected share of the votes in an even election is fifty-four percent.<sup>105</sup> Since Democrats won fifty-five percent of the vote in 2020 when the national environment was very favorable to them, this suggests that this plan's district is more robustly in favor of Democrats than the 2022 and 2012 enacted district.<sup>106</sup>

These districts are also similarly diverse. My district has roughly two percent more African American voters and 1.5 percent more Asian voters because this district connects more voting districts outside of major city centers.<sup>107</sup> Both this district and the enacted 2022 district also have Hispanic citizen voting age populations above twenty one percent.<sup>108</sup> By comparison, Hispanic voters make up 25.8 percent of the enacted 2012 district's voting age population.<sup>109</sup> This discrepancy is most likely the result comparing the districts by different measures, but it could reflect that this district is able to include the entirety of Cochise County which has a significant

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<sup>104</sup> PlanScore, *supra* note 44; PlanScore, *supra* note 45.

<sup>105</sup> PlanScore, *supra* note 44.

<sup>106</sup> *Arizona House Election Results 2020*, NBC; *2020 Generic Congressional Vote*, Real Clear Politics.

<sup>107</sup> *See infra* Appendices 1-3.

<sup>108</sup> *See infra* Appendices 1-2.

<sup>109</sup> *See infra* Appendix 3.

Latino population among the southern border (see Figure 3). Lastly, Native American voters make up a higher percentage (3.8) of this district's voting age population than in the enacted districts because my district includes parts of four tribes.<sup>110</sup>

Finally, this district is as compact as the 2022 enacted district and much less compact than the 2012 district. The Reock score is .23 whereas the 2022 enacted district has a .23 Reock and the 2012 enacted district has a .52 Reock.<sup>111</sup>

## **7. Lower Phoenix**

This is the second majority-Hispanic district created to comply with the Voting Rights Act. This district was much easier to create than District Three as Phoenix has a dense Hispanic population. To create the district, I just took the remaining Phoenix voting districts which had a majority-Hispanic population and grouped them together.

As with District Three, this district heavily favors Democrats. In both this district and the enacted 2022 district (labeled District Three in the 2022 enacted map), Democrats have a ninety nine percent chance to win.<sup>112</sup> Democrats are expected to win seventy-three percent of the vote share when there is no generic ballot advantage, which is commensurate with the 76.7 percent Democrats received when the national environment was favorable to them in 2020.<sup>113</sup>

This district has more robust margins for Hispanic voters than the enacted 2022 district. Hispanic voters make up 52.7 percent of the citizen voting age population in this district as compared with fifty-one percent in the 2022 enacted district.<sup>114</sup> As with District Three, this

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<sup>110</sup> See *infra* Appendices 1-3.

<sup>111</sup> *Id.*

<sup>112</sup> PlanScore, *supra* note 44; PlanScore, *supra* note 45.

<sup>113</sup> PlanScore, *supra* note 44; *Arizona House Election Results 2020*, NBC; *2020 Generic Congressional Vote*, Real Clear Politics.

<sup>114</sup> See *infra* Appendices 1-2.

discrepancy is attributable to how I split Phoenix. I generally included Phoenix voting districts with higher Hispanic populations in this district, which created a larger Hispanic majority. Also like District Three, this district may have fewer Hispanic voters than the enacted 2012 district, where Hispanic voters made up 58.2percent of the voting age population.<sup>115</sup> This could mean Arizona’s Hispanic population was more compact in 2012 but without granular data at the voting district level, it is difficult to tell.

Aside from the Hispanic population, this district very similar in terms of diversity with the enacted 2022 plan. African American voters are roughly twelve percent of the citizen voting age population while Asian and Native American voters are roughly three percent.<sup>116</sup> These numbers are higher than the enacted 2012 district where African American voters are nine percent of the voting age population, and Asian and Native American voters are roughly two percent.<sup>117</sup> This likely reflects the extent to which the state’s diversity grew over the last decade, particularly in the African American population which grew by 40.1 percent.<sup>118</sup>

Finally, this district is similarly compact across all plans. This district has a Reock of .53, better than 2022’s .5 and worse than 2012’s .55.<sup>119</sup> These differences are minimal and reflect small variations in the way the plans encircle the Phoenix Hispanic community.

## **8. Greater Peoria Area**

I created this district after finishing District Three, District Seven, and District Nine. My goal was to connect Peoria as far west as I could go to allow the last northwest district to come down

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<sup>115</sup> See *infra* Appendix 3.

<sup>116</sup> See *infra* Appendices 1-2.

<sup>117</sup> See *infra* Appendix 3.

<sup>118</sup> U.S. Census Bureau, *supra* note 14.

<sup>119</sup> See *infra* Appendices 1-3.

and connect along the upper edge of Maricopa County. This differs from the design of the enacted 2022 and 2012 districts, which extend north to pick up more Republican voters.

This district strongly favors Republicans but extending it west instead of north means it is not quite as favorable as the enacted 2022 and 2012 districts. Democrats only have an eight percent chance to win this district, as compared to a five percent chance under the enacted 2022 district.<sup>120</sup> Similarly, the expected Democratic vote share is forty-three percent in an even election, higher than the 40.4 percent received in 2020 in a favorable national environment.<sup>121</sup>

By contrast, including more urban areas improves the diversity of the district. The citizen voting age population of this district is 19.9 percent Hispanic, 5.8 percent African American, 3.3 percent Asian, and 1.46 percent Native American.<sup>122</sup> This means this district includes roughly four percent more Hispanic voters and two percent more African American voters than the citizen voting age population of the 2022 district and the voting age population of the 2012 district.<sup>123</sup> As Asian and Native American voters are within .4 and .7 percent of each other respectively across this plan and the enacted districts, my district gives minorities more opportunity to influence elections.<sup>124</sup>

Lastly, this district is less compact than the enacted 2022 district because it is much narrower. This district has a Reock of .39 while the 2022 district has a Reock of .5.<sup>125</sup> In terms of compactness, this district is most like the 2012 enacted district, which has a Reock of .36.<sup>126</sup>

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<sup>120</sup> PlanScore, *supra* note 44; PlanScore, *supra* note 45.

<sup>121</sup> PlanScore, *supra* note 44; *Arizona House Election Results 2020*, NBC; *2020 Generic Congressional Vote*, Real Clear Politics.

<sup>122</sup> *See infra* Appendix 1.

<sup>123</sup> *See infra* Appendices 1-3.

<sup>124</sup> *Id.*

<sup>125</sup> *See infra* Appendices 1-2.

<sup>126</sup> *See infra* Appendix 3.

## 9. Upper Phoenix and Scottsdale

I created this district after I had finalized District Seven and District One. This meant I needed to create a district that performed for Democrats and was somewhat competitive but that could not include Tempe. I ultimately decided to draw this district to include the rest of Phoenix and most of Scottsdale

This district favors Democrats more than the enacted 2022 district and is less competitive than the enacted district (labeled District One in the 2022 enacted map). Democrats have a sixty-nine percent chance of winning this district under this plan but only a forty-three percent chance in the enacted district.<sup>127</sup> Similarly, Democrats are expected to win fifty-three percent of the vote share in this district but only forty-nine percent of the votes in the enacted 2022 district.<sup>128</sup> The differences in partisan performance and competitiveness are due to my decision to draw a more vertical, dense district while the Arizona Independent Redistricting Commission drew a wider district that includes little of Phoenix, all of Scottsdale, and extends as far east as Superstition Wilderness. Since this is the most competitive plan in my district, these discrepancies show the Commission drew a more competitive map. However as argued above, Republicans have a distinct possibility of winning this district if it were enacted because the generic ballot often swings dramatically.<sup>129</sup>

That said this district is more competitive than the enacted 2012 district (which was labeled District Six in the 2012 enacted map). Democrats win fifty five percent of the vote in this district under an even election, but they only won 47.8 percent in a very favorable national environment

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<sup>127</sup> PlanScore, *supra* note 44; PlanScore, *supra* note 45.

<sup>128</sup> PlanScore, *supra* note 44; PlanScore, *supra* note 45.

<sup>129</sup> Real Clear Politics, *supra* note 47.

in 2020.<sup>130</sup> This is also a product of my decision to draw a narrow district, while the 2012 district is taller and wider than my own which allows it to reach more conservative precincts.

This district is more diverse than the 2022 and the 2012 enacted districts. The citizen voting age population for this district is fifteen percent Hispanic, 4.5 percent African American, 3.4 percent Asian, and 1.9 percent Native American.<sup>131</sup> By comparison the percentages for the 2022 district are eleven, three, four, and two respectively.<sup>132</sup> In addition, the voting age population of the 2012 enacted district was 12.3 percent Hispanic, 2.3 percent African American, 3.5 percent Asian, and 1.4 percent Native American.<sup>133</sup> As these statistics show, this district is more diverse than the district included in other plans. These differences are a product of my decision to construct this district from more diverse city centers than rural areas at the edge of Maricopa County.

Lastly, this district is more compact than the 2022 enacted map but less compact than the 2012 enacted map. The Reock score is .51, as compared with .45 in 2022 and .67 in 2012. This map is more compact because it more closely resembles a perfect rectangle while the 2022 district has large divots on both sides. By comparison, the 2012 enacted district more closely resembles a circle, a shape that tends to perform better on Reock tests.<sup>134</sup>

## CONCLUSION

Redistricting Arizona presents a number of challenges. This plan grapples with them and favors proportional representation over other goals. However, this paper demonstrates this plan is

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<sup>130</sup> PlanScore, *supra* note 44; *Arizona House Election Results 2020*, NBC; *2020 Generic Congressional Vote*, Real Clear Politics.

<sup>131</sup> *See infra* Appendix 1.

<sup>132</sup> *See infra* Appendix 2.

<sup>133</sup> *See infra* Appendix 3.

<sup>134</sup> *See e.g.*, *Viewing compactness tests*, Esri Redistricting (last visited Apr. 2, 2022), <https://doc.arcgis.com/en/redistricting/review/viewing-compactness-tests.htm>.

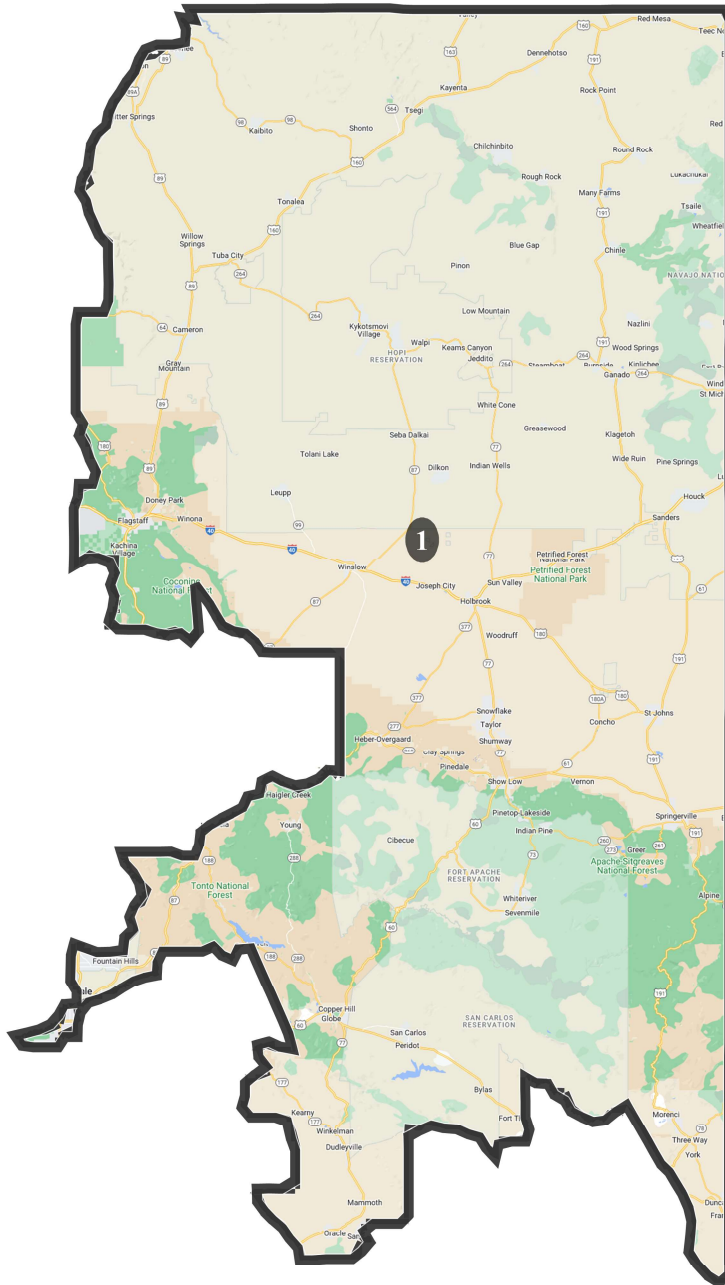
not outside the mainstream. In fact, it shares many similarities with the maps enacted in 2012 and 2022. This is good news for those who believe congressional maps should prioritize proportional representation. Although the Supreme Court has ruled that partisan gerrymandering is non-justiciable, this plan contains useful evidence for litigators hoping to establish a presumption against partisan gerrymandering in Arizona. In short, this map is another plan that shows a way Arizona mapmakers can create districts to accommodate a changing electorate.

## APPENDIX 1

**Description:** This is the map book generated for this plan. It contains relevant demographic information as well as images for the district for context.



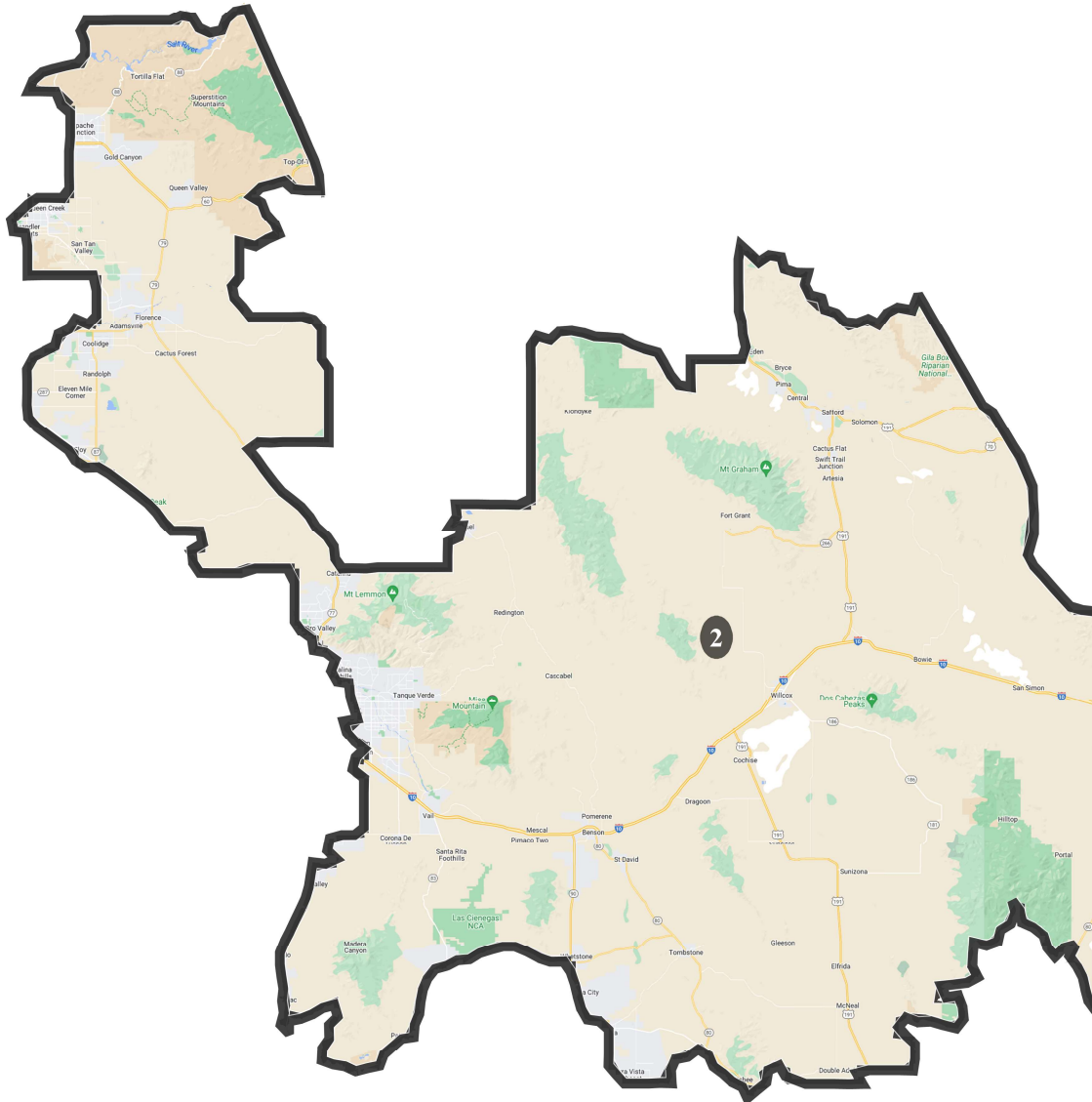
# District: 1



©2021 CALIPER

Field	Value
District	1
Population	794,613
Deviation	2
% Deviation	0.0000
Reock	0.43
Alternate Schwartzberg	2.11
Total CVAP 19	617,067
% NH CVAP 19	86.9%
% NH White CVAP 19	61.7%
% NH Black CVAP 19	3.3%
% NH Asian CVAP 19	2.9%
% H CVAP 19	13.2%
20_Pres	416,594
% D 20_Pres	56.9%
% R 20_Pres	43.1%
White	466278
% White	58.68%
Black	23974
% Black	3.02%
AmIndian	156872
% AmIndian	19.74%
Asian	35943
% Asian	4.52%
Hawaiian	1466
% Hawaiian	0.18%
Other	38071
% Other	4.79%
NH CVAP 19	535935.93
NH White CVAP 19	380656.50
NH Black CVAP 19	20576.68
NH Asian CVAP 19	17623.03
H CVAP 19	81171.49
D 20_Pres	237165.71
R 20_Pres	179428.68

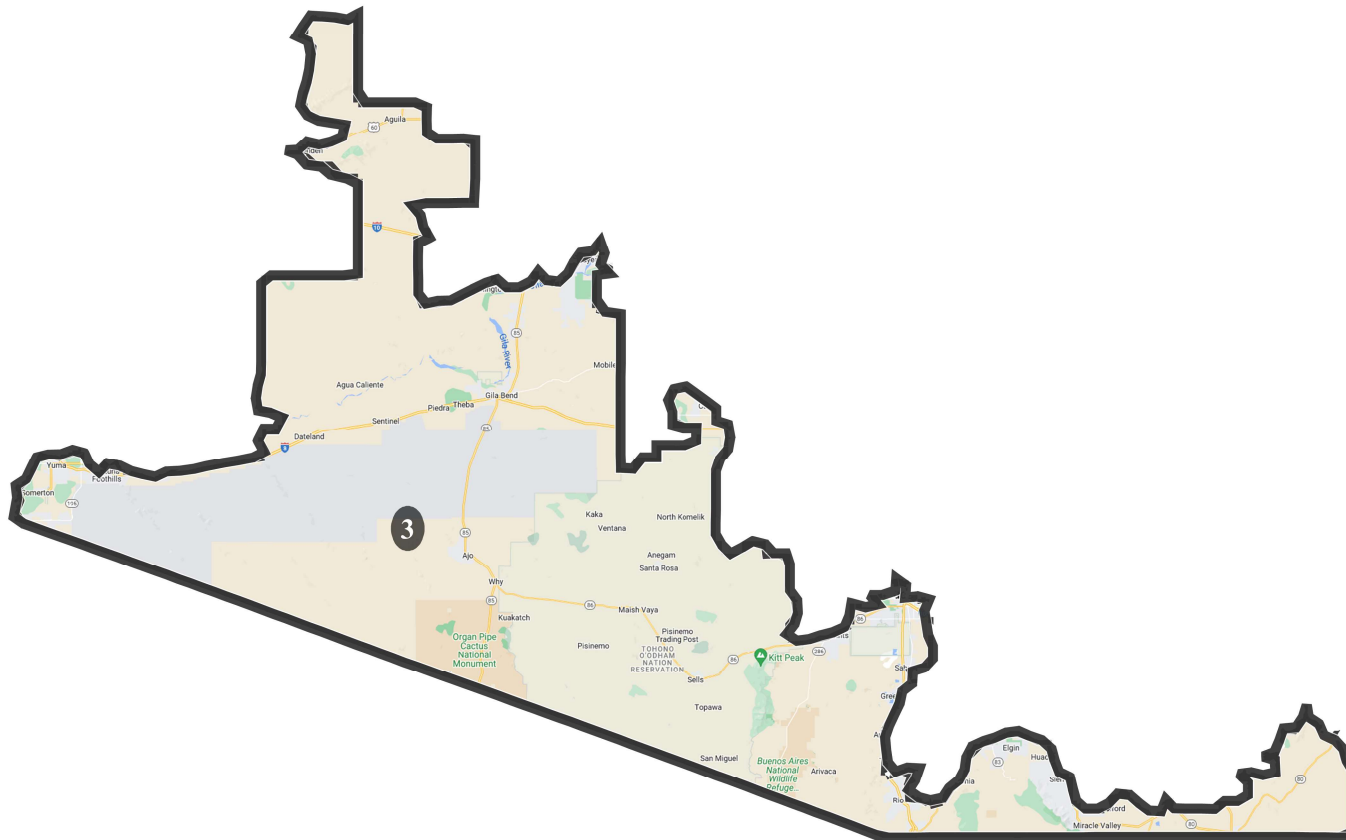
## District: 2



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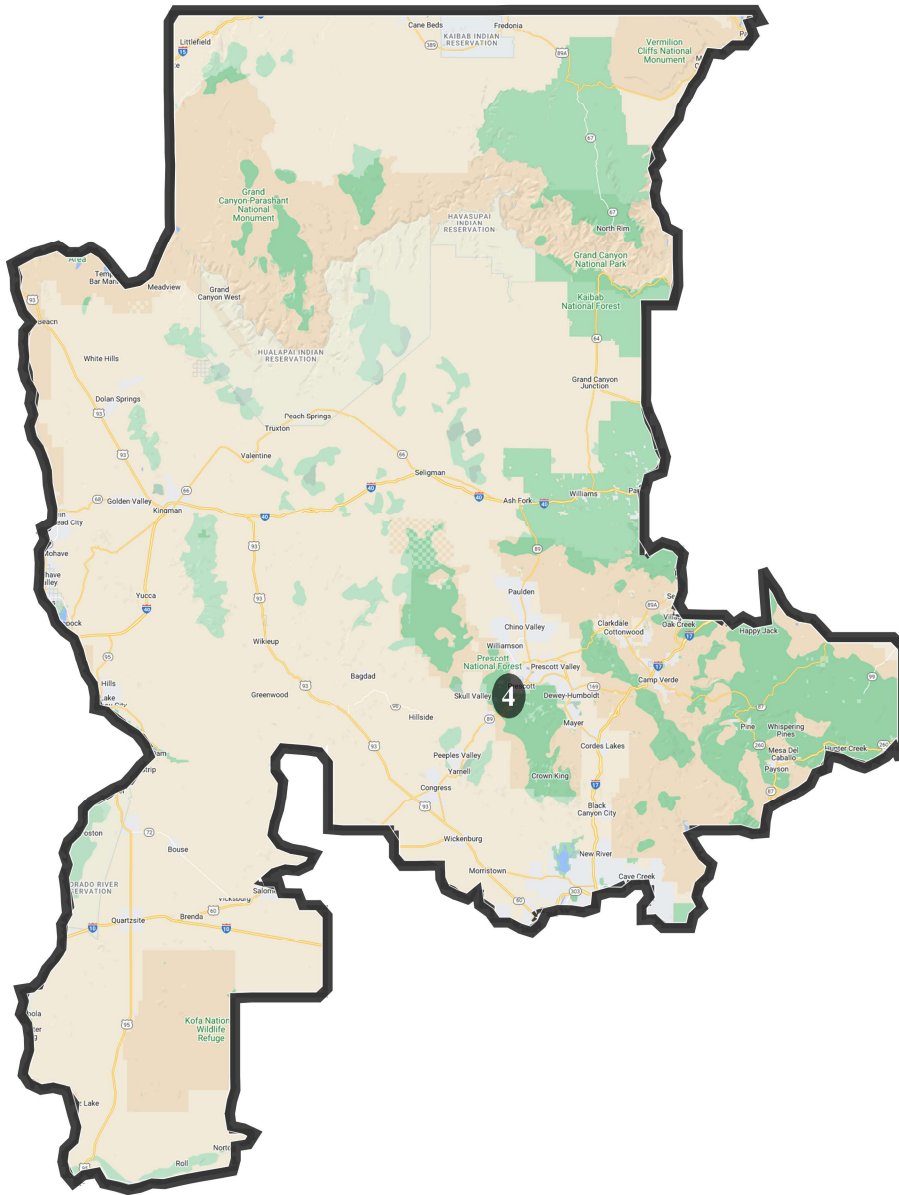
Field	Value
District	2
Population	794,610
Deviation	-1
% Deviation	-0.0000
Reock	0.38
Alternate Schwartzberg	2.55
Total CVAP 19	575,135
% NH CVAP 19	80.4%
% NH White CVAP 19	71.9%
% NH Black CVAP 19	3.7%
% NH Asian CVAP 19	2.4%
% H CVAP 19	19.6%
20_Pres	408,192
% D 20_Pres	44.8%
% R 20_Pres	55.2%
White	568849
% White	71.59%
Black	31481
% Black	3.96%
AmIndian	11238
% AmIndian	1.41%
Asian	19909
% Asian	2.51%
Hawaiian	1928
% Hawaiian	0.24%
Other	61505
% Other	7.74%
NH CVAP 19	462262.85
NH White CVAP 19	413330.43
NH Black CVAP 19	21378.61
NH Asian CVAP 19	13983.86
H CVAP 19	112886.12
D 20_Pres	182893.50
R 20_Pres	225298.92

# District: 3



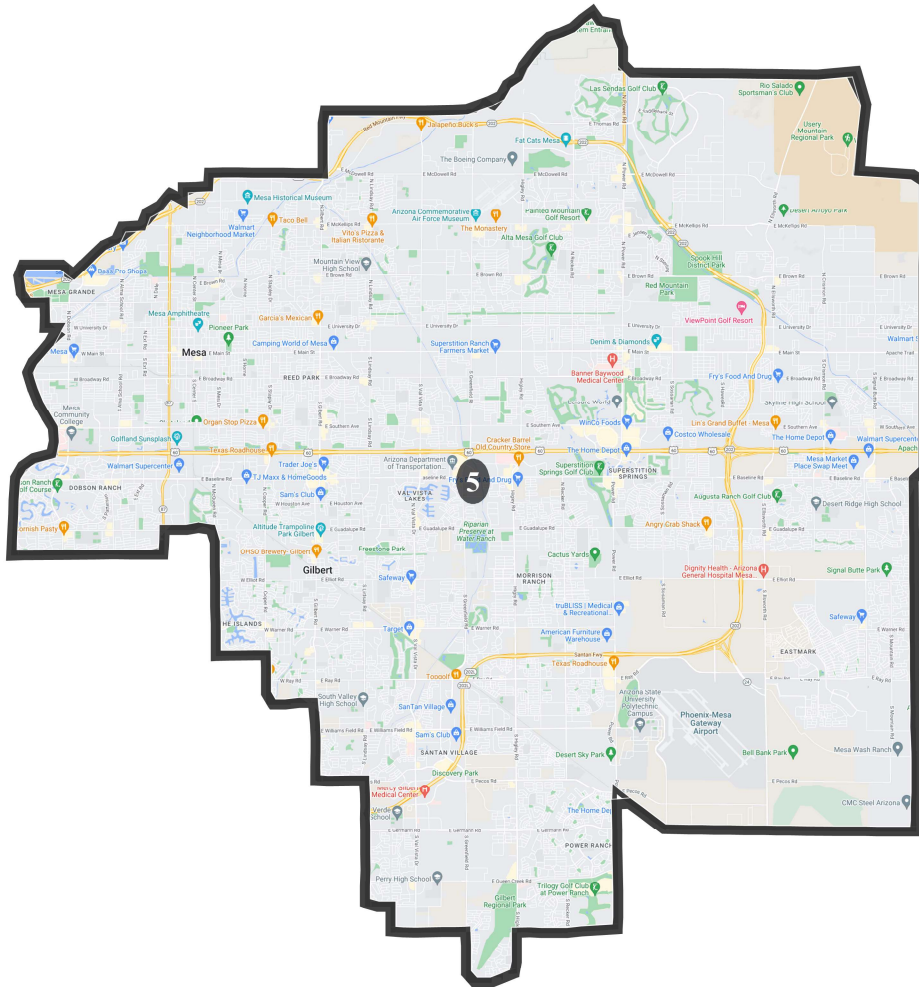
Field	Value
District	3
Population	794,611
Deviation	0
% Deviation	0.0000
Reock	0.19
Alternate Schwartzberg	3.2
Total CVAP 19	507,501
% NH CVAP 19	49.7%
% NH White CVAP 19	38.9%
% NH Black CVAP 19	4.6%
% NH Asian CVAP 19	1.9%
% H CVAP 19	50.3%
20_Pres	290,013
% D 20_Pres	59.7%
% R 20_Pres	40.3%
White	338568
% White	42.61%
Black	32373
% Black	4.07%
AmIndian	33311
% AmIndian	4.19%
Asian	13728
% Asian	1.73%
Hawaiian	1636
% Hawaiian	0.21%
Other	187045
% Other	23.54%
NH CVAP 19	252010.78
NH White CVAP 19	197376.53
NH Black CVAP 19	23359.97
NH Asian CVAP 19	9625.20
H CVAP 19	255480.21
D 20_Pres	173187.23
R 20_Pres	116825.28

# District: 4



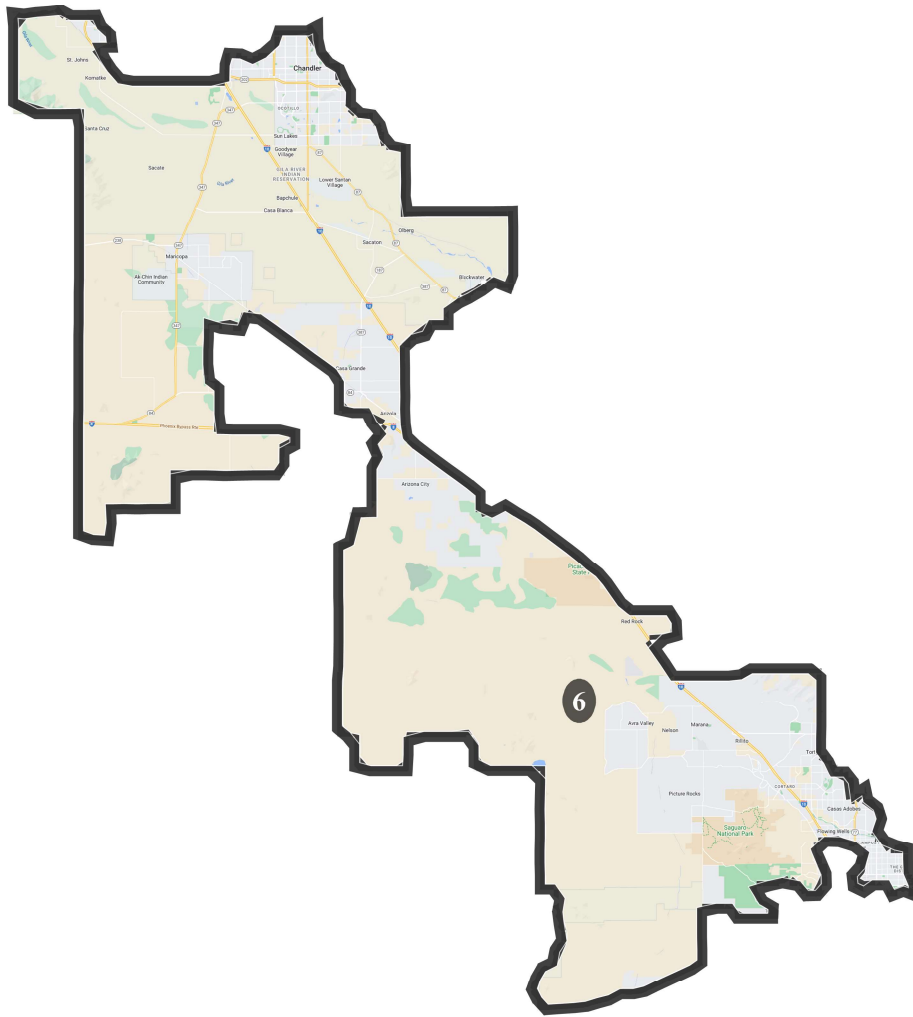
Field	Value
District	4
Population	794,616
Deviation	5
% Deviation	0.0000
Reock	0.42
Alternate Schwartzberg	2.24
Total CVAP 19	601,799
% NH CVAP 19	89.6%
% NH White CVAP 19	83.0%
% NH Black CVAP 19	1.6%
% NH Asian CVAP 19	1.9%
% H CVAP 19	10.4%
20_Pres	447,955
% D 20_Pres	32.3%
% R 20_Pres	67.7%
White	635504
% White	79.98%
Black	10852
% Black	1.37%
AmIndian	18934
% AmIndian	2.38%
Asian	16464
% Asian	2.07%
Hawaiian	1218
% Hawaiian	0.15%
Other	37924
% Other	4.77%
NH CVAP 19	539181.08
NH White CVAP 19	499599.97
NH Black CVAP 19	9763.38
NH Asian CVAP 19	11543.26
H CVAP 19	62501.80
D 20_Pres	144788.01
R 20_Pres	303167.40

# District: 5



Field	Value
District	5
Population	794,611
Deviation	0
% Deviation	0.0000
Reock	0.65
Alternate Schwartzberg	1.45
Total CVAP 19	530,646
% NH CVAP 19	82.7%
% NH White CVAP 19	72.7%
% NH Black CVAP 19	4.2%
% NH Asian CVAP 19	3.1%
% H CVAP 19	17.3%
20_Pres	376,423
% D 20_Pres	44.5%
% R 20_Pres	55.5%
White	540438
% White	68.01%
Black	31275
% Black	3.94%
AmIndian	17033
% AmIndian	2.14%
Asian	30005
% Asian	3.78%
Hawaiian	2729
% Hawaiian	0.34%
Other	76468
% Other	9.62%
NH CVAP 19	439022.63
NH White CVAP 19	385853.11
NH Black CVAP 19	22185.52
NH Asian CVAP 19	16392.32
H CVAP 19	91548.54
D 20_Pres	167351.79
R 20_Pres	209071.57

# District: 6



Field	Value
District	6
Population	794,612
Deviation	1
% Deviation	0.0000
Reock	0.23
Alternate Schwartzberg	2.83
Total CVAP 19	544,731
% NH CVAP 19	78.2%
% NH White CVAP 19	64.6%
% NH Black CVAP 19	5.0%
% NH Asian CVAP 19	4.5%
% H CVAP 19	21.8%
20_Pres	394,104
% D 20_Pres	55.4%
% R 20_Pres	44.6%
White	487901
% White	61.4%
Black	41467
% Black	5.22%
AmIndian	30224
% AmIndian	3.8%
Asian	51241
% Asian	6.45%
Hawaiian	2002
% Hawaiian	0.25%
Other	71326
% Other	8.98%
NH CVAP 19	425929.35
NH White CVAP 19	352094.54
NH Black CVAP 19	27129.00
NH Asian CVAP 19	24777.73
H CVAP 19	118770.27
D 20_Pres	218493.96
R 20_Pres	175610.25



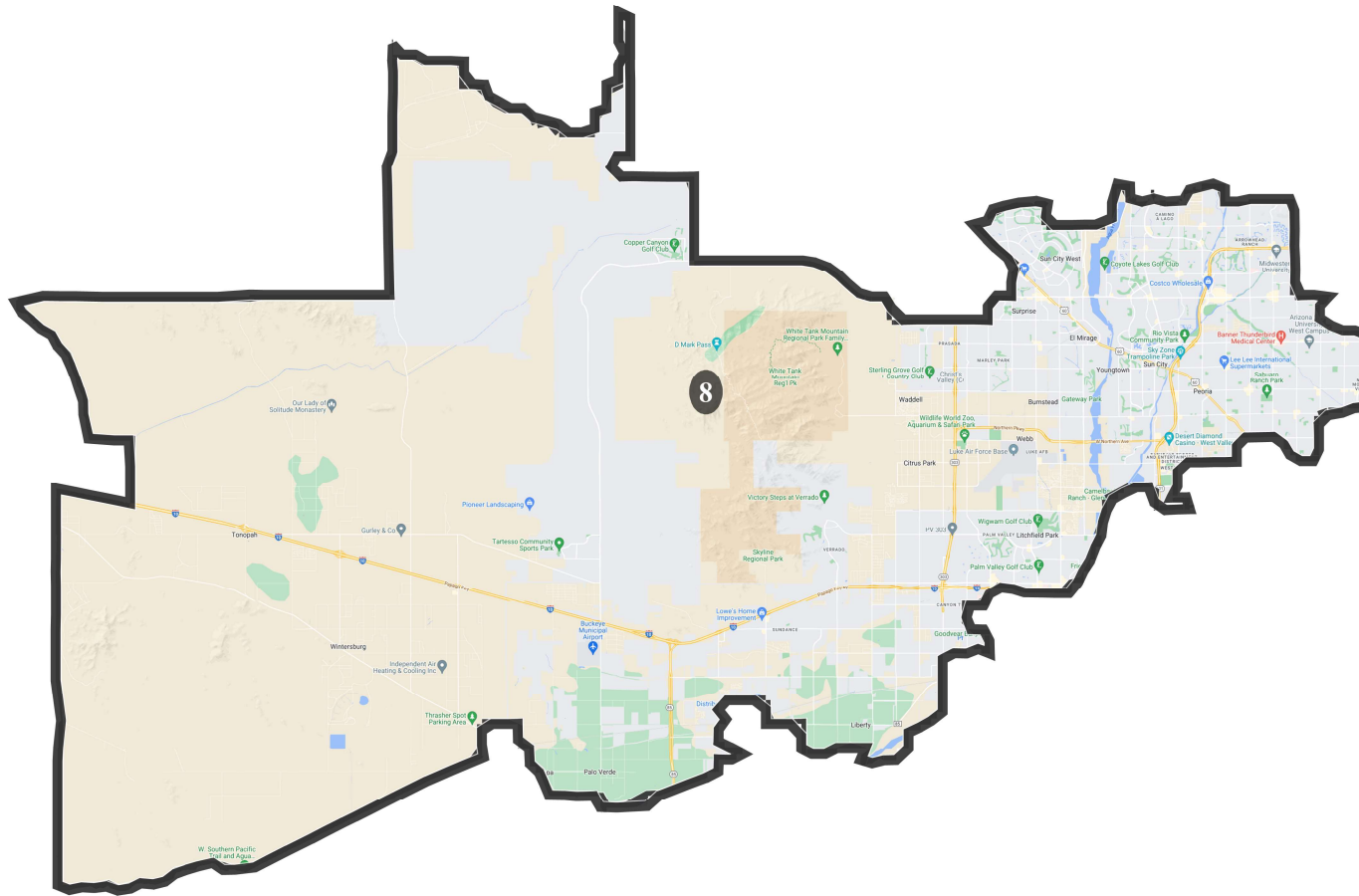
# District: 7



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Field	Value
District	7
Population	794,609
Deviation	-2
% Deviation	-0.0000
Reock	0.53
Alternate Schwartzberg	1.87
Total CVAP 19	424,635
% NH CVAP 19	47.3%
% NH White CVAP 19	29.1%
% NH Black CVAP 19	12.2%
% NH Asian CVAP 19	2.7%
% H CVAP 19	52.7%
20_Pres	209,669
% D 20_Pres	74.1%
% R 20_Pres	25.9%
White	232024
% White	29.2%
Black	84349
% Black	10.62%
AmIndian	24512
% AmIndian	3.08%
Asian	23004
% Asian	2.9%
Hawaiian	2134
% Hawaiian	0.27%
Other	271739
% Other	34.2%
NH CVAP 19	200998.18
NH White CVAP 19	123534.75
NH Black CVAP 19	51645.80
NH Asian CVAP 19	11605.11
H CVAP 19	223675.14
D 20_Pres	155396.91
R 20_Pres	54271.68

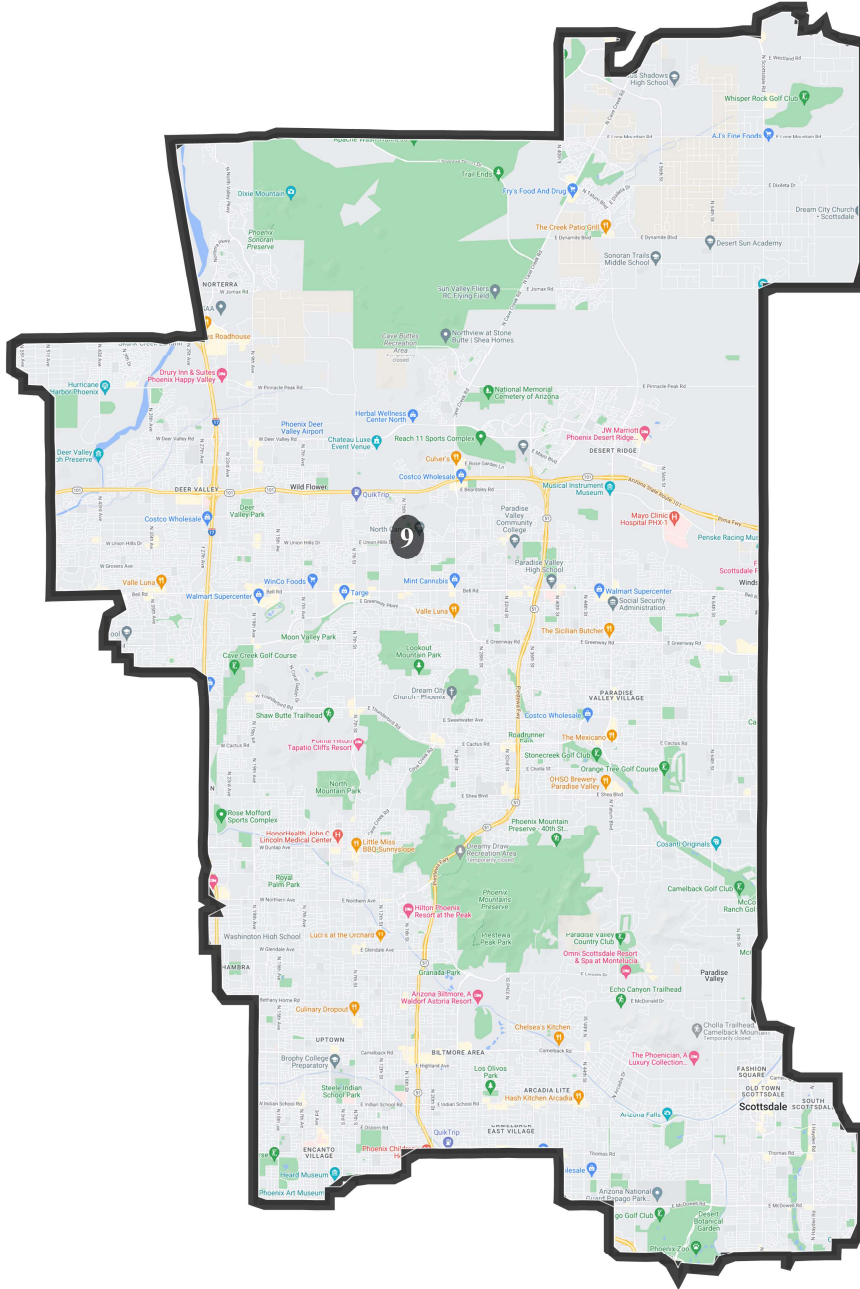
# District: 8



Field	Value
District	8
Population	794,610
Deviation	-1
% Deviation	-0.0000
Reock	0.39
Alternate Schwartzberg	2.08
Total CVAP 19	539,466
% NH CVAP 19	80.2%
% NH White CVAP 19	69.2%
% NH Black CVAP 19	5.8%
% NH Asian CVAP 19	3.3%
% H CVAP 19	19.9%
20_Pres	380,401
% D 20_Pres	44.5%
% R 20_Pres	55.5%
White	513308
% White	64.6%
Black	45800
% Black	5.76%
AmIndian	11624
% AmIndian	1.46%
Asian	28913
% Asian	3.64%
Hawaiian	1944
% Hawaiian	0.24%
Other	85100
% Other	10.71%
NH CVAP 19	432477.05
NH White CVAP 19	373402.66
NH Black CVAP 19	31131.70
NH Asian CVAP 19	17615.23
H CVAP 19	107115.83
D 20_Pres	169444.06
R 20_Pres	210956.49



# District: 9

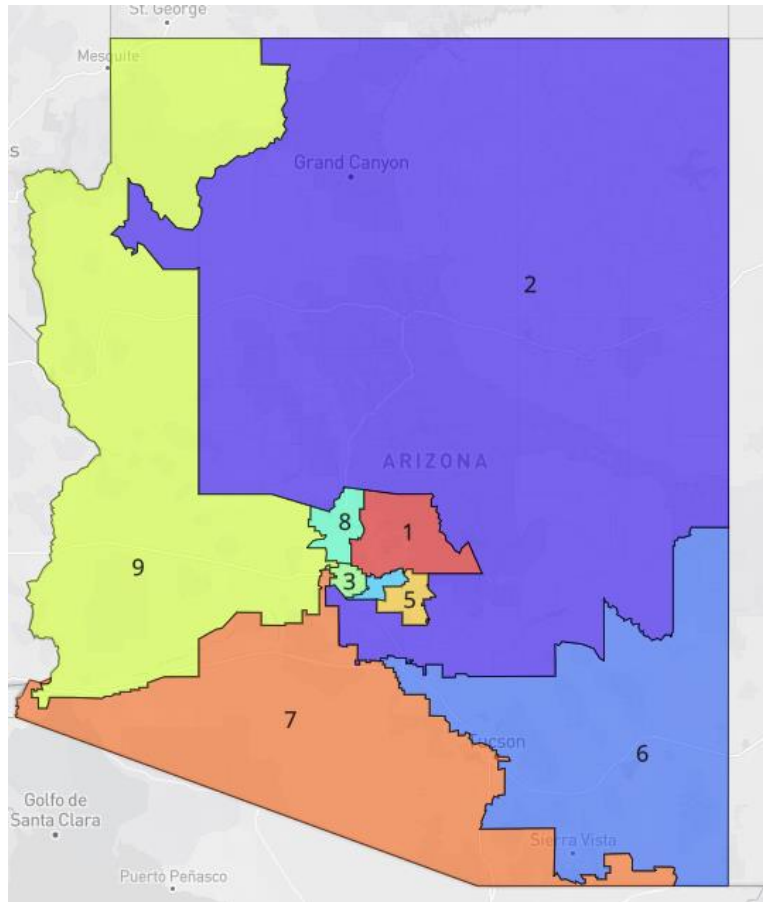


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Field	Value
District	9
Population	794,610
Deviation	-1
% Deviation	-0.0000
Reock	0.51
Alternate Schwartzberg	1.65
Total CVAP 19	579,372
% NH CVAP 19	85.0%
% NH White CVAP 19	74.6%
% NH Black CVAP 19	4.5%
% NH Asian CVAP 19	3.4%
% H CVAP 19	15.0%
20_Pres	410,477
% D 20_Pres	54.4%
% R 20_Pres	45.6%
White	539467
% White	67.89%
Black	37579
% Black	4.73%
AmIndian	15764
% AmIndian	1.98%
Asian	38223
% Asian	4.81%
Hawaiian	1340
% Hawaiian	0.17%
Other	70692
% Other	8.9%
NH CVAP 19	492472.58
NH White CVAP 19	432391.93
NH Black CVAP 19	25905.35
NH Asian CVAP 19	19626.26
H CVAP 19	87060.29
D 20_Pres	223421.72
R 20_Pres	187055.41

## APPENDIX 2

**Description:** This is a map of the enacted 2022 Arizona congressional plan as well as demographic and compactness statistics about the plan. Sources: *AZ 2022 Congressional*, Dave's Redistricting App (last visited Apr. 2, 2022), <https://davesredistricting.org/maps#viewmap::4ee8ecf2-14b7-4a8d-99bc-82fa633a9305>; *Plan Summary - Official Congressional Map*, Arizona Independent Redistricting Commission (last visited Apr. 2, 2022), <https://redistricting-irc-az.hub.arcgis.com/pages/official-maps/>



**Official Congressional Map**

Pct. Dev.: (population deviation from the ideal population)

**Vote Spread Key: (Difference between average Democratic and average Republican votes in 9 state elections):** "highly competitive" = 4% spread or less; "competitive" = spread between 4% and 7%.  
**Democratic / Republican Wins: (# wins in 9 statewide elections):** "Swing Districts" each party won at least 1 election out of the 9.  
**VRA Tracking:** two statewide White vs Latino elections identified as good measures of Latino voters' ability to elect their preferred candidates.

Category	2020 Census			Total Population					Citizen Voting Age Pop					NH Native Amer. Single-Race VAP	Competitiveness			VRA Tracking		
	Field	Total Pop.	Deviation from Ideal	Pct. Dev.	Hispanic / Latino	NH White	NH Black	NH Asian / Pac.Isl.	NH Native Amer.	Total CVAP	Hispanic / Latino	NH White	NH Black		NH Asian / Pac.Isl.	NH Native Amer.	Vote Spread	Dem. Wins	Rep. Wins	Dem Gov '18
1	794,611	0	0.00%	16%	70%	4%	6%	2%	608,665	11%	80%	3%	4%	2%	1%	2.6%	4	5	41.4%	46.4%
2	794,612	1	0.00%	17%	55%	3%	2%	22%	593,135	14%	62%	2%	1%	21%	18%	7.2%	0	9	40.0%	45.3%
3	794,612	1	0.00%	63%	20%	11%	3%	2%	433,659	51%	31%	12%	3%	3%	2%	52.9%	9	0	70.7%	75.4%
4	794,611	0	0.00%	27%	55%	6%	7%	3%	567,091	19%	68%	6%	4%	3%	2%	7.0%	8	1	46.7%	51.2%
5	794,612	1	0.00%	18%	67%	4%	7%	2%	502,662	14%	76%	4%	5%	1%	1%	18.1%	0	9	34.7%	39.3%
6	794,611	0	0.00%	25%	63%	4%	4%	2%	592,361	21%	70%	3%	3%	2%	1%	2.4%	3	6	41.9%	48.8%
7	794,611	0	0.00%	60%	28%	4%	3%	4%	515,833	51%	38%	4%	2%	4%	3%	35.4%	9	0	61.8%	68.3%
8	794,610	-1	0.00%	21%	64%	5%	6%	2%	562,017	15%	75%	4%	4%	1%	1%	15.3%	0	9	34.7%	40.6%
9	794,612	1	0.00%	30%	57%	5%	3%	3%	534,809	22%	68%	5%	2%	2%	1%	26.0%	0	9	30.6%	36.0%
<b>Statewide</b>	7,151,502	2	0.00%	31%	53%	5%	5%	5%	4,910,232	23%	64%	5%	3%	4%	0.9%	5	4			

Vote Spread: The difference between the Democratic and Republican percentages of total votes cast in the nine focus elections (listed below).

Dem/Rep Wins: The number of elections won by each party from the Commission's nine focus elections: 2020 President and Senate; 2018 Senate, Secretary of State, Attorney General, State Treasurer, Superintendent of Public Education, State Mine Inspector; 2016 President

Notes:

User: brian.kingery

Date: Tue Jan 18 2022 13:21:49 GMT-0500 (Eastern Standard Time)

Plan: Approved Official Congressional Map

Plan No.: 25f479aaf0bf478186c58aa241ce40d1

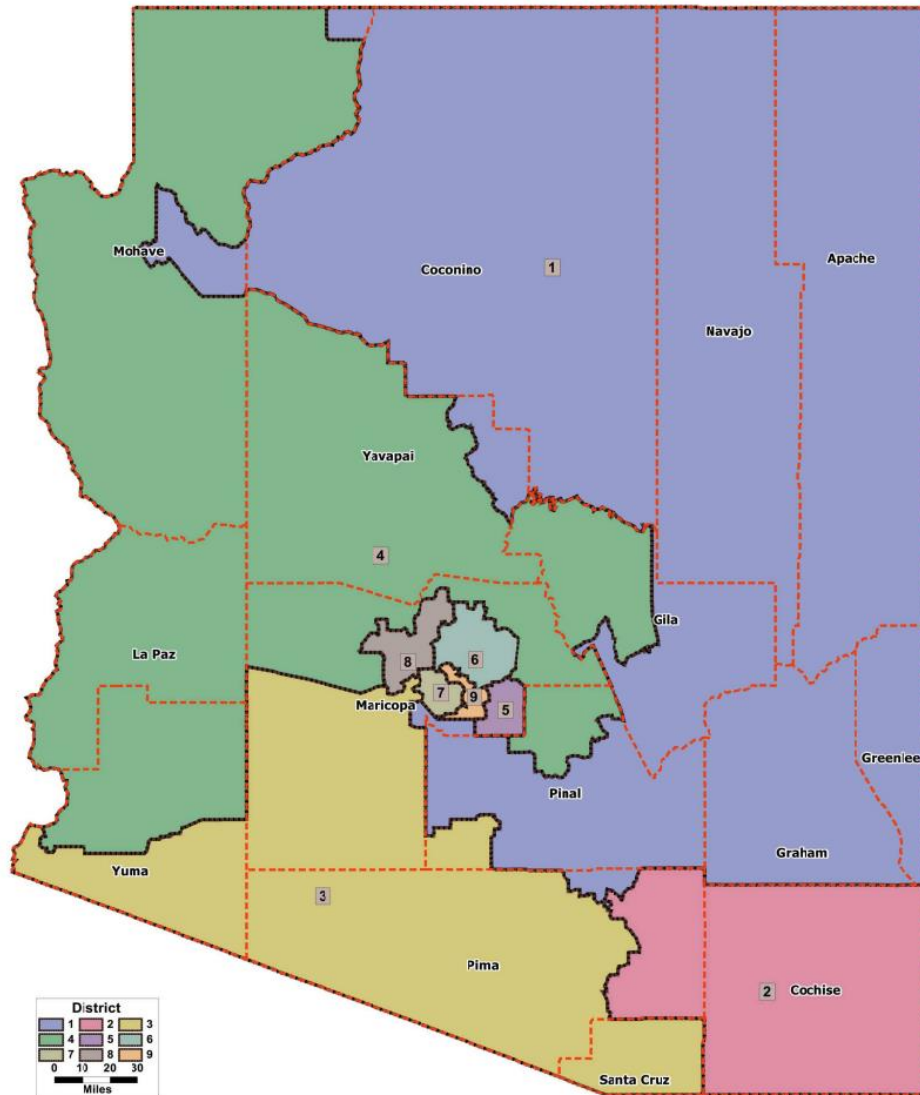
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**Approved Official Congressional Map District Compactness Report**

District	Polygon Area (sq. mi)	Perimeter (mi)	Reock	Area/Convex Hull	Groffman	Schwartzberg	Polsby	Holes	Popper
Unassigned	0	0	0	0	0	0	0	0	0
D1	1617.24	232.99	0.45	0.84	5.79	1.63	0.37	0	0
D2	58970.08	1567.99	0.63	0.85	6.46	1.82	0.3	0	0
D3	207.04	81.55	0.5	0.83	5.67	1.6	0.39	0	0
D4	180.21	103.14	0.24	0.65	7.68	2.17	0.21	0	0
D5	406.71	127.69	0.54	0.73	6.33	1.79	0.31	0	0
D6	13694.89	876.17	0.4	0.7	7.49	2.11	0.22	0	0
D7	15415.73	1041.31	0.19	0.69	8.39	2.37	0.18	0	0
D8	580.28	151.6	0.5	0.76	6.29	1.78	0.32	0	0
D9	23372.36	1274.92	0.28	0.62	8.34	2.35	0.18	0	0

### APPENDIX 3

**Description:** This is a map of the 2012 enacted congressional plan as well as statistics about district demographics and compactness. Sources: *Final Congressional Districts – Statewide 8x11*, Arizona Independent Redistricting Commission (last visited Apr. 2, 2022), <https://azredistricting.org/Maps/Final-Maps/Congressional/Maps/Final%20Congressional%20Districts%20-%20Statewide%208x11.pdf>; *Final Congressional Districts – Population Data Table*, Arizona Independent Redistricting Commission (last visited Apr. 2, 2022), <https://azredistricting.org/Maps/Final-Maps/Congressional/Reports/Final%20Congressional%20Districts%20-%20Population%20Data%20Table.pdf>; *Final Congressional Districts – Compactness and Competitiveness Data Table*, Arizona Independent Redistricting Commission (last visited Apr. 2, 2022), <https://azredistricting.org/Maps/Final-Maps/Congressional/Reports/Final%20Congressional%20Districts%20-%20Compactness%20and%20Competitiveness%20Data%20Table.pdf>.



**Final Congressional Districts - Approved 1/17/12 - Population Breakdown**

District	Population	Deviation from Ideal Population		Hispanic Population		Non Hispanic (NH) White		NH African American		NH Native American		NH Asian		NH Hawaiian		NH Multi-Race and Other	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1	710,224	0	0.0%	147,846	20.8%	361,485	50.9%	14,687	2.1%	162,087	22.8%	9,574	1.3%	1,616	0.2%	12,929	1.8%
2	710,224	0	0.0%	183,537	25.8%	457,249	64.4%	25,861	3.6%	6,472	0.9%	19,295	2.7%	1,369	0.2%	16,441	2.3%
3	710,224	0	0.0%	430,398	60.6%	206,608	29.1%	27,375	3.9%	22,441	3.2%	12,168	1.7%	786	0.1%	10,448	1.5%
4	710,224	0	0.0%	127,216	17.9%	538,609	75.8%	11,065	1.6%	12,667	1.8%	7,422	1.0%	934	0.1%	12,311	1.7%
5	710,224	0	0.0%	118,907	16.7%	518,678	73.0%	20,369	2.9%	6,041	0.9%	29,791	4.2%	1,419	0.2%	15,019	2.1%
6	710,224	0	0.0%	107,938	15.2%	534,954	75.3%	16,932	2.4%	11,141	1.6%	24,930	3.5%	841	0.1%	13,488	1.9%
7	710,224	0	0.0%	457,064	64.4%	148,948	21.0%	61,376	8.6%	13,930	2.0%	16,420	2.3%	1,018	0.1%	11,468	1.6%
8	710,225	1	0.0%	131,226	18.5%	509,305	71.7%	27,059	3.8%	5,003	0.7%	22,086	3.1%	1,018	0.1%	14,528	2.0%
9	710,224	0	0.0%	191,017	26.9%	419,811	59.1%	34,377	4.8%	17,644	2.5%	28,823	4.1%	1,958	0.3%	16,594	2.3%

**Final Congressional Districts - Approved 1/17/12 - Voting Age Population Breakdown**

District	Voting Age Pop.	Hispanic Voting Age Pop.		Non Hispanic (NH) White Voting Age Pop.		NH African American Voting Age Pop.		NH Native American Voting Age Pop.		NH Asian Voting Age Pop.		NH Hawaiian Voting Age Pop.		NH Multi-Race and Other Voting Age	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
1	522,309	94,295	18.1%	293,758	56.2%	11,113	2.1%	107,182	20.5%	7,738	1.5%	1,442	0.3%	6,781	1.3%
2	558,252	121,379	21.7%	386,563	69.2%	19,389	3.5%	4,899	0.9%	15,674	2.8%	1,012	0.2%	9,336	1.7%
3	497,743	274,610	55.2%	172,005	34.6%	19,441	3.9%	15,302	3.1%	9,826	2.0%	593	0.1%	5,966	1.2%
4	556,383	80,797	14.5%	443,629	79.7%	8,123	1.5%	10,146	1.8%	5,958	1.1%	704	0.1%	7,026	1.3%
5	512,943	71,636	14.0%	394,037	76.8%	14,141	2.8%	4,087	0.8%	21,360	4.2%	977	0.2%	6,705	1.3%
6	554,574	68,057	12.3%	439,087	79.2%	12,503	2.3%	7,677	1.4%	19,313	3.5%	620	0.1%	7,317	1.3%
7	474,491	275,963	58.2%	126,628	26.7%	42,663	9.0%	9,742	2.1%	12,440	2.6%	740	0.2%	6,315	1.3%
8	536,590	81,076	15.1%	408,385	76.1%	19,155	3.6%	3,619	0.7%	16,608	3.1%	717	0.1%	7,030	1.3%
9	549,718	123,390	22.4%	353,803	64.4%	25,721	4.7%	12,553	2.3%	23,400	4.3%	1,395	0.3%	9,456	1.7%

**Final Congressional Districts - Approved 1/17/12 - Compactness and Competitiveness Measures**

District	Compactness			Competitiveness Index 2			Competitiveness Index 3			Competitiveness Index 4			Competitiveness Index 5		
	Reock	Perimeter	Polsby-Popper	Ave. REP %	Ave. DEM %	Diff	Ave. REP %	Ave. DEM %	Diff	Ave. REP %	Ave. DEM %	Diff	Ave. REP %	Ave. DEM %	Diff
1	0.48	1842.90	0.20	50.0%	50.0%	0.0%	47.7%	52.3%	4.6%	51.9%	48.1%	3.8%	50.2%	49.8%	0.4%
2	0.52	449.85	0.49	50.6%	49.4%	1.2%	50.5%	49.5%	1.0%	52.7%	47.3%	5.4%	52.3%	47.7%	4.6%
3	0.27	869.92	0.26	39.3%	60.7%	21.4%	37.4%	62.6%	25.2%	42.6%	57.4%	14.8%	40.8%	59.2%	18.4%
4	0.39	1861.33	0.12	64.5%	35.5%	29.0%	64.3%	35.7%	28.6%	65.1%	34.9%	30.2%	64.9%	35.1%	29.8%
5	0.55	84.35	0.52	63.6%	36.4%	27.2%	64.5%	35.5%	29.0%	65.9%	34.1%	31.8%	66.0%	34.0%	32.0%
6	0.67	157.87	0.32	59.6%	40.4%	19.2%	60.6%	39.4%	21.2%	61.8%	38.2%	23.6%	61.9%	38.1%	23.8%
7	0.55	78.44	0.42	32.2%	67.8%	35.6%	31.0%	69.0%	38.0%	37.9%	62.1%	24.2%	36.0%	64.0%	28.0%
8	0.36	183.78	0.20	61.2%	38.8%	22.4%	61.3%	38.7%	22.6%	62.7%	37.3%	25.4%	62.5%	37.5%	25.0%
9	0.33	115.55	0.16	48.9%	51.1%	2.2%	49.8%	50.2%	0.4%	52.8%	47.2%	5.6%	52.5%	47.5%	5.0%

5644.00

District	Competitiveness Index 6			Competitiveness Index 7			Competitiveness Index 8			Competitiveness Index 9			All Registration			Reg 2-Way	
	Ave. REP %	Ave. DEM %	Diff	Ave. REP %	Ave. DEM %	Diff	Ave. REP %	Ave. DEM %	Diff	Ave. REP %	Ave. DEM %	Diff	% REP	% DEM	% OTH	% REP	% DEM
1	49.7%	50.3%	0.6%	48.4%	51.6%	3.2%	49.6%	50.4%	0.8%	48.0%	52.0%	4.0%	30.1%	39.6%	30.3%	43.2%	56.8%
2	50.3%	49.7%	0.6%	50.3%	49.7%	0.6%	50.2%	49.8%	0.4%	50.2%	49.8%	0.4%	34.7%	34.2%	31.1%	50.4%	49.6%
3	39.9%	60.1%	20.2%	38.7%	61.3%	22.6%	39.5%	60.5%	21.0%	38.0%	62.0%	24.0%	21.9%	43.2%	34.9%	33.6%	66.4%
4	63.8%	36.2%	27.6%	63.8%	36.2%	27.6%	63.9%	36.1%	27.8%	63.9%	36.1%	27.8%	41.5%	23.4%	35.1%	63.9%	36.1%
5	64.2%	35.8%	28.4%	64.6%	35.4%	29.2%	63.7%	36.3%	27.4%	64.4%	35.6%	28.8%	44.4%	22.3%	33.3%	66.6%	33.4%
6	59.8%	40.2%	19.6%	60.4%	39.6%	20.8%	59.5%	40.5%	19.0%	60.2%	39.8%	20.4%	41.3%	24.7%	34.0%	62.6%	37.4%
7	35.3%	64.7%	29.4%	34.0%	66.0%	32.0%	34.0%	66.0%	32.0%	32.7%	67.3%	34.6%	17.7%	44.2%	38.1%	28.6%	71.4%
8	61.1%	38.9%	22.2%	61.2%	38.8%	22.4%	60.8%	39.2%	21.6%	61.1%	38.9%	22.2%	41.4%	25.7%	33.0%	61.7%	38.3%
9	50.1%	49.9%	0.2%	50.4%	49.6%	0.8%	49.4%	50.6%	1.2%	50.0%	50.0%	0.0%	33.5%	31.3%	35.1%	51.7%	48.3%

Index 2: Average of 2008 and 2010, each year weighted equally

Index 3: Average of 2008, 2010 and % of major party Registration, each of the three components weighted equally

Index 4: Average of 2004, 2006, 2008 and 2010, each year weighted equally

Index 5: Average of 2004, 2006, 2008, 2010 and % of major party registration, each component weighted equally

Index 6: Average of 2004, 2006, 2008 and 2010, each year weighted equally, Races where one candidate received more than 60% of the 2-way vote removed

Index 7: Average of 2004, 2006, 2008, 2010, and major party registration, each year weighted equally, Races where one candidate received more than 60% removed

Index 8: 1/3 2010, 1/3 2008, and 1/6 2004, and 1/6 2006, Races where one candidate received more than 60% of the 2-way vote removed

Index 9: 1/4 2010, 1/4 2008, 1/8 2006, 1/8 2004, and 1/4 major party registration, Races where one candidate received more than 60% of the 2-way vote removed