

STATE OF NORTH CAROLINA
COUNTY OF WAKE

IN THE GENERAL COURT OF JUSTICE
SUPERIOR COURT DIVISION
21 CVS 015426

NORTH CAROLINA LEAGUE OF
CONSERVATION VOTERS, INC., et al.,

REBECCA HARPER, et al.,

COMMON CAUSE,

Plaintiffs,

v.

REPRESENTATIVE DESTIN HALL, in his
official capacity as Chair of the House Standing
Committee on Redistricting, et al.

Defendants.

AFFIDAVIT OF TYLER DAYE

I, Tyler Daye, swear under penalty of perjury that the following information is true to the best of my knowledge and state as follows:

Background and Experience

1. I am over the age of 18 years old and am competent to give this affidavit.
2. I work at Common Cause North Carolina, where I serve as the Redistricting Community Engagement Specialist. I started in this role in May 2021. Before starting at Common Cause, I worked extensively in different democracy advocacy organizations as a community advocate since graduating with a degree in Political Science and Sociology from the University of North Carolina at Greensboro in May 2017. I worked on a wide variety of issues in these roles, with a particular focus on redistricting.
3. In my work at Common Cause as the Redistricting Community Engagement Specialist, I have been responsible for working with other Common Cause staff to conduct redistricting outreach and education workshops to help community members participate in the redistricting process, as well as helping to monitor the North Carolina General Assembly's 2021 redistricting process. I also work to engage community groups and elected officials in the redistricting process, research and identify state-level trends in redistricting, and help coalition partners conduct their own trainings on the redistricting process.

4. I have completed several trainings on redistricting and using map-drawing applications. In May 2020, I attended the CROWD Academy Redistricting School, where I learned how to analyze and draw maps in Dave's Redistricting App (DRA),¹ a free online web application that allows anyone to simulate redistricting congressional and legislative districts.² This training was non-partisan and intended to educate members of the public about the redistricting process. This training taught me about the redistricting process and provided me with the technical skills necessary to understand how lines are drawn during redistricting. I also received training in June 2021 on using Districtr,³ another free, public web tool for districting and identifying communities of interest. This training was also non-partisan and geared toward teaching individuals how to identify and map communities of shared interest.

Redistricting Process in 2021

5. During the General Assembly's 2021 statewide redistricting process, I was part of the Common Cause team monitoring state legislative map drawing. I observed many hearings and meetings in person and by watching the General Assembly's live-stream and/or on the NCGA redistricting YouTube channel, where all of the live-streamed videos were uploaded afterwards. In particular, when the House and Senate redistricting committees first met in August 2021, I monitored the meetings and observed what was discussed while the committees determined the structure of this year's redistricting process. During the public hearings in September 2021, my colleagues at Common Cause and I live-streamed several of the hearings on Common Cause NC's Facebook page. We did this because the legislature did not offer live streams of the hearings held before the maps were drawn. Many people expressed appreciation to us for doing this. Recorded videos of the hearings were made available on the NCGA's redistricting YouTube channel only after the hearings had taken place. I attended the hearings held in Forsyth County on September 14, 2021, Durham County on September 15, 2021, and Alamance County on September 16, 2021. I spoke at the public hearing held in Alamance County, where I urged legislators to prioritize keeping communities together as they drew the maps. When legislators started drawing maps in October 2021, I closely monitored the redistricting live-streams made available on ncleg.gov and on the NCGA YouTube redistricting channel. During my observations of the live-streams and YouTube videos, I tracked the maps being drawn, who was drawing the maps, and the possible impacts of the maps on communities throughout the state to the best of my ability. I also worked to facilitate public education regarding the process.
6. On October 5, 2021, the House and Senate Chairs of the Redistricting Committees announced in their respective Committee meetings that they would be making computer stations available to legislators to draw maps starting the following morning, with four stations available to the House (in Room 643 of the Legislative Office Building) and the Senate (in Room 544 of the Legislative Office Building) each. These stations were open

¹ See Dave's Redistricting, <https://davesredistricting.org/maps#home> (last visited Dec. 22, 2021).

² I have observed that Dave's Redistricting App is one of the most used and well-known applications for redistricting that is publicly available and free. For example, I have read an excerpt of the hearing transcript from the November 30, 2021 hearing in the matter *N.C. NAACP v. Berger*, Case No. 21CVS014476 (Wake Cty Super. Ct) in which counsel for the Legislative Defendants acknowledged that census data is publicly available through Dave's Redistricting App and would be an acceptable resource for legislators.

³ Districtr.org, <https://districtr.org/> (last visited Dec. 22, 2021).

during business hours, and it was announced that the screens of the station computers and the overall rooms would be live-streamed while the stations were open.

7. I encountered several aspects of the Chairs' map-drawing process that made it very difficult for me and my colleagues at Common Cause to actually monitor that process.
8. First, there was no public announcement of how long the map-drawing process would extend for, so we did not know how long the live-streams would continue. Overall, from October 6 going forward, there were at least 10 streams (one for each station, and one of the whole room in each chamber) to monitor for approximately 40 hours per week, with no way to know exactly when legislators would decide to come draw maps. There was no notice as to when a legislator or legislators would physically be in the room drawing, just when the stations would be available generally.
9. At least one time (that I am aware of), legislators drew maps during times that were not properly noticed beforehand. On the morning of October 28, I checked the NCGA calendar and did not see a meeting scheduled for the Senate redistricting committee. I only saw a committee meeting scheduled in the House. Later in the evening of October 28, while looking at past video live-streams I came across a video labeled "2021-10-28 Map Drawing Station 04 (544)," available at https://youtu.be/ID_z9TjlXTQ?t=970. This video had been streamed earlier in the day from the Senate Committee map-drawing room at Station 4. The feed begins at timestamp 16:11 (1:34pm), indicating that, unlike other videos which generally extended 9:00 AM to 5:00 PM, the livestream of this station began around 1:19 PM and extended less than an hour and a half. At timestamp 16:56, Senator Hise directed the staff member who was assisting him to "switch the pods" for Senate Districts 1 and 3 in the map. Based on my monitoring of the process, I believe Senator Hise was referring to switching between the county grouping options for the northeast part of the state between the county groupings for "Z1" and "Y1" illustrated in Duke_Senate 03 to those illustrated in Duke_Senate 04.⁴ At timestamp 19:25, Senator Hise told the staff member, "We've not decided which will be filed but we want to be prepared to file either one." The next day, I checked the NCGA's legislative calendar again and it showed a Senate redistricting map drawing had been scheduled for 1:30 PM on October 28. I am not sure when exactly this was posted on the NCGA website, but I did not see it when I had checked earlier in the morning of October 28, 2021.
10. In addition to this issue, every terminal had long periods where no one was using it, but given the lack of any reliable means of knowing in advance when these periods of inactivity would occur or how long they would last, my colleague and I were forced to monitor all 10 video feeds simultaneously. Some days, while I watched the NCLEG live-stream and the NCGA YouTube channel, there were multiple people in the room, drawing for hours at a time; other days I saw virtually no use of the terminals. Given the sheer number of video feeds to monitor simultaneously, our team at Common Cause split up the task. I assumed primary responsibility for monitoring the Senate. I also spent time monitoring the House. Our team at Common Cause worked together to ensure coverage over both legislative chambers. We

⁴ Available at <https://www.ncleg.gov/documentsites/committees/Senate2021-154/2021/10-05-2021/Duke%20Senate%20Groupings%20Maps%2011x17.pdf#page=6>.

found it necessary to split up video monitoring in order to effectively monitor all 8 different map-drawing stations (4 in the House, 4 in the Senate) at which legislators could be drawing at any time. To keep track of who was drawing the districts, I usually kept two displays open: one showing the station camera (with just the screen of the map-drawing station) that I was focusing on, and the other to show the wide camera view of the room, allowing me to see the actual people who were standing at the map-drawing stations. I felt this was necessary because the NCLEG live-stream did not provide any close camera view of the people at each individual map-drawing station – or any other way to identify map-drawers. My use of dual displays also helped me keep track as legislators came and went out of the map-drawing room.

11. After extensive observation of the NCLEG live-stream and NCGA YouTube channel, I have identified the periods during which certain maps were drawn that were eventually enacted, as described below. This was incredibly time-consuming, as there are a total of 213 “map-drawing” videos posted on the ncleg.gov website,⁵ each with a varying amount of footage, but many of which contain eight hours or more. These are listed in **Exhibit A** to this affidavit. Overall, the amount of time and number of livestreams that our Common Cause team had to monitor felt overwhelming given how unpredictable it was to know when a map would be drawn.
12. Second, in addition to the sheer volume and unpredictable nature of the Chairs’ map-drawing process, it was very difficult to know *who* was engaged in drawing maps and whether the maps they were working on would end up being proposed or enacted. In the House, it was difficult to see on the NCLEG live-stream which legislators were drawing the districts because the camera in the map-drawing room was physically placed so far back from where the legislators were drawing. While I watched the live-stream in both the House and Senate chambers, there was no information posted about who was drawing the districts. While legislators do have public profiles available with their picture, they often brought other, similarly unidentified, individuals to work with them, without publicly disclosing the identities of these individuals. Relying on legislators’ public profiles as a resource did allow me to identify the legislators I saw on the livestreams, but I was unable to identify other individuals accompanying them.
13. For example, I watched the NCLEG live-stream of an October 7, 2021 map-drawing session in the Senate, and observed Senator Newton (seated in the below screen shot, wearing a white shirt) sitting with an individual (seated on the far left, wearing a beige jacket) who I observed assisting him in drawing the Senate map that would eventually be enacted.

⁵ N.C. Gen. Assembly, <https://ncleg.gov/Documents/493#Video> (last visited Dec. 22, 2021).

14. Below is the relevant portion of the livestream video “2021-10-07 Redistricting Map Drawing (Senate),” available at https://www.youtube.com/watch?v=1_Re6_J1g8Q, at timestamp 1:50:29 of the video. I have been unable to identify this individual using the public information on the NCLEG website.



15. When I watched the NCLEG live-stream, I observed this unidentified person and others frequently accompanying legislators to draw maps in the House and Senate rooms and consulting with them, without the public knowing who they are. Another example from a House drawing session is described below in Paragraph 53. Some of these issues could have been resolved easily, for example if mapmakers had been required to sign-up publicly or at least announce who they were and what they were working on before they started drawing, or even if forward-facing cameras had been mounted on the computer monitors. None of these steps were taken, even though I am aware that Common Cause and other advocacy groups asked specifically for this type of transparency early on in the process.
16. Third, I watched the NCLEG live-stream and observed legislators and individuals accompanying them bring papers and communications devices, such as cell phones, with them during the process. There was no way for those of us trying to monitor the process to know what those papers were, what map-drawers were looking at on their phones, or who they might be communicating with while they were drawing. If, for example, map-drawers were communicating on their phones with others watching the livestream and were receiving feedback or additional information during the process from others, there would be no way for the public to know about that, much less know what was being communicated. Given that the Chairs’ expressly prohibited the use of racial data and chose to exclude it from the data made available at map-drawing stations, I believe the public had an interest in knowing whether any such data was being accessed by legislators who brought additional materials and communication devices with them to the map-drawing stations. Unfortunately, the Chairs chose not to monitor this themselves and provided no means by which we could take it upon ourselves to do so on behalf of the public.

17. An example of this issue is shown below, where I observed that Senator Newton had brought with him papers that he referenced when drawing the Senate enacted map, in the video “2021-10-07 Redistricting Map Drawing (Senate)” at timestamp 1:44:47 of the video, available at https://www.youtube.com/watch?v=1_Re6_Jlg8Q. The relevant portion of the video feed is shown below:



18. While I watched the same video, I observed Senator Hise come into the room to continue drawing the Senate map that Senator Daniel started. During this time, I observed the unidentified individual he was with was looking at his phone and assisting Senator Hise. I believe that this was the same unidentified individual who assisted Senator Newton on October 7. The below is the relevant portion from the video feed of the video “2021-10-07 Redistricting Map Drawing (Senate),” at timestamp 5:35:18 of the video, available at the same link as above:



19. As a member of the public, I do not know who this individual was or what communications he was having while helping to draw maps.

20. The fourth challenge presented by the Chairs' process was that the audio on the live streams was very low quality; at times while I was watching the live-streams, it was difficult for me to understand what was being said. To follow the conversation, I often had to turn the volume up on my computer or TV to a high level. Although YouTube offers the ability to allow viewers to access an automatically generated transcript of a video, this feature was not made available for recordings at the map-drawing stations.
21. Fifth, while I watched the NCLEG live-streams, I also saw legislators ask for print-outs of draft maps which they would take out of the room, and there was of course no way of knowing how those print-outs were used or what type of analysis of those printouts might be happening out of the public view. It is hard for me to understand why printouts would have been necessary unless legislators were conducting analysis and consideration of the draft maps outside of the public view and behind closed doors.
22. For example, on October 8, 2021, an aide asked legislative staff member Erika Churchill for a printout of the Senate map that the Senate Co-Chairs had been working on (called "SBR-3 at the time"). I observed this aide specifically ask for "county-level printouts so we can see the precinct numbers in a few counties" and the ability to see "precinct lines and names potentially?" for several areas. The audio of this is available in the video "2021-10-08 Map Drawing Station 04 (544)" at timestamp 2:30:57, available at https://www.youtube.com/watch?v=2dL4wM6O_vA. The visual of this is in the video "2021-10-08 Redistricting Map Drawing (Senate)" at timestamp 2:43:16, available at <https://www.youtube.com/watch?v=mMXPG3PuxPs>. Based upon my map-drawing knowledge gained from the trainings I have completed and observations of the 2021 map-drawing process, the level of detail on those map printouts would allow map-drawers to re-draw the maps outside of the room, which would enable them to conduct analysis using data not available on the House and Senate station computers (and specifically election and racial data that were not on these computers).
23. When Senator Newton came back to work on the same map on October 11, 2021, I observed him and his aide walk into the room with a large volume of papers, which they used during the map-drawing. Below is the relevant portion of the video feed where I observed this from the video "2021-10-11 Redistricting Map Drawing (Senate)" at timestamp 5:05:22, available at <https://www.youtube.com/watch?v=kZkD7shJmnA>.



24. While watching the NCLEG live-streams and the NCGA YouTube videos, I observed similar instances of aides and staff members printing and taking papers outside of the room during the drawing in the House as well.
25. Overall, I observed issues raising a lack of transparency consistently throughout the map-drawing process in both the House and Senate rooms.

Sequence of Drawing Senate Districts

26. I spent several days closely monitoring the Senate Co-Chairs' Senate plan, which I observed being drafted on Senate Station 4 at the far side of the Senate drafting room and to the left of the room camera. I monitored the start and end times of their sessions and which county cluster or area of the map they worked on, as well as which Senators worked on the map during each session. I also monitored the changes in the plan's name. The name of the plan changed every time a new staff person assisted the Senators in drawing the plans (this was also true for Congressional plans and House plans). I closely monitored all of these details in order to compile a summary timeline of the drawing of a single Senate map.⁶
27. It was really only possible to compile a timeline of the drawing of a single map by closely monitoring the name of the plan during each session, since there was no public disclosure of map drafts or who was working on a particular version or map at a particular station or time. I compiled all of the plans by watching the parts of the video where a new staff member happened to take over for a prior one (or a new session started) and the map was re-named. As far as I am aware, the system for naming different map drafts was not published anywhere. Monitoring this process took a great deal of time and attention to detail.
28. The sub-sections below include a description with screen shots from the video that I watched of Senate Station 4 during various sessions in which legislators were drawing what would eventually become the proposed Senate map. I have confirmed that this eventually became the enacted Senate map by following the draft map titles over the weeks of drafting in October and by combing through dozens of hours of video of both the Senate Station 4 feed and the Senate room feed. These sequences were not published anywhere publicly for the Senate (or any other) map as far as I am aware. Overall, I observed the following by watching the NCGA redistricting YouTube videos:
 - a. On October 7, Senators Newton and Hise alternated working with an unidentified man to draw draft maps starting with SCC-1 and ending with SBR-3.⁷
 - b. On October 8, 2021, an unidentified aide requested detailed printouts of 8 different counties in SBR-3as described above, including Mecklenburg County and Wake County.

⁶ This process can be seen on October 7, in the video "2021-10-07 Map Drawing Station 04," at timestamp 2:19:19, available at <https://www.youtube.com/watch?v=6CVbWSWL-I>. Whenever a staff person assisted Senators in drawing the Senate plan, they would find the most recent version of the plan, copy it, rename it, and begin making changes.

⁷ The version sequence on October 7, 2021 is as follows: SCC-1 → SCC-2 → SCG-1 → SCG-2 → SMT-3 → SBR-3.

- c. On October 11-14, 2021, Senators Newton and Hise alternated working with an unidentified aide at Senate Station 4 on the draft map starting with version SBR-3 and ending with SST-4.⁸
 - d. On October 14, 2021, a statistical “stat pack” for SST-4 was generated,⁹ and the map was printed and posted on the NCGA website on or around October 18, 2021.¹⁰
 - e. On October 27-28, 2021, Senators Hise and Newton and an unidentified man began work at Senate Station 4 starting with version SST-4 and ending with SST-13,¹¹ which was filed as SB739 on October 28, 2021.¹² After it was amended in Committee on November 2, 2021, the map name was changed yet again, this time to SBK-7.¹³
29. Using Dave’s Redistricting App (DRA), I have overlaid DRA’s election and racial data on the draft districts displayed in the NCGA’s public process at the time stamps indicated below. I did this by inputting information about each step the legislative map-drawers made on the map-drawing terminals in DRA, with election and racial data visible in the manner displayed in the screenshots below. All DRA data information can be found at <https://davesredistricting.org/maps#aboutdata> and is appended to this Affidavit as **Exhibit B**. DRA’ demographic (including race) data is from the 2020 Census. DRA combines recent election data (from elections listed in Exhibit B) into a composite score that averages those election results to give a composite partisan performance/“partisan lean” for each precinct.¹⁴

Mecklenburg/Iredell Senate Cluster

30. I watched the NCGA YouTube video from the October 7, 2021 live-stream, where I observed Senator Newton and an unidentified aide draw the six districts within the Mecklenburg/Iredell Senate cluster. This is visible in the video “2021-10-07 Map Drawing Station 04 (544)” at timestamp 2:28:00, available at <https://www.youtube.com/watch?v=6CVbWSWL-I>.

⁸ The version sequence on October 11-14, 2021 is as follows: SBR-3 → SCG-3 → SCG-4 → STU-2 → SST-1 → SST-2 → SST-3 → SST-4.

⁹ See <https://ncleg.gov/documents/sites/committees/Senate2021-154/2021/Member%20Submitted%20Maps/SST-4/SST-4%20-%20StatPack.pdf> (“modified 10/14/2021 1:10 PM”)

¹⁰ See https://ncleg.gov/documents/sites/committees/Senate2021-154/2021/Member%20Submitted%20Maps/SST-4/SST-4_19x36.pdf (“NC General Assembly, October 18, 2021”)

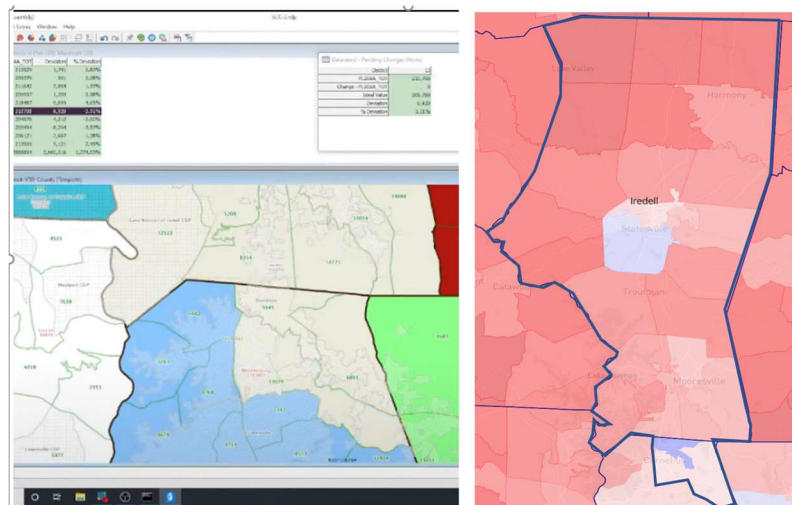
¹¹ The version sequence on October 27-28, 2021, is as follows: SST-4 → SST-11 → SCH-3 → SST-13

¹² See <https://ncleg.gov/BillLookUp/2021/S739>.

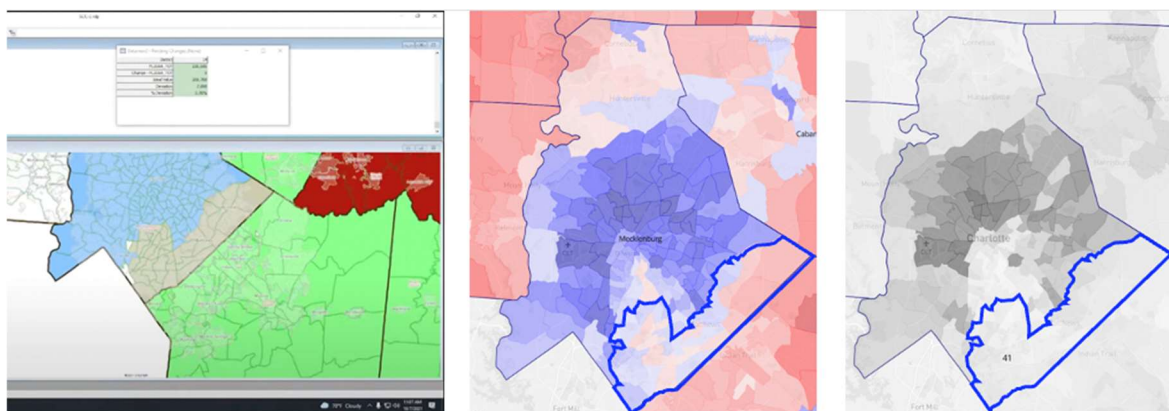
¹³ <https://webservices.ncleg.gov/ViewBillDocument/2021/53320/0/S739-PCS15347-ST-38>

¹⁴ According to DRA, the election composite “gives a measure of partisanship over different contests and years, which we prefer, because individual elections can be skewed by various factors. We use the latest available elections, and those not available are simply left out. We also exclude uncontested elections and those that have a significant third-party vote percentage (usually > 10%). The formula is the following: Composite = Mean(Pres, Sen, GovAg), where Pres = Mean(1 or 2 Presidential elections), Sen = Mean(1 or 2 Senate elections) and GovAg = Mean(Governor and Attorney General elections).” See Exhibit B.

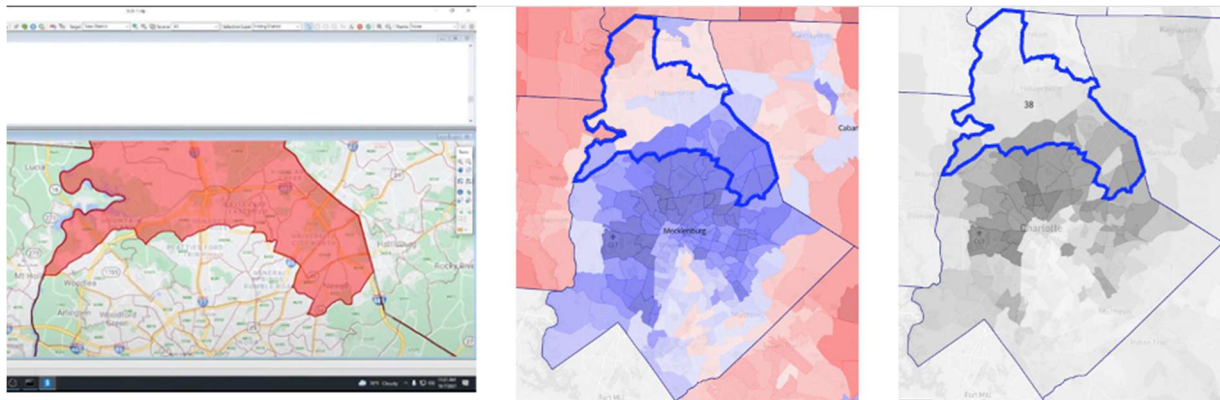
31. At timestamp 2:30:09, I observed Senator Newton and an unidentified aide begin with selecting Iredell County in its entirety. Then I observed them include portions of the northern part of Mecklenburg.
32. Below is the first completed draft district in this cluster, visible at timestamp 2:30:09 (left), as well as a DRA overlay of this figure with partisan lean color-coding by VTD (Voter Tabulation District)/Precinct, where the blue indicates Democratic-leaning and red indicates Republican-leaning areas. These screenshots show that the portion of Mecklenburg County paired with Iredell captures a Democratic area on the border between the two counties.



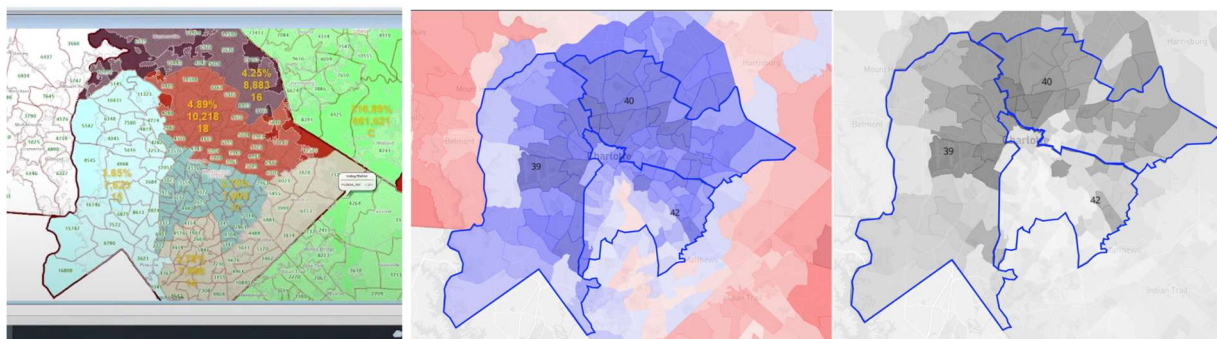
33. Instead of continuing in the northern area of Mecklenburg County adjacent to this first draft district, I observed Senator Newton and the unidentified man next draw a district on the southernmost area of Mecklenburg County. Specifically, at timestamp 2:39:30, I observed Senator Newton and the unidentified man do this by first grouping together areas with relatively low Democratic partisan lean and low Black Voting Age Population (BVAP) areas.
34. A view of this completed second district is visible at timestamp 2:39:30 (left). Below is also the DRA overlay with partisan color coding (center) as well as a DRA overlay with color-coding for Black Voting Age Population (BVAP), in which darker colors indicating higher BVAPs (right):



35. I then observed Senator Newton and the unidentified man go back to the northern part of Mecklenburg County and draw another district to ensure they kept the remaining Republican-leaning and white areas together. Due to population equality requirements, this district had to take in some of northeastern Charlotte. This sequence is visible at timestamp 2:52:48:



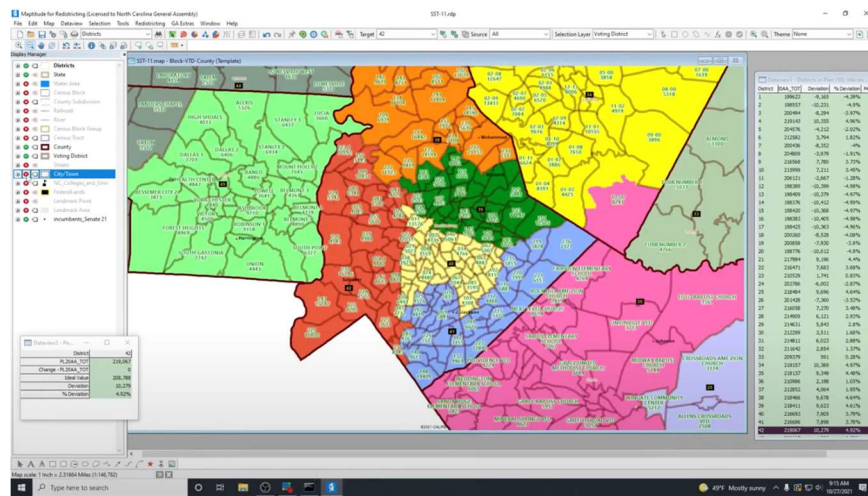
36. I then observed Senator Newton and the unidentified man complete the remaining three districts using the remaining heavily Democratic and non-white districts, and a view of this can be seen at timestamp 3:09:35 (left) with the partisan (center) and BVAP (right) color-coded overlays below:



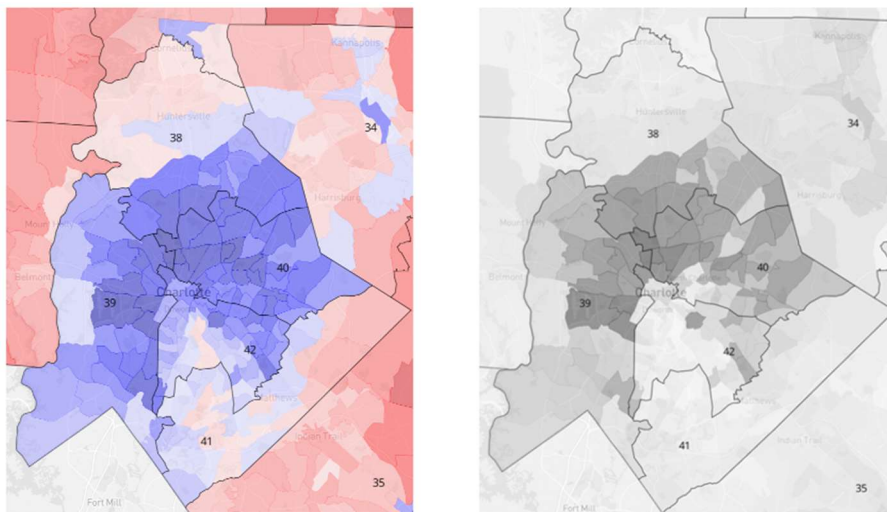
37. On October 27, 2021, I observed Senator Daniel and an unidentified man return to make modifications to the draft districts in Mecklenburg/Iredell at Senate Station 4.¹⁵
38. In the video, I observed Senator Daniel and the unidentified man discuss reducing “splits” throughout the map, including municipality splits. However, I observed that their edits retained the overall shape of the map that was completed on October 7, 2021. The video “2021-10-27 Map Drawing Station 04 (544)” shows these changes at timestamp 46:32, and is available at <https://www.youtube.com/watch?v=DARoI9MG3p8>.

¹⁵ This is visible in the video “2021-10-27 Redistricting Map Drawing (Senate)” at timestamp 54:00, available at <https://www.youtube.com/watch?v=A44AbmkAkrq>.

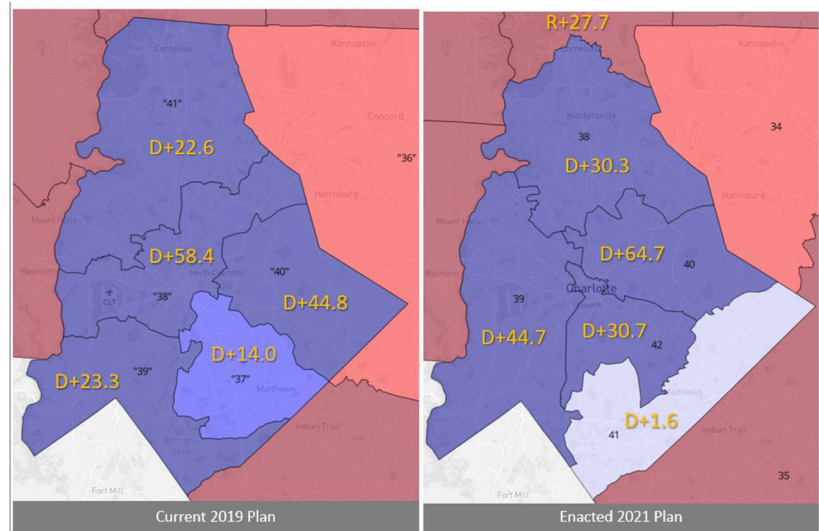
39. A wide view of the overall county near completion is available at timestamp 54:40 and shown below:



40. The below figures show the 2021 enacted Senate plan in this cluster with DRA's partisan (left) and BVAP (right) color coding visible:



41. The below figures show the 2019 and 2021 enacted plans with the DRA partisan lean for each district overall visible, with the “D+##” indicating the percentage lean of the district using the DRA election composite described above. For example, District 41 in the 2021 enacted plan has an estimated Democratic vote share of 49.5% and an estimated Republican vote share of 47.9%. Therefore, the Democratic lean of the district is 1.6%, and it is displayed as D+1.6:

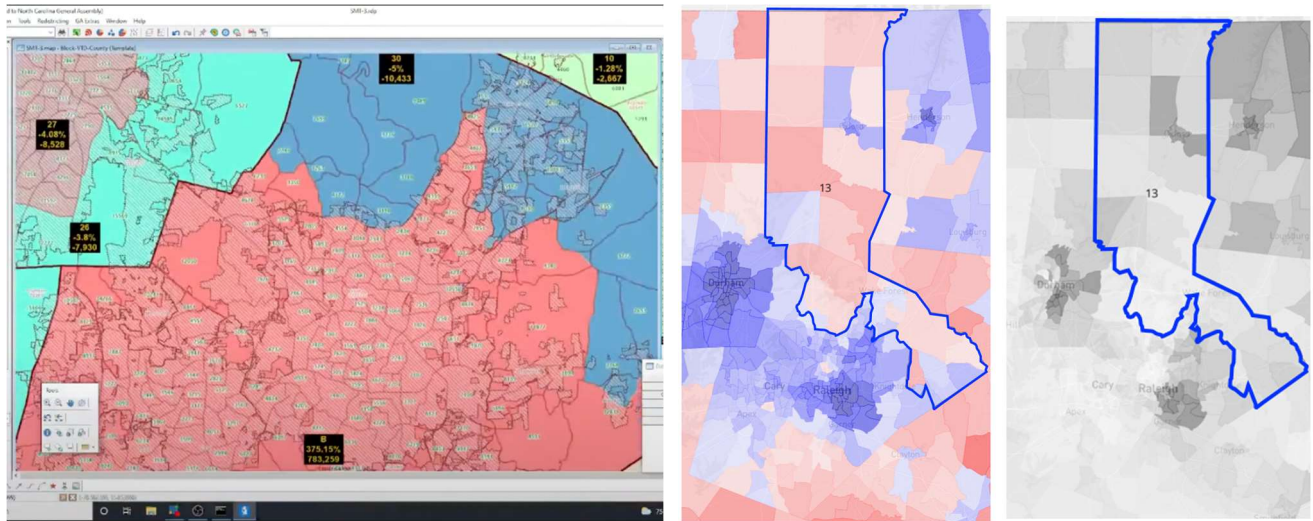


Wake/Granville Senate Cluster

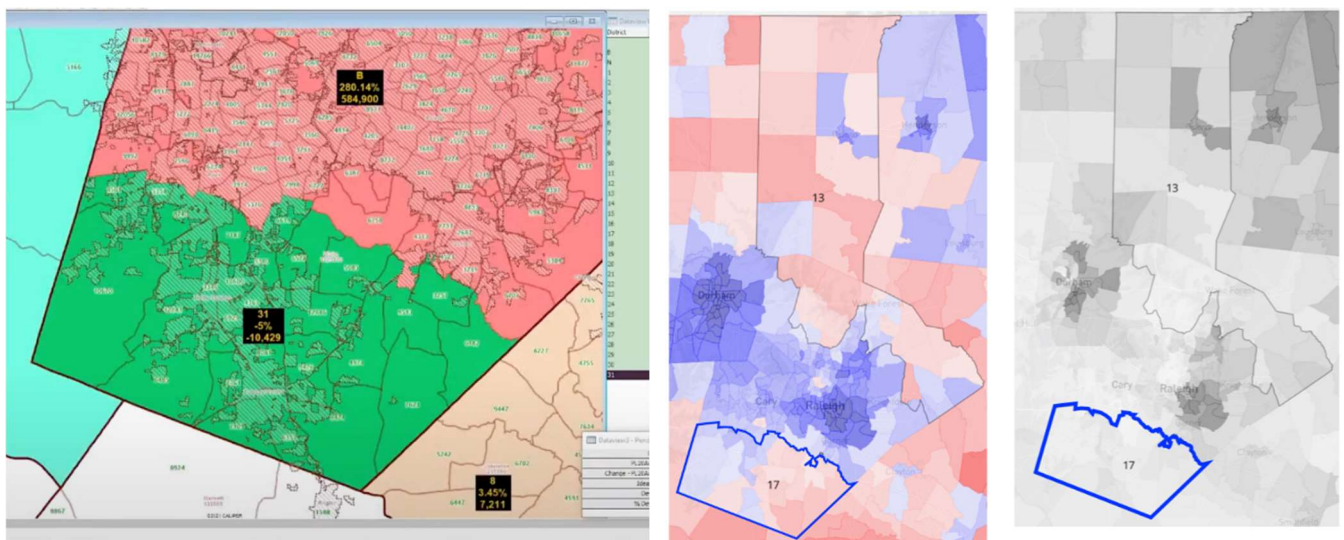
42. While watching the NCGA YouTube video from the October 7, 2021 live-stream, I observed Senator Hise and an unidentified aide follow a similar process when drawing six districts in the Wake/Granville Cluster.¹⁶ They began drawing on Station 4 on October 7, 2021. This is visible in the video “2021-10-07 Map Drawing Station 04 (544)” at timestamp 6:00:15, available at <https://www.youtube.com/watch?v=6CVbWSWL-I>.
43. Like in the Mecklenburg/Iredell cluster, I observed Senator Hise and the unidentified aide begin with the northern rural whole county of Granville, and then add in the part of northern Wake County with a greater Republican partisan lean and lower non-white population.

¹⁶ The video “2021-10-07 Redistricting Map Drawing (Senate)” displays Senator Hise and the unidentified aide working on Station 4 at approximately timestamp 6:00:24, available at https://www.youtube.com/watch?v=1_Re6_J1g8Q. The station feeds and room feed do not always line up exactly because the video streams were live for different lengths of time. This was yet another difficulty with trying to confirm which legislators were working on what maps, and at which times.

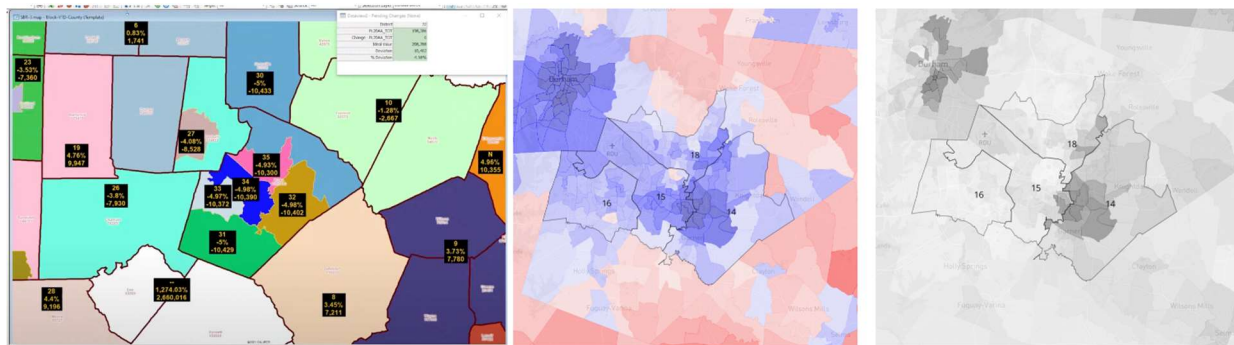
44. This detailed first draft district can be viewed at timestamp 6:13:18 (left), with the DRA partisan lean (center) and BVAP (right) overlays of the entire district below:



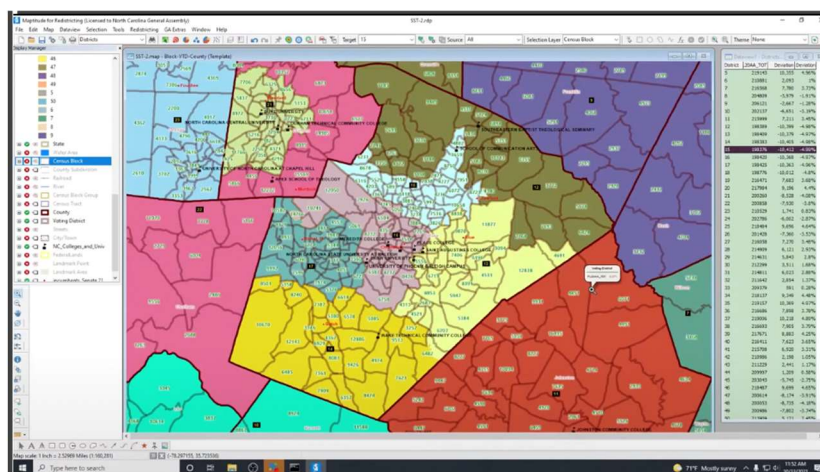
45. After forming this northern district, I observed that the map drawers did not continue to draw within adjacent areas. Instead, I observed that they started from the southernmost part of Wake County to draw another district formed of relatively low Democratic partisan lean and non-BVAP populations.
46. A detailed view of this second draft district can be seen at timestamp 6:20:54 below (left) with the DRA overlay showing partisan lean (center) and BVAP (right) color-coding below:



47. Then, I observed the map drawers proceed to draw four districts from the remaining heavily Democratic partisan lean areas in the middle of Wake County. A view of the completed draft districts can be seen at timestamp 7:02:27 (left), with the partisan lean (center) and BVAP color coding visible (right):



48. When watching the NCGA YouTube video from the October 13, 2021 live-stream,¹⁷ I observed Senator Newton and an unidentified man working at Station 4 make some modifications to these districts but retain their overall core locations.¹⁸ These modifications can be seen in the video “2021-10-14 Map Drawing Station 04 (544)” at timestamp 2:41:25, available at <https://www.youtube.com/watch?v=OW8o8P8OLhs>. A screen shot of the draft districts when they finished working on October 13, 2021 can be seen at timestamp 3:33:16 of this video:

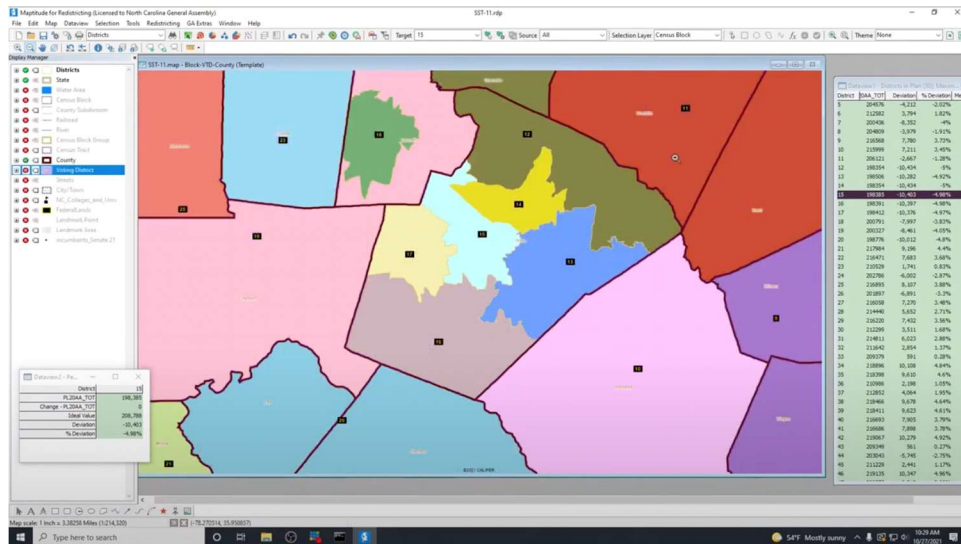


49. While watching the NCGA YouTube video from the October 27, 2021 live-stream, I observed Senator Daniel and an unidentified aide make additional small changes to the maps,

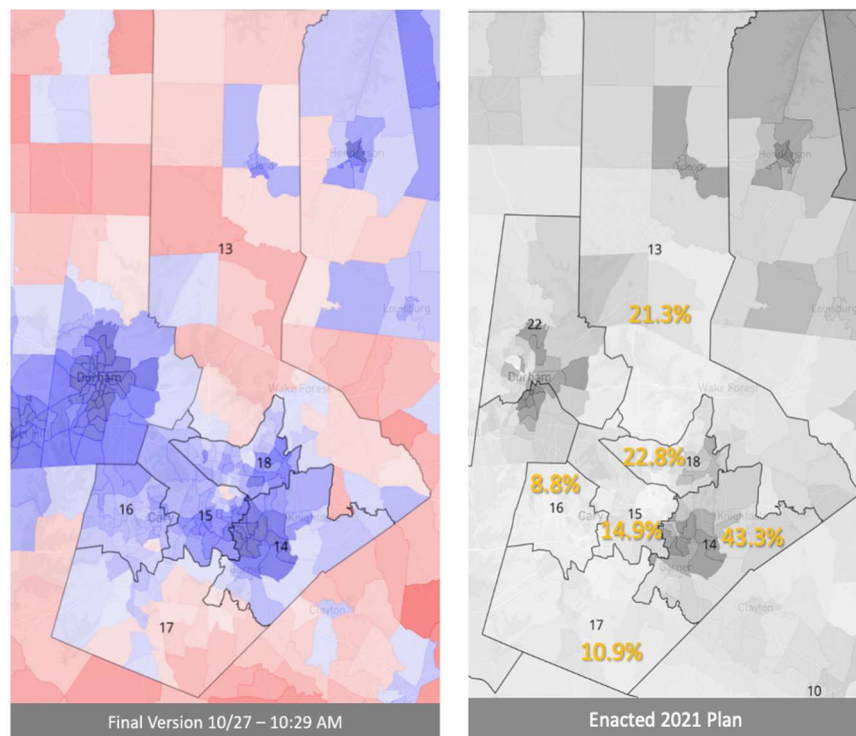
¹⁷ I believe that the videos for October 13 are mislabeled on YouTube as duplicate October 14 videos. The ncleg.gov website links for the October 13 videos links to a set of videos labeled as October 14, but which show different recordings than the second set of October 14 videos (which are properly labeled on both ncleg.gov and YouTube).

¹⁸ The video “2021-10-14 Redistricting Map Drawing (Senate)” available at <https://www.youtube.com/watch?v=gpkla8tOka4> (on information and belief, I believe this was mislabeled on YouTube as a duplicate 10/14 entry rather than 10/13) displays Senator Newton and the unidentified aide at approximately timestamp 2:42:02.

including in Wake County.¹⁹ A wide view of the finished Wake County districts can be seen in the video “2021-10-27 Map Drawing Station 04 (544)” at timestamp 2:09:01, available at <https://www.youtube.com/watch?v=DARoI9MG3p8>:

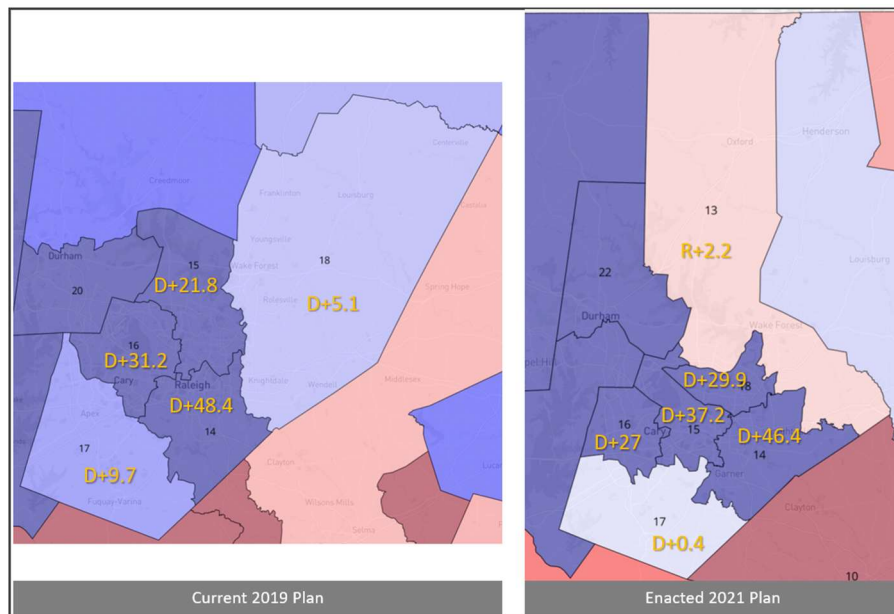


50. The below shows the 2021 enacted Senate plan in this cluster with DRA’s partisan and BVAP color coding visible:



¹⁹ The video “2021-10-27 Redistricting Map Drawing (Senate),” available at <https://www.youtube.com/watch?v=A44AbmkAkrg>, displays Senator Daniel and the unidentified aide at approximately timestamp 1:54:00.

51. The below figures show the 2019 and 2021 enacted plans with the DRA partisan lean for each district overall visible. The partisan lean for each district accurately reflects the values generated by the DRA election composite described above:

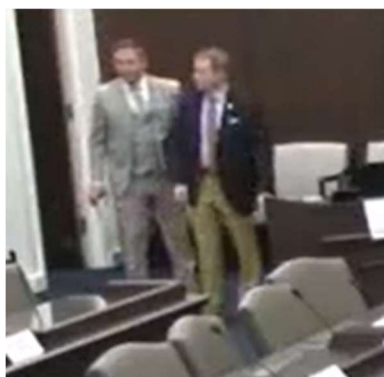


Sequence of Drawing House Districts

52. I have also reviewed sequences of how the House map was drawn using the process described above for the state Senate map, and below is a similar description with screen shots provided in the same manner as used above for the state Senate map of certain areas.

Buncombe County House Districts

53. While watching the NCGA YouTube video from the October 14, 2021 live-stream, I observed Representative Hall and an unidentified man begin drawing House districts at House Station 1. I observed them walking into the room in the video “2021-10-14 Redistricting Map Drawing (House)” at timestamp 2:18:43, available at <https://www.youtube.com/watch?v=os7hNbXoBmE>. A screenshot of the relevant portion of the video feed is shown below:



54. During their time drawing at House Station 1 on October 14, 2021, I observed Representative Hall and the unidentified aide using their phones while at the map-drawing station. This can be seen at timestamp 2:20:50, and the screen shot of this portion of the video feed is below. It is impossible for me to tell from any of the publicly available feeds whom they may be communicating with while drawing the maps.



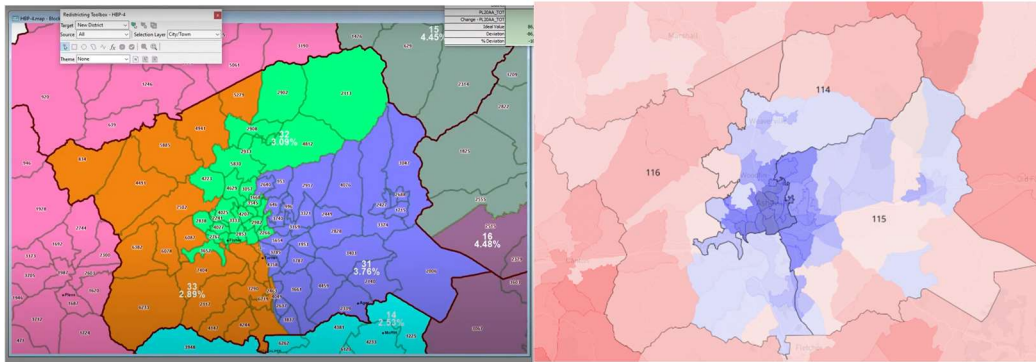
55. I observed Representative Hall and the unidentified aide begin drawing the three House districts within Buncombe County in the video “2021-10-14 Map Drawing Station 01 (643)” at timestamp 2:51:02, available at <https://www.youtube.com/watch?v=XEsgnuK3YUU>. I observed them finish a version titled HAS-1. A screen shot of the initial draft districts are visible below from timestamp 3:03:27 (left) with the DRA overlay showing partisan lean (right):
56. At this time, I observed Representative Hall ask staff for a print-out of the Buncombe cluster along with the previous cluster they were working on. I observed the staff member proceed to print out a copy of the newly drawn districts in the Buncombe cluster with population numbers labeled for each precinct, and provide it to the individual assisting Representative Hall (who I observed had left the room).
57. While watching the NCGA YouTube video from the October 18, 2021, I observed a man I believe to be Representative Hall and another unidentified man begin to work in House Station 3 and revisit the Buncombe County House districts, stating a desire to “make these districts more compact.” This is audible in the video “2021-10-18 Map Drawing Station 03 (643)” at timestamp 7:53:30, available at <https://www.youtube.com/watch?v=j1zeRpCwCes>. In my observations of the video, I am unable to confirm their identities definitively because I am unable to see who is sitting at House Station 3 (on the far right), but I recognize Representative Hall’s voice from other recordings and believe I observed him make this statement.

58. A screen shot from shortly after they sat down at the station camera is below from the video “2021-10-18 Redistricting Map Drawing (House)” at timestamp 8:10:59, available at https://www.youtube.com/watch?v=5f_3wg3jg0k:

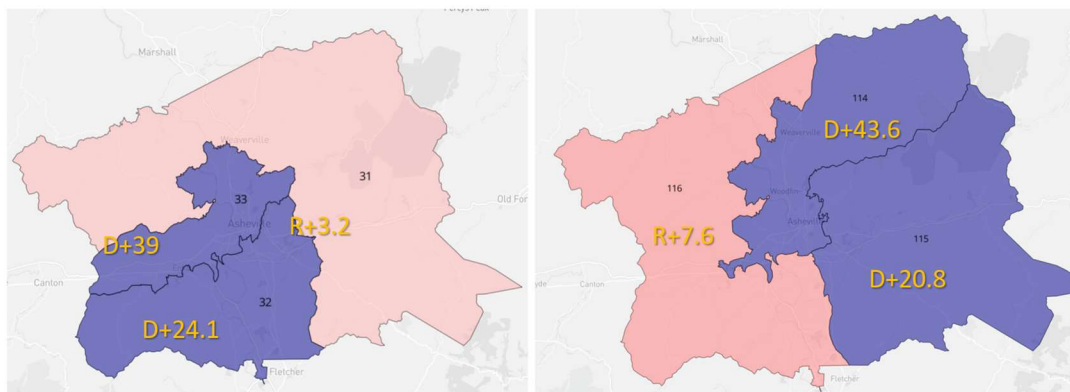


59. I then observed who I believe to be Representative Hall and another unidentified man, after reviewing the draft House districts in Buncombe County, decide to discard the entire draft and start drafting anew. I observed this happen in the video “2021-10-14 Map Drawing Station 01 (643)” from timestamps 7:53:21 to 8:01:00, available at <https://www.youtube.com/watch?v=XEsgnuK3YUU>.
60. Later, when they started again with this county, I observed Representative Hall and the unidentified man begin by first drawing a House district in the southeastern portion of Buncombe County, then moving to a second district encompassing areas of Asheville and running to the northeastern corner of Buncombe County, leaving a third district of the remaining unassigned areas in Buncombe County, wrapping from the area north of Asheville, around the city to the west, and around Asheville again to the south. After minor modifications, I observed them finish.
61. A view of the finalized districts is visible at timestamp 8:11:00 (left), and my DRA overlay with partisan lean is included below (right) as well. Again, I observed Representative Hall

and the unidentified man immediately ask for detailed printouts of this county, with VTD data visible.



62. Below is a comparison of the partisan lean (explanation of D+ numbers) on the DRA overlays of the Buncombe House districts drawn and abandoned by the legislature on October 14, 2021 (left) and the enacted Buncombe House districts drawn by the legislature on October 18, 2021 (right):



Public Posting of Member Submitted Maps

63. On or around October 18, I observed “Member Submitted Maps” begin to be posted on the redistricting website, <https://ncleg.gov/Redistricting>. When I viewed these “Member Submitted Maps,” there was no information on the face of these documents about who had worked on these maps, when they had been worked on, what the goals or priorities of these maps reflected, nor even when or if they would be submitted for consideration.
64. However, not all maps that were considered or even enacted were posted beforehand. Based on my review of the website, the House map debated by the House Redistricting Committee during the meeting on November 1, 2021, titled “HBK-12”, was not posted with the other Member Submitted Maps in the House. When the proposed bill, House Bill 976, was first filed, I observed that it was filed without any district lines specified at all, which made it difficult for me to find the proposed map. I checked the Member Submitted Maps page multiple times and never saw it. Instead, I eventually found it posted on a different page entirely, inside a folder on the House Redistricting Committee’s page entitled “11-01-21 2nd”. The folder can be found at

<https://www.ncleg.gov/Committees/CommitteeInfo/HouseStanding/182#2021\11-01-21%202nd>.

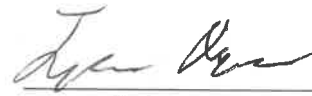
Public Comments

65. During the 2021 redistricting process, I reviewed a substantial number of the public comments submitted online or given during the public hearings. I counted more than three dozen comments which asked legislators to keep the Triad or at least Guilford County in one Congressional district. Other comments that I reviewed included several people explaining the deep ties between the cities of Greensboro, High Point and Winston-Salem. I also read comments where many people talked about how Guilford County had been split in previous Congressional plans and how it negatively impacted their ability to be represented.
66. The final enacted map adopted during this redistricting cycle splits Guilford County into three Congressional districts. This map also places Winston-Salem and High Point in separate districts and splits Greensboro between three districts. When asked during a Senate Redistricting Committee meeting on November 1, 2021 if he believed people in Greensboro and High Point shared a common interest, I observed Senator Daniel – one of the Senate Redistricting Co-Chairs who helped draw the map – respond that he did not know.²⁰
67. I can also say, as a lifelong resident of Guilford County and a member of the League of Women Voters of the Piedmont Triad, many people in the Triad are displeased with how Guilford County was split in the final version of the Congressional map. For years, Guilford County and Greensboro have been split in Congressional plans. The plan enacted in 2019 kept Guilford County in one Congressional district for the first time in my life. I believe this issue goes to the heart of what redistricting is all about: creating districts so that communities can be represented. I expressed this in public comments I gave at the NCGA redistricting public hearing held earlier this year in Alamance County.

²⁰ See video titled “2021-11-01 Committee (Senate)” starting timestamp 1:04:10, available at <https://www.youtube.com/watch?app=desktop&t=3848&v=KgSkfFY7r7g&feature=youtu.be>.

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

Executed on December 23, 2021.



Tyler Daye

Sworn and subscribed before me this 23rd day of December, 2021.



Notary Public

Name: Talia Ray

My commission expires: 11/6/2024



DAYE AFFIDAVIT - EXHIBIT A:

List of Video Files referencing “Map Drawing” on <https://ncleg.gov/Documents/493#Video>:

1. 2021-10-06_544_Map_Drawing-Station_01
2. 2021-10-06_544_Map_Drawing-Station_03
3. 2021-10-06_544_Map_Drawing-Station_04
4. 2021-10-06_544_Map_Drawing-Station_02
5. 2021-10-06_643_Map_Drawing_Station_01
6. 2021-10-06_643_Map_Drawing_Station_02
7. 2021-10-06_643_Map_Drawing_Station_03
8. 2021-10-06_643_Map_Drawing_Station_04
9. 2021-10-06_House_Redistricting_Map_Drawing
10. 2021-10-06_Senate_Redistricting_Map_Drawing
11. 2021-10-07_544_Map_Drawing_Station_01
12. 2021-10-07_544_Map_Drawing_Station_02
13. 2021-10-07_544_Map_Drawing_Station_03
14. 2021-10-07_544_Map_Drawing_Station_04
15. 2021-10-07_643_Map_Drawing_Station_01
16. 2021-10-07_643_Map_Drawing_Station_02
17. 2021-10-07_643_Map_Drawing_Station_03
18. 2021-10-07_643_Map_Drawing_Station_04
19. 2021-10-07_Redistricting-Map-Drawing_House
20. 2021-10-07_Redistricting-Map-Drawing_Senate
21. 2021-10-08_544_Map_Drawing_Station_01
22. 2021-10-08_544_Map_Drawing_Station_02
23. 2021-10-08_544_Map_Drawing_Station_03
24. 2021-10-08_544_Map_Drawing_Station_04
25. 2021-10-08_643_Map_Drawing_Station_01
26. 2021-10-08_643_Map_Drawing_Station_02
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28. 2021-10-08_643_Map_Drawing_Station_04
29. 2021-10-08_House_Redistricting_Map_Drawing
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44. 2021-10-12_544_Map_Drawing_Station_04
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47. 2021-10-12_643_Map_Drawing_Station_03
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107.	2021-10-20_643_Map_Drawing_Station_03	163.	2021-10-28_643_Map_Drawing_Station_02
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110.	2021-10-20_Senate_Redistricting_Map_Drawing	166.	2021-10-28_House_Redistricting_Map_Drawing
111.	2021-10-21_544_Map_Drawing_Station_01	167.	2021-10-28_Senate_Redistricting_Map_Drawing
112.	2021-10-21_544_Map_Drawing_Station_02	168.	2021-10-29_544_Map_Drawing_Station_01
113.	2021-10-21_544_Map_Drawing_Station_03	169.	2021-10-29_544_Map_Drawing_Station_02
114.	2021-10-21_544_Map_Drawing_Station_04	170.	2021-10-29_544_Map_Drawing_Station_03
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116.	2021-10-21_643_Map_Drawing_Station_02	172.	2021-10-29_643_Map_Drawing_Station_01
117.	2021-10-21_643_Map_Drawing_Station_03	173.	2021-10-29_643_Map_Drawing_Station_02
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131.	2021-10-25_643_Map_Drawing_Station_02	187.	2021-11-01_643_Map_Drawing_Station_01
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135.	2021-10-25_Public-Hearing-Remote_Joint	191.	2021-11-01_House_Redistricting_Map_Drawing
136.	2021-10-25_Public-Hearing-Virtual_Joint	192.	2021-11-01_Senate_Redistricting_Map_Drawing
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143.	2021-10-26_643_Map_Drawing_Station_02	199.	2021-11-02_643_Map_Drawing_Station_02
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145.	2021-10-26_643_Map_Drawing_Station_04	201.	2021-11-02_643_Map_Drawing_Station_04
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148.	2021-10-27_544_Map_Drawing_Station_01	204.	2021-11-03_643_Map_Drawing_Station_01
149.	2021-10-27_544_Map_Drawing_Station_02	205.	2021-11-03_643_Map_Drawing_Station_02
150.	2021-10-27_544_Map_Drawing_Station_03	206.	2021-11-03_643_Map_Drawing_Station_03
151.	2021-10-27_544_Map_Drawing_Station_04	207.	2021-11-03_643_Map_Drawing_Station_04
152.	2021-10-27_643_Map_Drawing_Station_01	208.	2021-11-03_House_Redistricting_Map_Drawing
153.	2021-10-27_643_Map_Drawing_Station_02	209.	2021-11-04_643_Map_Drawing_Station_01
154.	2021-10-27_643_Map_Drawing_Station_03	210.	2021-11-04_643_Map_Drawing_Station_02
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156.	2021-10-27_House_Redistricting_Map_Drawing	212.	2021-11-04_643_Map_Drawing_Station_04
157.	2021-10-27_Senate_Redistricting_Map_Drawing	213.	2021-11-04_House_Redistricting_Map_Drawing
158.	2021-10-28_544_Map_Drawing_Station_01		

About Data

[Shapes](#)

[Demographic Data](#)

[Election Data](#)

[Disaggregation](#)

Shapes

DRA 2020 has 2020 Shapes. For most states, maps that use 2020 Shapes allow you to work with *Precincts (Voting Districts or VTDs)*, as the main unit for making redistricting maps. For four states (CA, HI, OR and WV), you use *Block Groups* instead. For all states, you can *shatter* a precinct or block group into census blocks, and work with them individually.

DRA 2020 also has 2010 Shapes. These are *Precincts* for most states, and *Block Groups* for CA, MT, OR and RI. Census block editing is **not** available with 2010 Shapes. Maps that use 2010 Shapes can be converted to 2020 Shapes, yielding an approximation of the source map.

Precinct-level demographic and election data can be downloaded from our public repository [vtd_data](#).

Demographic Data

DRA 2020 has demographic data from the 2020 and 2010 Censuses and from the 2018 and 2019 American Community Survey 5-Year Estimates. The 2020 and 2010 data include total population and voting age population data (VAP), and was obtained directly from the Census Bureau. The 2018 and 2019 data include total population and citizen voting age population data (CVAP).

For 2020 Shapes, 2010, 2018 and 2019 data was disaggregated using [Voting and Election Science Team's](#) method as described [here](#). More detail is in the *Disaggregation* section below. All data that has been disaggregated contains some margin of error, and should be treated accordingly.

For all years the following ethnic and racial categories are included. **Because the categories overlap, their sum will be greater than the total population for the same area.** Note that for CVAP data, the racial categories are estimates calculated from other fields, because the Census Bureau does not provide them directly in those datasets, and they tend to underrepresent the Asian and Pacific categories.

- White (alone, not Hispanic)
- Hispanic (all Hispanics regardless of race)
- Black (Black alone or in combination with other races, including Hispanic)
- Asian (Asian alone or in combination with other races, including Hispanic)
- Native (American Indian and Alaska Native alone or in combination with other races, including Hispanic)
- Pacific (Native Hawaiian and Pacific Islander alone or in combination with other races, including Hispanic)

For some states we provide additional 2020 VAP data with Non-Hispanic Race Alone categories.

- White (alone, not Hispanic)
- Hispanic (all Hispanics regardless of race)
- Black (Black alone, not Hispanic)
- Asian (Asian alone, not Hispanic)
- Native (American Indian and Alaska Native alone, not Hispanic)
- Pacific (Native Hawaiian and Pacific Islander alone, not Hispanic)
- Other (Other race alone, not Hispanic)
- TwoOrMore (Two or more races, not Hispanic)

Some states adjust their 2020 Total Population numbers to count incarcerated individuals in their home precincts, to be used for congressional and/or legislative redistricting. See [Reallocating Inmate Data for Redistricting](#), [Prison Gerrymandering Project](#) and state pages for more details. Adjusted data can have negative population values for some blocks.

Election Data

DRA 2020 has election data for a range of elections, varying by state.

In addition to data for individual elections, we construct an Election Composite of two or more elections. The Composite gives a measure of partisanship over different contests and years, which we prefer, because individual elections can be skewed by various factors. We use the latest available elections, and those not available are simply left out. We also exclude uncontested elections and those that have a significant third-party vote percentage (usually > 10%). The formula is the following:

Composite = Mean(Pres, Sen, GovAg), where

Pres = Mean(1 or 2 Presidential elections),

Sen = Mean(1 or 2 Senate elections) and

GovAg = Mean(Governor and Attorney General elections).

All of our election data has come from partners who have done the work to obtain the data, marry it to some geography (e.g. precincts), and process necessary changes, such as distributing absentee votes that are not allocated to precincts. We thank them for their valuable work. The following table shows the data we have for each state, along with attributions for each election dataset. We continue to add election data as it becomes available.

- CSDB=[California State Database](#)
- MGGG=[Metric Geometry and Gerrymandering Group](#)
- MIT=[MIT Election Data Science Lab](#)
- OP=[Open Precincts](#)

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- PVI=Cook PVI data from Ryne Rohla/Decision Desk HQ; See also [Atlas of Redistricting](#).
- SA=[Stephen Ansolabehere](#), [Jonathan Rodden](#)
- SG=Steve Gerontakis, with John Mifflin
- TC=Tyler Chafee
- VE=[Voting and Election Science Team](#)
- ★ This election is part of the Election Composite.

Election Data By State/Shapes

State	2020 Shapes	2010 Shapes
Alabama	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE)• 2017 Senator (Special) (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (PVI) *
Alaska	<ul style="list-style-type: none">• 2016 President (VE) *• 2016 Senator (VE)• 2018 Governor (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2016 President (VE) *• 2016 Senator (VE)• 2018 Governor (VE) *
Arizona	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE)• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *
Arkansas	<ul style="list-style-type: none">• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (OP) *• 2018 Attorney General (OP) *
California	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (CSDB) *• 2018 Governor (CSDB) *• 2018 Attorney General (CSDB) *• 2020 President (CSDB) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2018 Governor (CSDB) *• 2018 Attorney General (CSDB) *
Colorado	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (TC)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (MGGG,OP) *• 2018 Attorney General (MGGG,OP) *
Connecticut	<ul style="list-style-type: none">• 2012 President (PVI) *• 2016 President (VE)• 2016 Senator (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (PVI) *
Delaware	<ul style="list-style-type: none">• 2016 President (VE) *• 2016 Governor (VE)• 2016 Lt. Governor (VE)• 2018 Senator (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *• 2020 Governor (VE) *• 2020 Lt. Governor (VE)	<ul style="list-style-type: none">• 2008 President (SG)• 2016 President (VE) *• 2016 Governor (VE) *• 2016 Lt. Governor (VE)• 2018 Senator (VE) *• 2018 Attorney General (VE) *

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District of Columbia	<ul style="list-style-type: none">• 2016 President (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2016 President (VE) *
Florida	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2018 Senator (VE) *• 2020 President (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2018 Senator (VE) *
Georgia	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2018 Lt. Governor (VE)• 2020 President (VE) *• 2020 Senator (VE) *• 2020 Senator (Special) (VE)• 2020 Senator (Runoff) (VE)• 2020 Senator (Special Runoff) (VE)	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2018 Lt. Governor (VE)
Hawaii	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Senator (VE) *• 2020 President (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Senator (VE) *
Idaho	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Lt. Governor (VE)• 2018 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Lt. Governor (VE)• 2018 Attorney General (VE) *
Illinois	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *
Indiana	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Governor (VE)• 2016 Attorney General (VE)• 2018 Senator (VE) *• 2020 President (VE) *• 2020 Governor (VE) *• 2020 Attorney General (VE) *	<ul style="list-style-type: none">• 2008 President (SA)• 2012 President (PVI) *• 2016 President (PVI) *
Iowa	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *
	<ul style="list-style-type: none">• 2012 President (VE)	<ul style="list-style-type: none">• 2008 President (SG)

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Kansas	<ul style="list-style-type: none">• 2012 President (VE)• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (VE) *• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *
Kentucky	<ul style="list-style-type: none">• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2019 Governor (VE) *• 2019 Attorney General (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2019 Governor (VE) *• 2019 Attorney General (VE) *
Louisiana	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE)• 2016 Senator (Runoff) (VE) *• 2019 Governor (VE) *• 2019 Governor (Runoff) (VE)• 2019 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *
Maine	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2018 Governor (VE) *• 2018 Senator (VE)• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2018 Governor (VE) *• 2018 Senator (VE)
Maryland	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *
Massachusetts	<ul style="list-style-type: none">• 2012 President (PVI)• 2014 Senator (MGGG)• 2014 Governor (MGGG)• 2016 President (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2014 Senator (MGGG) *• 2014 Governor (MGGG)• 2016 President (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *
Michigan	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2018 Senator (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2018 Senator (VE) *
Minnesota	<ul style="list-style-type: none">• 2012 President (PVI)• 2014 Senator (MGGG)• 2014 Governor (MGGG)• 2014 Attorney General (MGGG)• 2016 President (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2014 Senator (MGGG) *• 2014 Governor (MGGG)• 2014 Attorney General (MGGG)• 2016 President (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *

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Mississippi	<ul style="list-style-type: none">2012 President (PVI) *2016 President (PVI) *	<ul style="list-style-type: none">2008 President (SG)2012 President (PVI) *2016 President (PVI) *
Missouri	<ul style="list-style-type: none">2012 President (PVI)2016 President (VE) *2016 Senator (VE) *2016 Governor (VE)2016 Attorney General (VE)2016 Lt. Governor (VE)2018 Senator (VE) *2020 President (VE) *2020 Governor (VE) *2020 Attorney General (VE) *2020 Lt. Governor (VE)	<ul style="list-style-type: none">2008 President (SG)2012 President (PVI) *2016 President (VE) *2016 Senator (VE) *2016 Governor (VE) *2016 Attorney General (VE) *2016 Lt. Governor (VE)
Montana	<ul style="list-style-type: none">2016 President (VE) *2016 Governor (VE)2016 Attorney General (VE)2018 Senator (VE) *2020 President (VE) *2020 Senator (VE) *2020 Governor (VE) *2020 Attorney General (VE) *	<ul style="list-style-type: none">2008 President (SG)2016 President (VE) *2016 Governor (VE) *2016 Attorney General (VE) *2018 Senator (VE) *
Nebraska	<ul style="list-style-type: none">2012 President (PVI)2016 President (VE) *2018 Senator (VE) *2018 Governor (VE) *2018 Attorney General (VE)2020 President (VE) *2020 Senator (VE) *	<ul style="list-style-type: none">2008 President (SG)2012 President (PVI) *2016 President (VE) *2018 Senator (VE) *2018 Governor (VE) *2018 Attorney General (VE)
Nevada	<ul style="list-style-type: none">2012 President (PVI)2016 President (VE) *2016 Senator (VE) *2018 Senator (VE) *2018 Governor (VE) *2018 Attorney General (VE) *2018 Lt. Governor (VE)2020 President (VE) *	<ul style="list-style-type: none">2008 President (SG)2012 President (PVI) *2016 President (VE) *2016 Senator (VE) *2018 Senator (OP) *2018 Governor (OP) *2018 Attorney General (OP) *2018 Lt. Governor (OP)
New Hampshire	<ul style="list-style-type: none">2012 President (PVI)2016 President (VE) *2016 Senator (VE) *2016 Governor (VE)2018 Governor (VE)2020 President (VE) *2020 Senator (VE) *2020 Governor (VE) *	<ul style="list-style-type: none">2008 President (SG)2012 President (PVI) *2016 President (VE) *2016 Senator (VE) *2016 Governor (VE)2018 Governor (VE) *
New Jersey	<ul style="list-style-type: none">2012 President (PVI)2016 President (VE) *2017 Governor (VE) *2018 Senator (VE) *2020 President (VE) *2020 Senator (VE) *	<ul style="list-style-type: none">2008 President (SG)2012 President (PVI) *2016 President (PVI) *
New Mexico	<ul style="list-style-type: none">2012 President (PVI)2016 President (VE) *2018 Governor (VE) *2018 Attorney General (VE) *2018 Senator (VE) *2020 President (VE) *2020 Senator (VE) *	<ul style="list-style-type: none">2008 President (SA)2012 President (PVI) *2016 President (VE) *2018 Governor (VE) *2018 Attorney General (VE) *2018 Senator (VE) *
New York	<ul style="list-style-type: none">2012 President (PVI)2016 President (VE) *2016 Senator (VE) *2020 Senator (VE) *	<ul style="list-style-type: none">2008 President (SG)2012 President (PVI) *

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New York	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2020 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (PVI) *
North Carolina	<ul style="list-style-type: none">• 2012 President (PVI)• 2014 Senator (MGGG)• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Governor (VE)• 2016 Attorney General (VE)• 2016 Lt. Governor (VE)• 2020 President (VE) *• 2020 Senator (VE) *• 2020 Governor (VE) *• 2020 Attorney General (VE) *• 2020 Lt. Governor (VE)	<ul style="list-style-type: none">• 2008 President (SA)• 2012 President (PVI) *• 2014 Senator (MGGG) *• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Governor (VE) *• 2016 Attorney General (VE) *• 2016 Lt. Governor (VE)
North Dakota	<ul style="list-style-type: none">• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Governor (VE)• 2018 Attorney General (VE) *• 2018 Senator (VE) *• 2020 President (VE) *• 2020 Governor (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Governor (VE) *• 2018 Attorney General (VE) *• 2018 Senator (VE) *
Ohio	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (MGGG) *• 2016 Senator (MGGG) *
Oklahoma	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Lt. Governor (VE)• 2018 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Lt. Governor (VE)• 2018 Attorney General (VE) *
Oregon	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Governor (VE)• 2016 Attorney General (VE)• 2018 Governor (VE) *• 2020 President (VE) *• 2020 Senator (VE) *• 2020 Attorney General (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Governor (VE)• 2016 Attorney General (VE) *• 2018 Governor (MGGG,OP) *
Pennsylvania	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Attorney General (VE)• 2018 Senator (VE) *• 2018 Governor (VE) *• 2020 President (VE) *• 2020 Attorney General (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Attorney General (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *
Rhode Island	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Lt. Governor (VE)	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2018 Senator (VE) *

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Rhode Island	<ul style="list-style-type: none">• 2010 President (VE)• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Lt. Governor (VE)• 2018 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2012 President (PVI) *• 2016 President (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Lt. Governor (VE)• 2018 Attorney General (VE) *
South Carolina	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *
South Dakota	<ul style="list-style-type: none">• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *
Tennessee	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *
Texas	<ul style="list-style-type: none">• 2012 President (PVI)• 2014 Senator (MGGG,OP)• 2014 Governor (MGGG,OP)• 2016 President (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2018 Lt. Governor (VE)• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SA)• 2012 President (PVI) *• 2014 Senator (MGGG,OP) *• 2014 Governor (MGGG,OP) *• 2016 President (VE) *
Utah	<ul style="list-style-type: none">• 2012 President (PVI) *• 2016 President (VE)• 2016 Senator (VE) *• 2016 Governor (VE)• 2016 Attorney General (VE)• 2018 Senator (VE) *• 2020 President (VE) *• 2020 Governor (VE) *• 2020 Attorney General (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE)• 2016 Senator (VE) *• 2016 Governor (VE) *• 2016 Attorney General (VE) *• 2018 Senator (VE) *
Vermont	<ul style="list-style-type: none">• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Governor (VE)• 2016 Attorney General (VE)• 2016 Lt. Governor (VE)• 2018 Senator (VE) *• 2018 Governor (VE)• 2018 Attorney General (VE)• 2018 Lt. Governor (VE)• 2020 President (VE) *• 2020 Governor (VE) *• 2020 Attorney General (VE) *• 2020 Lt. Governor (VE)	<ul style="list-style-type: none">• 2008 President (SG)• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Governor (VE)• 2016 Attorney General (VE)• 2016 Lt. Governor (VE)• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2018 Lt. Governor (VE)
Virginia	<ul style="list-style-type: none">• 2016 President (VE) *• 2017 Governor (VE) *• 2017 Attorney General (VE) *• 2017 Lt. Governor (VE)• 2018 Senator (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2017 Governor (VE) *• 2017 Attorney General (VE) *• 2017 Lt. Governor (VE)• 2018 Senator (VE) *

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Vermont	<ul style="list-style-type: none">• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Governor (VE)• 2016 Attorney General (VE)• 2016 Lt. Governor (VE)• 2018 Senator (VE) *• 2018 Governor (VE)• 2018 Attorney General (VE)• 2018 Lt. Governor (VE)• 2020 President (VE) *• 2020 Governor (VE) *• 2020 Attorney General (VE) *• 2020 Lt. Governor (VE)	<ul style="list-style-type: none">• 2008 President (SG)• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Governor (VE)• 2016 Attorney General (VE)• 2016 Lt. Governor (VE)• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2018 Lt. Governor (VE)
Virginia	<ul style="list-style-type: none">• 2016 President (VE) *• 2017 Governor (VE) *• 2017 Attorney General (VE) *• 2017 Lt. Governor (VE)• 2018 Senator (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2017 Governor (VE) *• 2017 Attorney General (VE) *• 2017 Lt. Governor (VE)• 2018 Senator (VE) *
Washington	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Governor (VE)• 2016 Attorney General (VE)• 2016 Lt. Governor (VE)• 2018 Senator (MIT,OP) *• 2020 President (VE) *• 2020 Governor (VE) *• 2020 Attorney General (VE) *• 2020 Lt. Governor (VE)	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2016 Governor (VE) *• 2016 Attorney General (VE) *• 2016 Lt. Governor (VE)• 2018 Senator (MIT,OP) *
West Virginia	<ul style="list-style-type: none">• 2012 President (PVI) *• 2016 President (PVI) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (PVI) *
Wisconsin	<ul style="list-style-type: none">• 2012 President (PVI)• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *• 2020 President (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2012 President (PVI) *• 2016 President (VE) *• 2016 Senator (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2018 Attorney General (VE) *
Wyoming	<ul style="list-style-type: none">• 2016 President (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *• 2020 President (VE) *• 2020 Senator (VE) *	<ul style="list-style-type: none">• 2008 President (SG)• 2016 President (VE) *• 2018 Senator (VE) *• 2018 Governor (VE) *

Disaggregation

To map election results and demographic data from a source geography (shape set) to a destination geography (shape set), we disaggregate the data from the source geography to census blocks and then aggregate from those to the destination geography. For example, 2016 election data for many states is presented in terms of each state's 2016 precincts (or voting districts), which typically differ from their 2010 and 2020 precincts. Our algorithm determines the geographic mapping between the source geography and 2010 or 2020 census blocks and then distributes the results for each precinct among the blocks in that precinct, according to the population of each block. (That's disaggregation.) The Census Bureau provides the geographic mapping between 2010 census blocks and 2010 precincts, and between 2020 census blocks and 2020 precincts. Using that we add the results from all the blocks in each precinct. (That's aggregation.)

For 2020 shapes, all demographic data (2010, 2018 and 2019) has been disaggregated using [Voting and Election Science Team's method](#). All 2020 block population estimates were calculated by VEST using their method. To disaggregate we used these block population numbers and the Hare Quota (Hamilton) largest remainder method.

All election data presented in DRA 2020 has been disaggregated to census blocks, because election results are never reported to the block level. For 2020 shapes, for states having 2020 election data, disaggregation of 2016-2020 data uses VEST's method. For other states our older method was used; when we get 2020 election data, we will update all 2016-2020 election data to use VEST's method. Disaggregation necessarily introduces some error. In addition, ACS/CVAP data are estimates and thus have some error even before disaggregation.

All election data and all ACS/CVAP data contain some margin of error at both the census block and precinct levels, and should be treated accordingly.