How to Look at a Redistricting Map: Five Ways to Interpret the Plans

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When you first look at a redistricting map, it can be completely baffling. Whether it is a simple line drawing or a multi-layered data presentation, a redistricting plan rarely reveals its secrets at first glance. There are many data sources available but few guides to interpreting actual plans.

I am going to walk you through five different ways of looking at a redistricting plan, starting with the most basic and then looking at four other useful approaches. The focus will be on the practical, not the ideal.

Your twin goals: At each step, I encourage you to look at the plan with two ends in mind. First, you want a district that gives you a fair chance to elect representatives who will be your voice in the Assembly, the state Senate, and Congress. Second, you also want your representative to have a fair share in creating political power in those bodies through coalition building. The second goal is not as obvious as the first, but it can be more important to you in the long run. Its coalitions that turn voice into power.

You are never guaranteed that you will get either kind of representation. That all depends on election outcomes and on legislative politics. But redistricting determines whether or not you will have a fair chance to play your role as a voter.

Your key skills: You want to get good at two things: finding the right kind of map for the question you are asking and finding the right statistics that will give you the most useful summary of the data you are interested in.

There are many websites that have redistricting maps and data. Unfortunately, there is no one-stop shopping for everything you will need. Not yet, at least. New tools and data sources are coming on line all the time. I will show you some useful resources covering New York.

Deciding whether a proposed plan is good or bad is not easy. Local interests are always offset by statewide concerns. The outcome is never simple and never perfect.

You might also have a hard time getting all the information you need on your own. That’s why it’s important to know what you want, so that you can ask your community organizations or elected representatives to provide it.

The total population of New York in 2020 was 20,201,249. Therefore, the ideal population for new districts is:

- Congressional district: 776,971 (total population/26 districts)
- State Senate district: 320,655 (total population/63 districts)
- Assembly district is: 134,675 (total population/150 districts)
The First Way: How does the plan impact your own district?

Focus: Start with your home district, be it your Assembly, Senate or congressional district.

When you look at your district, you want to consider four factors: (1) what are its geographic building blocks, (2) what is the population distribution, (3) what is the partisan makeup, and (4) what is the racial composition?

You also want to know if your incumbent representative will remain in your district. Perhaps another incumbent or no incumbent is living in the new district.

Start by locating the Assembly, Senate or congressional district for your home address. For this example, I will examine Assembly districts and use the address of someone who lives in Delmar, currently located in the 109th A.D.

Geographic Building Blocks and Population Distribution: This map is taken from Dave’s Redistricting App (davesredistricting.org). The 109th A.D. is in light blue. Total district demographic and voting statistics are shown on the left while the map itself shows the identification number, total population and voting population for the individual election districts (known in other states as precincts) that make up the district. Heavy blue lines are municipal borders. (Blank election districts would have labels appear if you zoom in.) The blue and white burst is the address used for comparisons.
**Geographic Building Blocks:** The 109th A.D. consists of the whole towns of Guilderland, New Scotland and Bethlehem and the western portions of the City of Albany.

**Population Distribution:** The “District Details” column on the left of the map above gives the summary population statistics. As mentioned above, the map shows total and voting age population for election districts.

**Partisan Makeup:** The map on the left shows partisan lean. All but two election districts are Democratic. The district as a whole has a 2-to-1 Democratic lean.

**Racial composition:** The map above right shows the racial and ethnic distribution of the district. It is mostly non-Hispanic (NH) white. Although the district includes part of the City of Albany, none of the election districts that are majority NH Black are included. Below is a detailed look at Albany. The upper number in the election district is the total voting age population (18+) for all races. The lower number is the NH Black voting age population total.
Comparing Plans - Once you have become familiar with the maps and data that describe your current district, you can consider how the new plans will change it.

The table below gives demographic and partisan data for the existing 109th and the two proposed districts that would cover the address used for this example. The last two columns indicate how much of the proposed district population comes from existing districts.

<table>
<thead>
<tr>
<th>PLAN</th>
<th>AD ID</th>
<th>Total Pop</th>
<th>Deviation</th>
<th>Total VAP</th>
<th>White VAP</th>
<th>Minority VAP</th>
<th>Dem %</th>
<th>Rep %</th>
<th>Source ADs</th>
<th>% of ADs</th>
</tr>
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<tbody>
<tr>
<td>CURRENT</td>
<td>109</td>
<td>137,016</td>
<td>2,396</td>
<td>113,960</td>
<td>75.35%</td>
<td>24.65%</td>
<td>67.99%</td>
<td>32.01%</td>
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<td></td>
</tr>
<tr>
<td>NAMES</td>
<td>ALBANY</td>
<td>135,198</td>
<td>572</td>
<td>109,315</td>
<td>58.82%</td>
<td>41.18%</td>
<td>76.93%</td>
<td>23.07%</td>
<td>109</td>
<td>67.33%</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>108</td>
<td>32.67%</td>
</tr>
<tr>
<td>LETTERS</td>
<td>CY</td>
<td>129,637</td>
<td>-4,989</td>
<td>103,427</td>
<td>89.84%</td>
<td>10.16%</td>
<td>47.62%</td>
<td>52.38%</td>
<td>102</td>
<td>42.18%</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>109</td>
<td>31.34%</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>111</td>
<td>26.48%</td>
</tr>
</tbody>
</table>

The “Names” (Republican) plan has a smaller deviation from the ideal population than the “Letters” (Democratic) plan. 67.33 percent of “Names” population comes from the existing 109th A.D. while “Letters” has only 31.34 percent from the original district. The “Letters” plan covers a much larger and more rural area than the “Names” plan, as shown in the two maps below.

The proposed “Letters” (Democratic) district, left, and the “Names” (Republican) district, right, for someone living at the blue location marker. The thick black line in each is the current 109th Assembly District. Maps are at similar scale. (Source: newyork.redistrictingandyou.org)
2020 Presidential Vote Share and Location of Incumbent Assembly Member - These maps show election district level partisan lean. The blue location pins show the home of incumbents – Patricia Fahy (D) for the Republican plan, left, and Christopher Tague (R) for the Democratic plan, right. The Republican plan creates a Democratic-leaning district for the address used for this comparison while the Democratic plan creates a Republican-leaning district. Maps are not at similar scale in this comparison. (Source: newyork.redistrictingandyou.org)

Enrollment and Voting Data

The New York State Legislative Task Force on Demographic Research and Reapportionment (LTFOR) has both 2020 Census and enrollment and election results data for 2016, 2017 (NYC), 2018, and 2020 available for download at its website. To date, no free public redistricting application has integrated this data into its database. This lack of up-to-date data is an impediment to public analysis of proposed redistricting plans.
A Second Way: How does this plan impact your community of interest?

Focus: your district and surrounding districts.

I assume at this point that you know how to identify and map your own community of interest, if you have one. Now, you want to see how it fits into the proposed plan.

You will want to consider five factors about your community: (1) Is it large enough to constitute a district or a significant part of a district? (2) Can it be mapped in a way that also obeys all the other constitutional requirements for a district? (See the explanation of these requirements in the discussion of the “The 3rd Way”, below.) (3) Does it overlap with or is it next to other communities of interest? (4) Is it a community protected by the Voting Rights Act? (5) Would a district drawn for this community strengthen or weaken that community’s participation in the creation of a legislative majority?

Example: The City of Albany considered as a community of interest. Albany is currently split between the 109th A.D., which includes the western part of the city, and the 108th, which includes the eastern portion.

As it happens, the 108th A.D. is also currently the only district in the Capital District region with a sizeable minority VAP. Racial minorities are the most easily identified communities of interest because they are reported at the Census block level and it is easy to create maps using this data.

Both the proposed plans that cover the City of Albany would increase total minority VAP slightly, as shown in the table below, but mostly by increasing the Asian VAP percentage. Both proposed plans can be described as starting with the minority community of Albany in the 108th A.D. and then adding large parts of the existing 109th A.D. to reach the required total population.

<table>
<thead>
<tr>
<th>PLAN</th>
<th>AD ID</th>
<th>Total Pop</th>
<th>Total VAP</th>
<th>White VAP</th>
<th>Minority VAP</th>
<th>Hispanic VAP</th>
<th>Black VAP</th>
<th>Asian VAP</th>
<th>Dem %</th>
<th>Rep %</th>
<th>Source</th>
<th>% of ADs</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURRENT</td>
<td>108</td>
<td>138,730</td>
<td>108,285</td>
<td>59.14%</td>
<td>40.86%</td>
<td>8.52%</td>
<td>25.68%</td>
<td>5.85%</td>
<td>67.96%</td>
<td>32.04%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAMES</td>
<td>ALBANY</td>
<td>135,198</td>
<td>109,315</td>
<td>58.82%</td>
<td>41.18%</td>
<td>8.64%</td>
<td>24.30%</td>
<td>7.93%</td>
<td>76.93%</td>
<td>23.07%</td>
<td>109</td>
<td>67.33%</td>
</tr>
<tr>
<td>LETTERS</td>
<td>DE</td>
<td>131,190</td>
<td>107,216</td>
<td>55.28%</td>
<td>44.72%</td>
<td>9.11%</td>
<td>25.55%</td>
<td>9.76%</td>
<td>78.22%</td>
<td>21.78%</td>
<td>109</td>
<td>59.29%</td>
</tr>
</tbody>
</table>

Identifying a community of interest is just the first step in getting recognition for that community in a redistricting plan. The community must be large enough and cohesive enough to get the attention of redistricting map makers, especially if other communities in the area are competing for recognition. People who seek recognition for their community must also consider whether it is better to have that community in one district – to get a clear voice – or in several districts – to have more influence in legislative coalition making.

The Voting Rights Act can help protect minority communities of interest, but only after plans have been adopted. That is because the Republican majority of the Supreme Court has eliminated the pre-clearance provisions of the Act.
Impact of proposed plans on minority voting in districts that include the City of Albany.

Both the “DE” plan from the Democrats and the “Albany” plan from the Republicans keep the City of Albany whole and thereby marginally increase the minority percentage of the total VAP in those proposed districts.

However, the minority community in Troy, which is currently linked with the minority community in Albany in the 108th A.D., would be placed in a different district. So, a complete analysis of changes in the 108th could have to include all the other districts that might get a piece of it when redistricting is done.
Majority-Minority Congressional Districts – This table shows the nine existing majority-minority and minority coalition congressional districts, along with three NH white majority districts, in downstate New York. (Source: projects.fivethirtyeight.com/redistricting-maps/new-york/)
A Third Way: Do the pieces fit together in a legally acceptable way?

**Focus:** the entire state and large regions within it.

Chances are that when the New York Independent Redistricting Commission (IRC) or the legislature draws its final maps, those plans will meet the legal/constitutional requirements. If that were not the case, the maps could be easily overturned in court. Nevertheless, it can be useful to examine the plan in terms of these standards.

Although the constitution does not say so, there are some rules that must be obeyed and some rules that are more flexible in nature.

**Mandatory Rules**

- Districts elect just one representative
- Districts must all have equal or nearly equal population
- Districts must be contiguous, that is, all parts of the district must touch

Existing districts rarely remain unchanged in a new plan because the total population of the district is unlikely to meet the new equal population standard.

**Flexible Rules**

- Minority voting rights may not be abridged
- Districts should not split county and municipal boundaries
- Districts should preserve the cores of existing districts
- Districts should not split communities of interest
- Districts should be as compact as geographically possible
- District should not discourage competition or favor incumbents
- No party should be favored over another

These rules are flexible because of one important fact: It’s impossible to maximize all the rules at the same time. Rules often contradict each other. The more rules, the harder it is to balance them all and the easier it is to gerrymander. That means that no redistricting plan can ever be completely fair and neutral. Some rules will end up being more favored than others.

Don’t get waylaid by visual appearance or notions of compactness. The one thing you can easily see – shape – doesn’t tell you much. A district’s shape is a poor indicator of its significance. See the description of the 101st Assembly District at the end of this guide.

Visual summary of legal requirements (Source: davesredistricting.org)
A Fourth Way: Looking at Maps like a Legislative Leader Would

Focus: the state as a whole. If you want to understand why districts are drawn the way they are, you need to look at it the way a legislative leader does.

Legislative leaders have two goals: creating a majority and keeping their party’s legislators happy. The way they do it is by creating redistricting plans that maximize the value the votes their party receives – gerrymandering – while at the same time making districts where their party’s incumbents feel comfortably re-electable. Everything else is subordinate to those two goals.

But why should voters also look at it this way? Because that’s where the power is. Voters need to influence the leaders’ perspective. You need to add something that forces legislative leaders to include your interests in their calculations. You need to learn to speak with them in a language they understand and about the things they care about.

What good is it for your community to have a voice if it is a voice crying in the wilderness? Political influence comes from creating coalitions.

Is it possible to do this in a non-partisan way? It might be if there were a non-partisan way to create redistricting plans. At the moment, in New York, there is no such non-partisan procedure. That means you must accept the need to identify and deal with the leaders who have the power to respond to your needs. That could conceivably be a bi-partisan process, but it will not be non-partisan. You are, after all, seeking a voice and a share of power. Our democratic system is based on using partisan competition to achieve those two ends. And redistricting is part of that struggle.

When legislative leaders and their staff draw redistricting plans, they will obey all the laws and constitutional requirements they are required to but they will still have wide flexibility. The process from the leader’s point of view is to:

1. Draw districts that elect enough of your members to have a majority.
2. Keep your members happy by giving them safe districts whenever you can.
3. Keep the communities that make up your coalition whole whenever you can.
4. Reduce the electoral power of the opposing party whenever you can.

Incumbents from the opposing party are occasionally co-opted into supporting a plan if it protects their own districts. Trade-offs are made among members and among measures. There will never be a simple or perfect outcome for anyone.
These maps above show the partisan considerations behind the congressional maps proposed by the Republicans and Democrats on the IRC. The Republicans’ plan spreads its voter resources more widely but more thinly when compared with the Democrats plan: Republicans would create two competitive districts and one less solid Republican district. The Democrats’ plan creates three solid Republican districts upstate, which suggests packing. On the other hand, even though Republican areas upstate lost population over the past ten years and the state lost a seat in Congress, their plan would increase Republican leaning districts by one.
Summary statistics for the NYIRC “Names” (Republican) Plan for Congress – Dave’s version: the first 15 of 26 proposed congressional districts. (Source: davesredistricting.org)

Summary statistics for the NYIRC “Names” (Republican) Plan for Congress – Five Thirty-Eights’ version, the first 14 of 26 proposed congressional districts. (Source: projects.fivethirtyeight.com/redistricting-2022-maps/new-york/names_plan/). Some of the incumbent information seems to be incorrect.
A Fifth Way: Statistical Measures of Partisan Bias

Focus: statewide summaries

For the past 50 years, political scientists have attempted to develop meaningful measures partisan bias in redistricting. Although many measures have been offered, none have proved reliable indicators of partisan intent and, more to the point, none have been accepted by the courts as proof of intentional gerrymandering.

This search for the holy grail of statistical measures may have ended in 2019, when the Republican majority of the Supreme Court declared in Rucho v Common Cause that partisan gerrymandering is non-justiciable in the federal courts because, among other reasons, there is no judicially discoverable measure of partisan bias.

Nonetheless, many of these statistical measures are found in redistricting mapping applications and may help citizens understand the partisan implications of proposed and enacted redistricting plans.

The methods used to create these measures are usually rather difficult to describe and are often open to interpretation. That’s why they haven’t been of much use in court cases. As a rule of thumb, you can ignore this approach and still understand how a plan will impact your district.

Seats-Votes ratio – the estimated likelihood of the percentage of the seats in a legislative chamber a party will obtain (Y-axis) with a given percentage of the two-party vote (X-axis). By this measure, the “Names” (Republican) plan is more biased against Democrats than the “Letters” plan, but not dramatically so. Under the “Names” plan, a 50 percent share of the two-party vote would give Democrats 44.76 percent of the seats, while the “Letters” plan would give them 48.32 percent of the seats. Since Democrats win 62.99 percent of the vote on average in New York, they would expect to win approximately 70 percent of the seats under either plan. (Source: davesredistricting.org)
Declination – This is the least intuitive of the political science measures. It shows how vote percentages change between districts that a party won and those that it lost. For example, in the NYIRC Assembly “Names” (Republican) plan (left) the average Republican winner would need only 56.28% of the vote while a Democratic winner would receive 73.04%. In the “Letters” plan, the Republican would need 56.13%, so there is no significant difference between the plans using this measure. (Source: davesredistricting.org)

Efficiency Gap in Favor of Republicans in the New York Senate – Analysis of the current Senate districting plan, from Plan Score, which unfortunately does not support the analysis of proposed New York plans. (Source: projects.fivethirtyeight.com/redistricting-2022-maps/new-york/names_plan/).
There are several websites that provide good tools to create these measures, as well as detailed explanations of the methods themselves. Unfortunately, several websites are not able to provide analysis of proposed New York redistricting plans (as of 10.10.2021). Expect resources to improve, possibly before the final plans are adopted.

- **Redistricting and You** (redistrictingandyou.org) – This is the most user-friendly tool available. It has a page dedicated to New York as well. (newyork.redistrictingandyou.org)
- **Dave’s Redistricting** (davesredistricting.org) – Dave’s has both the existing and the NYIRC plans and very flexible mapping and plan analysis tools.
- **Five Thirty-Eight** (projects.fivethirtyeight.com/redistricting-2022-maps/new-york/) – has good graphic summaries of Congressional plans but no state legislative plan analysis.
- **Plan Score** (planscore.campaignlegal.org) – has existing plans but does not support analysis of proposed New York districts yet.
- **Princeton Gerrymandering Project** (gerrymander.princeton.edu) – has not analyzed proposed IRC maps yet.

If you want to get into the details of statistical measures of partisan bias, there are several summaries available. One useful guide is *An Introduction to Partisan Gerrymandering Metrics* prepared for the League of Women Voters of North Carolina. You can find it at:

https://lwvhcnc.org/PDFs/PartisanGerrymanderingMetrics_v2.pdf
Odd but not Unusual: The 101st Assembly District

Let’s take a look at an oddly shaped district to see why first impressions might not mean much.

The map to the left shows the 101st Assembly district. It stretches 127 miles from the mid-Mohawk Valley to the southernmost part of the Catskills. It is certainly oddly shaped and clearly non-compact, 18 towns long but just one town wide in most places. What can possibly account for it? Is it a gerrymander?

The district is composed entirely of whole towns, plus one small city. At the time this district was drawn in 2012, no town could be split when making Assembly districts unless the town had a population larger than a whole Assembly district. All the towns in the 101st have fairly small population and that means they will constitute whole pieces of the plan. But there are many such towns throughout this area of rural upstate. Why these particular towns?

Many people believe the district is an example of the type of gerrymander known as packing. Republicans were seemingly packed into the 101st in order to create Democratic districts around it. Once again, it is not so simple. As the map to the right shows, the 101st reliably dark red Republican, surrounded by Republican districts to the north and two Democratic districts nearby on the south. The
plain meaning is that only the southern part of the 101st is an area that could be packed with Republicans.

Consider a slightly more detailed map of partisan support in the same area (left). It is drawn to show partisan support at the election district level and it tells a more nuanced story. Clearly the mostly blue 103rd Assembly District on the lower right was drawn to include Democratic-leaning areas. The problem for Democratic line-drawers was the three southernmost towns in the what is now the 101st – Shawangunk, Crawford, and Montgomery – all lean Republican but the town of Wawarsing just to the north leans Democratic. If Wawarsing was added to the 103rd the three Republican towns would also have had to go to some nearby Democratic leaning district. In order to make the 100th and 103rd more reliably Democratic, the three Republican towns had to be left out. The only way to link them to other towns and reach the required district population was to go north.

That explains the southern part of the 101st. The northern two-thirds, on the other hand, is surrounded by reliably Republican areas and also includes several Democratic leaning election districts. The 101st as a whole is not a district packed with Republicans just to create Democratic districts. What is it and why is it so long?

If you looked at all the districts around the 101st and consider why those other districts are the shape they are, you would most likely find that the 101st is an example of what I call a remainder district. It is what was left over after everyone else got what they wanted or needed. Rural, sparsely populated, and mountainous areas upstate are often left-over after the more strategically important urban and suburban districts are drawn. These districts tend to be oddly shaped because they are made up of pieces that have to go somewhere, so they get lumped together any way that works.