12-2021

New York Public Mapping Project

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Introduction

Over the past few months, the New York Census and Redistricting Institute has conducted the New York Public Mapping Project to coincide with the 2021 state redistricting cycle. Student teams from New York's higher education institutions have been invited to participate in drafting maps for New York's congressional, state senate, and state assembly districts and submit them to the State. Teams were able to use free online software and data, along with specialized training, to draw model maps that can be submitted to the state. This Project served as key civic engagement effort for New York college and law students to understand how local democracy functions in practice. This also helped foster greater public participation and transparency and enables carefully drawn maps to be submitted to redistricting authorities. Below are submissions from New York Law School as well as six other institutions throughout the state. These include Columbia University, SUNY Stony Brook, University at Buffalo Law School, Albany Law School, Marist College, and Syracuse University. Submissions include both maps and explanations on decisions about the drawing of maps and criteria used.

Submissions

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Congressional Map: https://app.districtbuilder.org/projects/a3102fca-840f-4ed3-a4e2-6db1b668aa5f

Explanatory Essay
This map reflects a collective effort by the New York Law School Census Redistricting Team to accommodate the loss of District 27. The growth in the State of New York was fueled by New York City and neighboring counties. Upstate New York led the state in population loss which resulted in the loss of a single Congressional District. Because Upstate continues to decline in population and the New York City area continues to bring in more citizens, one district was eliminated in upstate New York. When drawing the congressional districts there was a focus on where the congressional district had been drawn. Without knowing the addresses of the incumbents, we wanted to keep the numbered districts as close to their original number as to not confuse constituents. After reviewing the 2010 Congressional map, we reviewed Census data to determine which part of the state lost the most residents. Upstate New York continues to decline in the overall population with New York City bringing in more residents than they are losing through natural births and new residents. Because New York City gained in population and Upstate New York saw a reduction in their population, it was evident that Congressional Districts 27 and 24 should merge while the population heavy centers of Rochester and Buffalo have increased their geographical presence to account for the need for more people in their respective districts. Congressional District 21 also lost residents with Hamilton County losing the most people in the past decade compared to any other county in the state. When creating each district the population decline, growth, birth rate, contiguity of counties, communities of interest including city boundaries, and population growth forecasts are all considered including which

areas are more likely to lose a future district based on population trends. When stitching together the four different maps drawn by each team member I focused on contiguity, cities, traditional boundaries, maintaining the nine majority-minority districts, and requests from citizens at the IRC. While it was not possible for each member's map to be put together as they were drawn, I believe I was able to preserve each member's intent to their respective maps with minimal changes to achieve constitutional requirements.

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Congressional Map: https://app.districtbuilder.org/projects/9400c6ff-8a40-4e21-96ad-38de1f54ab94

Assembly Map:
https://app.districtbuilder.org/projects/9854a6a5-4a69-405e-9ce0-cd4172e70042

Congressional Explanatory Essay:
I: Criteria of Interest

The New York State districting criteria require that districts 1) do not deny or abridge racial minority voting groups; 2) contain equal numbers of people; 3) are contiguous and compact; 4) do not disfavor competition or favor or disfavor incumbents; 5) maintain the cores of existing districts or political subdivisions and consider "communities of interest." All five of these criteria are reasonable considerations for designing fair voting districts, but the New York State mapping legislation does not prioritize their order. For my map, I decided to prioritize two of these criteria above the rest—equal population and contiguity/compactness—over the others. In the following section, I will briefly elaborate on two justifications for prioritizing these criteria: 1) equal population is an essential criteria that is not well satisfied by the current map and 2) prioritizing compactness de facto satisfies many of the other important considerations. In Section III, I will illustrate how my map satisfies the two priority conditions discussed above and, generally, all of the requirements. Finally, I will conclude in Section IV by presenting possibilities for improving further the suggested districts.

II: Priority Criteria

The two criteria which are prioritized in my map are equal population between districts and district compactness. Both of these are, in my opinion, critical conditions for fair and successful districts and warrant being first order concerns for mapmaking.

Creating districts with equal population is essential, because it assures equal power between voters. In this regard, the current set of NYS congressional districts would constitute a significant failure if lazily recycled. While the target size for equally populated districts based on the 2020 census should be 776,971 people per district, many of the current districts would meet or exceed that number by thousands or tens of thousands of people. Consider two extreme examples: District 8 would have +27,429 too many people, while District 23 would have -83,462 too few.

The absolute difference between these two districts would be roughly 110,000 people, or 1/7 of the intended population. That means, voters in District 8 would have significantly devalued voting power—a single voter's vote in District 8 would be worth about 86% of a voter's vote in District 23. Because the NYS population decreased since 2010, most districts if kept the same would obviously have too high a population, because there would be one too many districts. However, even if districts were redrawn, excluding one, based on similar geographic boundaries, the urban districts in New York City—where the population did not decline—would 1 NY Public Mapping Project: Rules and Regulations 1 be at a significant loss compared to rural districts—where the population did decline. The essential purpose of voting districts is to ensure equal voting power for voters. For this reason, population equality is reasonably prioritized as a first order concern in my map.

A second essential condition for fair districts is compactness. This concern relates to equal representation indirectly rather than directly and, indeed, promotes most of the other standards set for by New York State. As a general rule, prioritizing compact districts (Footnote: There are multiple ways of evaluating a district's compactness, including dividing its area by its total perimeter, based on the number of corners its perimeter contains, and other mathematical methods. These are beyond the scope of this report, and New York State does not define a specific criteria, so for our purposes we will consider District Builder's included compactness calculator.) prevents artificial gerrymandering via cracking or packing. These are mapmaking terms of art which respectively refer to the procedures of splitting minority populations into multiple districts to dilute their vote share and squeezing majority populations into majority saturated districts to dilute their vote share. Of course, districts which are compact necessarily make such processes more difficult, because there is less leeway to fiddle with district boundaries—whether that is tethering a portion of a minority population to a geographically distant majority or doing the same in reverse. The majorities and minorities in question could be partisan, but they could also be racial, social, economic, or supporters of a particular incumbent. In this way, prioritizing compact districts effectively aims to meet the conditions laid out in requirements 1, 4, and 5 of the New York State regulations. Compact districts eliminate a significant need to focus on the other criteria, as no group is likely to be significantly favored or disfavored, and is, therefore, a reasonable second order concern in mapmaking.

III: Application

I have designed my map of proposed New York congressional districts to satisfy the two priority criteria discussed above: population equality and compactness. I used District Builder's included tools, "Deviation" and "Compactness," for consideration of these metrics.
To assure equality of population, I drew districts that are +/- 50 persons from the intended population of 776,971. In most cases, the deviation was much smaller than 50 persons, and in many cases it was as small as +/- 5. The reason for this choice was that, given the large number of persons per district, it was assumed that a maximum absolute difference between any two districts of 100 persons would be statistically insignificant.

For compactness, I intended for all urban districts (specifically, districts in the counties that compose New York City) to meet a minimum score of 25% using District Builder's formula and for all suburban and rural districts to meet a minimum score of 30% using the same. In terms of

compactness, the current districts are not unreasonable, so this metric of success was chosen to keep in line with a rough average of the current districts' scores.

After fulfilling the first and second order conditions discussed above, my goals were, in order, to: 1) minimize the number of districts which any single county was split between; 2) keep large 2 There are multiple ways of evaluating a district's compactness, including dividing its area by its total perimeter, based on the number of corners its perimeter contains, and other mathematical methods. These are beyond the scope of this report, and New York State does not define a specific criteria, so for our purposes we will consider District Builder's included compactness calculator. centers of population intact; 3) split districts across county lines, natural borders (such as parks, rivers, or lakes), or major thoroughfares (such as high-traffic streets or avenues in the urban districts and major highways in rural areas); and 4) maintain a resemblance to existing districts.

In instances where one of the criteria listed above is not met by a district, of which there are many examples, it is usually the case that a higher order concern trumped a lower order one. For example, if a county is split between 2 or more districts, it is the case because doing so maintained equal population and/or higher levels of compactness. Especially successful districts include 3, 10, 17, 20, and 25. Districts that could be significantly improved include 2, 5, and 12.

IV: Next Steps and Reflections

The map I have produced is by no means the last word in New York congressional districts. Worthwhile next steps for improving my map would include: 1) accounting further for racial and socio-economic inequalities. My map does so by virtue of its focus on compactness, but with unlimited resources and time, a direct account of these criteria would be favorable; 2) working further to divide districts at the block level to reach 0 deviation districts—that is, totally equal populations; 3) gathering data on interest groups including occupation, age, education, etc. and factoring these divisions into the map. As discussed above, compact districts disfavor gerrymandering, but they also run the risk of splitting communities of shared interest. These are two values that must be balanced, but that is another paper. On a personal note, working on this map has been a highlight of my fall term. In the spring, it was my privilege to write an extended research paper on the process of legislative redistricting, and I was excited to be able to apply some of my specialized knowledge to this project. Were I designing this map purely based on my own set of priorities, I would actually jettison the rule about competitive districts and seek to draw districts that were highly partisan, proportional to state-wide party affiliation. In this way, the map would actually maximize both voter representation (i.e. there would New York Democrats and Republicans in Congress in an amount directly proportional to the number of Democrats and Republicans in New York State) and voter satisfaction (i.e. Democrats would be mostly electing Democrats and Republicans would be mostly electing Republicans—competitive districts necessitate that roughly half the population will be disappointed with the results).

Explanatory Essay for 2020 New York State Assembly District Map

Voting Rights Protections

Districts in New York state need to consider whether the lines would deny or abridge voting rights for linguistic and racial minorities. My plan serves this end primarily by maintaining the majority-minority status of districts in regions outside of New York City. These districts are particularly important because sizable minority populations may be submerged into majority-white districts in these areas. Cracking of minority populations, either deliberately or in pursuit of legitimate ends, is more important to address outside of New York City because these communities are isolated: if Black voters fail to elect their preferred candidate in a given Rochester district, they are less likely to have their interests represented by the incumbent of the next district over than voters in Brooklyn. Further, racial polarization along partisan lines may be more intense upstate, where most of the state's Republican strength lies, but minority communities remain heavily Democratic.

Maintaining the existing majority-minority districts outside of New York City in most cases requires no sacrifice in terms of other important districting criteria. Districts in Buffalo and Rochester are already compact and do not require cutting across other communities of interest. The case of district 104 is slightly less clearcut. It is a majority-minority district in the Hudson Valley that crosses the Hudson river twice to group the cities of Poughkeepsie, Newburgh, and Beacon, and scoring a relatively, but not extremely low 21% on the Polsby-Popper test. If any of these cities were grouped with a neighboring district to improve compactness, the district would have to become majority white. Completely race-blind redistricting would likely have fractured this district, because on aggregate, upstate districts had to expand and migrate south to account for population loss relative to New York City & suburbs. My general policy was to move each district south, rather than eliminating any district in order to form a completely new district in the area. This policy can be seen in the changes to neighboring districts 105 & 106 relative to the 2010 map. This policy applied to district 104 would have split Poughkeepsie from Newburgh, risking the submersion of a large minority population into two majority-white districts. However, highly noncompact districts in the 2010 districting plan (some significantly less compact than 104) rarely serve to create possible majority-minority districts. More commonly these districts break up concentrations of voters of color that would otherwise be able to form majorities or large minorities. One case study is the city of Syracuse. In the 2010 plan the city and most of its suburbs are divided between two districts, 128 and 129, entwined in a spiral-like formation and scoring 14% and 12% Polsby-Popper. The city's large black population is almost entirely within city limits and yet divided almost evenly between the two districts, making up 24% and 22% of the districts, respectively. My solution is to replace the spiral with a district based around the city limits themselves with a single, compact patch in the University Hill neighborhood annexed to a suburban district (the city itself is too large to form a single district). In the resulting urban district, whites still outnumber blacks, but form only 43% of the total population. I do not have data concerning the racial polarization of voters within these boundaries, nor the variation in voter registration rates by race to offer a solid prediction of whether minority voters can be said to control the district, but the arbitrary division of Syracuse appears to have abridged this community's ability to unite in pursuit of its own interests. A more compact district improves this ability. The legislative history and purposes of the Syracuse spiral are opaque, but whatever they were, compactness, minority representation, and the community of interest defined by the city itself are better served by a simpler design.

This is not to say there are not other noncompact majority-minority districts, however, the point is that, New York's large community of majority-minority districts do not depend on being manufactured through artificial and noncompact boundaries. The 2010 map's district 24 in Queens, with a Polsby-Popper score of 14% and an Asian plurality of 43%, consists mainly of a strip along the Grand Central Parkway. Its long, thin nature makes it contiguous with a community of interest defined by this transportation infrastructure. Further, Queens is a majority-minority borough with a large concentration of Asians in the general area where district 24 is formed. Other options for dividing the space would also likely have generated a plurality-Asian district.

A final example of the dynamics of compactness and minority rights is the relationship between districts 35 and 39 in Queens. In the 2010 plan, district 35 consists of two populated pockets, one in East Elmhurst and North Corona, connected by a strip of parkland to a portion of southern Corona and the eastern and southern parts of the Elmhurst neighborhood (for those unversed in Queens geography the neighborhood called East Elmhurst is distinct and separated by other neighborhoods from the eastern part of the neighborhood called Elmhurst). In the 2010 plan, both districts are majority Hispanic, but if the parkland connection is abandoned for a more compact division into a district 35 of East Elmhurst and Corona, district 39 takes on a majority of Elmhurst and becomes majority-Asian. This is the division I make in my 2020 plan.

The conflict between two minority communities that are both descriptively under-represented in the Assembly at the statewide level could theoretically be resolved by making the number of districts a particular racial group is in the majority proportional to that racial group's share of the population. While the legal requirement that districts not abridge minority rights is underspecified, this interpretation would conflict with the Supreme Court's ruling in Shaw v. Reno (1993) that race cannot supersede all other districting factors, even in cases where creating a number of majority-minority districts proportional to minority population is at stake. While legal precedent shows us that absolute proportionality between racial groups (which is difficult to achieve) cannot trump other goals, proportionality remains a helpful guidepost that can suggest when minority rights may be being abridged and how to balance the interests of multiple minorities.

In the case of districts 35 and 39, my approach balanced the concerns with compactness and the abridgement of the voting rights of the Asian community in Elmhurst, Queens against concerns about broader Hispanic representation within New York City's delegation. The broader picture illustrated by the table below shows that even with my redistricting of districts 35 and 39, Asians remain underrepresented and Hispanics remain overrepresented relative to parity. With more aggressive redistricting I could have achieved racial parity, but as mentioned above, I do not believe this is warranted by law as an end in itself and aggressive action to achieve it might easily violate the standards established by the Court in Shaw v. Reno. My interventions changed the racial majority/plurality status of only 4 districts (all in Queens) and these changes result from a better balance of traditional redistricting criteria, especially compactness and communities of interest, and not the abrogation of traditional criteria in favor of racial proportionality, which is not achieved within New York City or the state as a whole.

2020 Population Share
Majority/Plurality Districts Allotted (Racial Parity) Majority/plurality Districts Allotted (2010 map)   Majority/plurality Districts Allotted (LaBelle map)

White	30.9%	19.776	24	22
Black	20.2%	12.928	13	14
Asian	15.3%	9.792	6	8
Hispanic	28.3%	18.112	21	20

Equal Population

As alluded to earlier, the past ten years' population growth was larger downstate than upstate, requiring districts on net to move downstate. Contrary to what might be expected due to this trend, New York City did not gain a full seat in the assembly under the 2020 census. In order to minimize deviations in the city and throughout the state, I chose to move two districts, one in Westchester and one on Long Island partially into the city to absorb the city's excess voters. The city territories I annexed to these districts were the most peripheral and isolated portions of the Bronx and Queens. City Island and largely uninhabited connecting territories north of Co-op City were annexed to a district containing the villages of Pelham and Pelham Manor, the city of Mount Vernon, and parts of Yonkers, while the Douglaston and Little Neck neighborhoods of Queens lying beyond the Cross-Island Parkway and Alley Pond Park were annexed to a district containing Manhasset and Great Necks in Nassau county. The 2010 plan avoided any districts crossing these city limits, and contained only one trans-borough district, district 61 in Staten Island-Brooklyn. My plan embraces transborough districts in order to reduce all population deviations within the city to double- and single-digits. Congressional and state senate districts, as well as communities of interest already cross borough lines in many of the same places I chose to cross lines, including the Whitestone Bridge between the Bronx and Queens. Maintaining the 2010 policy of keeping districts single-borough would have resulted in an average population deviation of +6514 for twelve all-Manhattan districts in 2020. The deviations that would result here and in the other boroughs were not reasonable.

The results of the trans-borough districts impacted Queens most heavily. District 37, with its population centered on Long Island City and the Queens East River frontage, crosses into Roosevelt Island and Manhattan's Midtown East in my plan, absorbing significant population increases in that borough. As a result, the district loses its industrial hinterland in Maspeth, as well as the low-rise residential neighborhoods of Ridgewood and Sunnyside. These major transfers spark a domino effect that I resolved primarily by disrupting the highly noncompact District 27. In the 2010 plan it connected the College Point neighborhood to Forest Hills and Kew Gardens through a long strip of uninhabited industrial neighborhoods, highway interchanges, stadiums, and parkland. My plan severs College Point between other nearby districts and creates a compact and contiguous district in central Queens with the population vacated by moving districts 37 into Manhattan and 38 into the areas abandoned by 37. While College Point is inherently isolated to some degree from other neighborhoods, it had no cognizable community-of-interest connection to the neighborhoods in central queens. Its most natural connection is with the Whitestone neighborhood, with the other outer neighborhoods across the Whitestone bridge. It shares transportation resources and an industrial district with geographically close but much denser and demographically distinct Flushing. College Point thus also provides population to the Bronx' district 82, which surrendered City Island and environs to Westchester's district 89.

I acknowledge College Point's partial annexation to district 82 as the most problematic aspect of my entire plan. It is not ideal for College Point, which is relatively internally homogeneous and is isolated from the rest of the city by water and industrial districts, to be divided between two districts. Unfortunately, College Point and Whitestone combined have too much population to be in district 82 in their entirety, and excluding Whitestone makes the district noncontiguous. The trans-Whitestone Bridge district is superior to creating a Bronx-Manhattan district, because moving majority-Hispanic districts in upper Manhattan further south compromises that status if they move into the whiter Upper West Side, or threatens the majority-black status of Harlem's district 70. Moving districts around more diverse Queens offers less flux in overall racial balance and more control over winners and losers from that flux.

Contiguity and Compactness

There were two cases where 2010 districts were not contiguous along city streets. District 31 in Queens included sections of Arverne and Far Rockaway that were contiguous with the main part of the district only across miles of uninhabited marsh and water in Jamaica Bay beyond JFK International Airport. The connecting causeways carrying the Cross Bay Boulevard and the A Train were both part of district 23. Although New York State law does not specify that contiguity must be by land, and there are inhabited islands off Long Island and in the Thousand Islands region that cannot be connected to the rest of their district by bridges, it seems unreasonable to allow connections across large stretches of water and uninhabited marshland when inhabited areas are connected by street. Accordingly, I traded the marsh-abutting enclaves in Arverne and Far Rockaway away to district 23, and added areas in Howard Beach to district 31. It should be noted that the dubiously contiguous blocks were heavily black, and the transfer resulted in districts 23 and 31 both becoming plurality-black while previously district 23 was majority-white and 31 was majority-black. Variation in which blocks within Howard Beach belong to which district does not appear able to change this outcome. In any case, the 2010 map's apparent creation of majority-white and -black districts via noncontiguity does not appear to be a justifiable attempt to protect a racial group's voting power.

In a second case, in the 2010 plan Long Island's district 9 sandwiched district 11, which was centered on the incorporated cities of Amityville and Lindenhurst, with a portion to the west of these cities in Nassau county and a portion to the east centered on Babylon. The district also included a long stretch of sparsely inhabited Jones Beach Island, connected by road to the eastern portion of the district over the Great South Bay Bridge. However, the Jones Beach Island section was not connected by road to the western portion of the district other than by passing through district 14 on the Wantagh State Parkway. Miles of uninhabited water and marshland "connect" this district as well. My solution to this problem was to replace the sandwich with two compact districts. Unfortunately this required splitting Amityville and Lindenhurst, the old core of district 11. However, this seemed more justifiable than the alternative of annexing the Wantagh State Parkway and neighborhoods connecting it to the western portion of district 9 which would preserve much of the old districts intact. That would put a veneer of legality on an arbitrarily constructed and highly noncompact district.

One highly noncompact district I altered was district 101, a slender snake-like strip reaching over and across the Catskills from the outskirts of Utica to Newburgh was a significant outlier,

scoring 8% on the Polsby-Popper test and requiring a 2 hour and 46 minute drive (according to Google Maps) from the northern to the southern edge. I consolidated this district as a compact district in the southern Catskill region centered on its southern end.

Prohibition on Favoring/Disfavoring Incumbents and Parties

I did not use political data in my redistricting, nor did I look up the residences of all 150 incumbents to verify I kept them in-district. Likely some of them were removed, but religiously attempting to preserve them would also amount to favoring incumbents. I attempted to strike a balance here by maintaining the cores of past districts whenever possible, knowing that this would be impossible in some cases and entail shifting peripheries in any case. The incumbents most in danger would be those on whom inordinate effort in previous redistricting was put on retaining them, despite a shift in the character of their district and its core. There were two highly noncontiguous districts I consolidated were districts 13 and 15 on Long Island. Their complex intertwining broke the vast majority of local city boundaries and had no visible community of interest justification, so I replaced them with a southern district centered on Hicksville and Jericho, and a northern district based on Glen Cove, Oyster Bay, and Muttontown. It is highly likely that in doing this, I moved one or both of the incumbents out of their district, or perhaps I upset a delicate partisan balance that had generated the baroque shapes of the districts. I normally practiced restraint in altering the character of districts, except in cases that seemed extreme. One exemplary case of a borderline district I judged not extreme enough to heavily interfere with was Queens' district 29, a majority-black district with a somewhat long shape that twists to the east at its northern end. Another was the North Country's district 117, which contains a hook extending around the southern side of the city of Rome. In both cases, the shapes were not so complex, so I kept them relatively unchanged because I was wary of heavily changing the character of these districts, something that is a bad in itself, unless compensated for by other gains. Except in cases where severe noncompactness, or evidence that minority communities were being packed or cracked existed, I generally maintained moderately complex districts in order to avoid unknowingly disrupting incumbents or altering party dominance.

Maintaining Cores of Past Districts, Political Subdivisions, and Communities of Interest
When I did do major reworkings of districts that changed their cores, or established new cores for coreless/multi-core districts (such as Syracuse' 128th), my approach was to reconstitute cores around communities of interest, usually cities. For example, in the capital region, the three main cities of Albany, Troy, and Schenectady were all split. In my plan, they are whole, except for a long strip of suburban Albany proper that juts out to the west, which I attached to a district encompassing the suburbs between these three main cities to improve compactness. Throughout, I attempted to keep the large cities in as few districts as possible, and splitting as few smaller cities as possible. Consider Buffalo. In my plan it is split into two urban districts, with one city-suburban district (district 142) absorbing the city's excess population from a single area in the city's southeast. In order to allow Grand Island (a part of Erie county) and the city of North Tonawanda to be fully in district 140, rather than split with Niagara County's district 145, a few unincorporated suburban communities immediately to the north of Buffalo are included in otherwise urban district 149. (Given my earlier alteration of District 64 based on bridge-related driving discontinuity, it should be noted that district 140 is contiguous via driving on the Youngmann expressway onto the Grand Island Bridge). Rochester is split into one urban district

(137) and two city-suburban districts. It would be possible to be only two urban districts, but the major suburban city of Irondequoit would have needed to heavily disrupt either district 134 or 135, both of which had such small population changes they were able to stay almost identical to their 2010 identities.

I achieved very low population deviations while respecting most city and town boundaries. In some cases, this required shifting around towns whole. In general, I tried to grab population by moving lines that split large suburban towns that were not incorporated as cities, and observe the lines around incorporated cities much more rigorously. I reason that an incorporated city in the suburbs of a larger city constitutes clear evidence that its citizens consider themselves a community of interest, and while not incorporating is not evidence of no community of interest, it is more justifiable to split. I prioritized small towns without suburban development at all higher than suburban towns for two reasons, first because their smaller population allows them to be kept whole more frequently, and second because small towns are more credible as a single, defined community of interest. A suburban community organized politically as a township contains people who likely identify more with communities of interest (either a whole-city community of interest or an aspect of the city) in the city their suburb outlies than with those who happen to occupy the same suburban development, and much less with those in the rural portion of their township. Nevertheless, everyone cannot win. District 113 around Saratoga Springs is one example of how I managed these tensions. This district contains many outlying rural towns, which I kept intact. As a cost of this, because I could not get equal population otherwise, the towns are not all the same ones as in the 2010 district. The shape of the district has changed significantly, but its character as Saratoga Springs and nearby rural areas has not changed, nor has much population changed, because the geographically spacious square townships that have changed districts have very little population. Another good example that illustrates my approach in incorporated and unincorporated suburbs is district 119, which includes Rome, Utica, and some Utica suburbs. Equal population could have been reached by adding whole rural towns to the district, but my approach was to include territories that seemed more of a community of interest with these cities. This involved attaching the incorporated village of New Hartford (just outside Utica) to the district, and nearby blocks that closely abutted the city of Utica, but letting the outlying portions of the town of New Hartford be part of a rural central New York district, in my map district 121.

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Congressional Map: https://app.districtbuilder.org/projects/e11aeb50-e3f4-4b4b-9d7f-a863b267e51d

State Senate Map: https://app.districtbuilder.org/projects/4a244b9d-ae4a-401e-8cfe-606f6d0b953d

Explanatory Essay: https://docs.google.com/document/d/e/2PACX-1vSrVVScmp-u_4QCG_Ko7wSqc4jwA4krOgGDHP1A66o9XFP9ipnMCyrpcYCV4J_KOUC7mSsl61sToLSU/pub

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Congressional Map: https://app.districtbuilder.org/projects/c07dcf68-da18-451e-8493-16db768c780e

State Senate Map: https://app.districtbuilder.org/projects/7084a846-5119-4db2-8d73-88fc154a2bfa

Assembly Map: https://app.districtbuilder.org/projects/17a366fa-c442-4ac8-9126-3b9d2e7f65d3

University at Buffalo School of Law: N.Y. Congressional Districts Submission Essay

In entering the Public Mapping Project's redistricting competition, our team at the University at Buffalo School of Law aimed to draw maps at each of the district levels, focusing on creating districts that adhered to federal and state law while being representative of as many constituents at possible. We approached the project with an eye toward drawing lines where legislators elected from each of the 26 districts would have to represent larger, more diverse groups of people. We did not give weight to partisan politics or favor incumbents, and instead sought to create districts which would be politically competitive, thus seeking representatives who would be held accountable to represent the goals of all their constituents. In this manner, we wished to draw districts that were reflective of a sort of idealistic redistricting process, imagining a system where districts were representative of the greatest variety of individuals possible.

Within this overall framework, our submission for the Congressional-level New York State districts was driven by several different goals and factors. Overall, our team focused on getting the districts as close as possible to having equal populations, fulfilling United States Constitutional requirements codified in the Fourteenth Amendment, as reinforced in *Reynolds v. Sims*.[1] Although we were given a maximum threshold of +/- 1% population deviance for the Congressional districts, we endeavored to get the district population deviance as close to zero as practicable.

Other primary goals included compactness and preservation of the cores of existing districts. We also aimed to promote diversity in each district, both social and political, and drew district lines in a manner that kept together communities of interest.

In drawing the Congressional map, we aimed to create districts that did not promote partisan advantage and did not favor any particular incumbent. While district centers were mostly preserved, we attempted to draw lines to make districts that would be politically competitive, including individuals from both rural and urban areas where this was practicable. While this was difficult to do in population-dense urban areas such as New York City, we tried to pair different residential areas (urban with rural, urban with suburban, etc.) together when possible.

Goal I: District Compactness Concerns
Overall, our Congressional districts were more compact than the current Congressional districts, with a compactness score of 42% (as opposed to the current score of 35%). Where districts were less compact, it was typically for reasons related to either overall population deviance or keeping communities of interest or geographical locations together.

For instance, in our District 20, the overall shape of the district is not particularly compact, and circles around part of District 19 in a way that may appear to be arbitrary. However, in drawing districts 19 and 20, we wanted to ensure that the political unit of Albany was kept together, while respecting overall population deviance requirements. District 20 was drawn to contain some of the outlying suburbs of Albany to balance out some of the more rural areas from Upstate New York that were included in the district, but Albany and its primary suburbs were kept together in District 19, in order to ensure that the city and other politically aligned areas would not be "cracked" by the district line between 19 and 20. An illustration of these districts is provided below, in Figure 1:
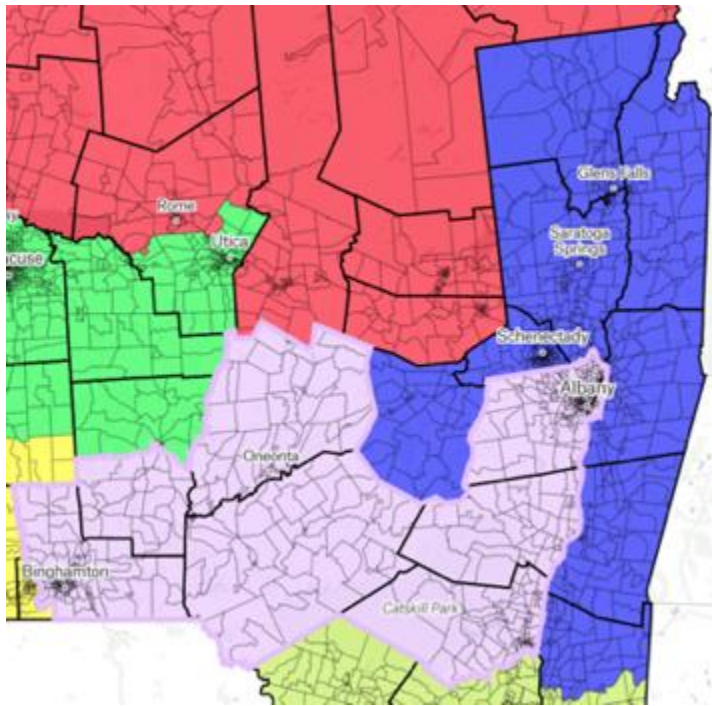

Figure 1: District 19 (light purple) and District 20 (blue).

Likewise, districts 25 and 26 were drawn in a similar manner, although we ended up dividing District 26 a little bit in order to make District 25 more competitive. We kept most of the city of Buffalo together in District 26, and included Niagara Falls in the district, as the region has been aligned historically, politically, and socially, making up a very specific community of interest that has been divided by other district maps. In order to balance the overwhelmingly rural areas of District 25, we included part of South Buffalo and Cheektowaga in the district, keeping together a large part of the area by drawing the line at Broadway and below the Cobblestone District of Buffalo. While this area of Buffalo historically has been politically aligned with the rest of the city, we estimated that this area has much in common with the areas of Southern Erie

County that lean toward the political right. South Buffalo includes parts of West Seneca and Cheektowaga, which are socially aligned with the area south of Broadway, and contain several social communities that have shared interests with some of the city's outlying suburbs. In this way, we favored keeping together communities of interest and creating a competitive district over compactness when creating District 25, but also kept together the primarily rural core of the district.[2] Our goal was to ensure that individuals in the southwest of New York would not be separated into political subdivisions with little to no voice, but would also live in a district that was more politically competitive, leading to more effective and responsive representation of all of the district's residents.

Goal II: Population Deviation

Regarding population deviance, each of our districts fall well below the allowed +/- 1% threshold. As each district must include as close to 776,971 residents as is practicable, we attempted to make our deviations close to zero. Our greatest deviations were found in Districts 13, 16, and 25.[3] Typically, our communities of interest focused around either social or geographic communities with a history of voting similarly or having certain aligned social and political interests. In this manner, when drawing districts in New York City, a region that is almost overwhelmingly Democratic, our communities of interest usually centered around certain neighborhoods. Districts 13 and 14 divided up parts of Manhattan, and we wanted to keep the Yorkville and Upper West Village neighborhoods together, leading to a population deviance that was greater than we typically aimed for. However, rather than divide up these neighborhoods, we elected to keep their residents in the same Congressional district.

Similarly, in District 16, we were also driven by concerns relating to communities of interest. In this district, we aimed to keep the University Heights and Fordham area together, while including the surrounding neighborhoods where students and employees may reside or work. Because of this goal, we included the Williamsbridge area, attempting to keep that neighborhood within the district, and ended up with a +505 population deviation.

Finally, in District 25, the -650 population deviance was caused by both a goal to avoid a county split with District 23, and to make sure that the suburbs outside of Rochester were included along with the city in District 24. Apart from these three largest population deviations, other districts had a maximum deviation of -356 and +255 over zero, and twelve of the twenty six districts were below a +/- 100 individual deviation threshold. With more specific data and demographic information, these numbers could potentially be brought even closer to zero, but the current deviations fall within the allowed threshold, and exist primarily because of concerns regarding avoiding county splits and keeping communities of interests together.

Goal III: Communities of Interest

Keeping communities of interest together was a primary concern in creating our Congressional districts.[4] In each district that was drawn, our class aimed to identify any social or political groups that existed in an area, and then determine how we could ensure that such a group was kept in the same district. We relied on geographic boundaries as well, as many neighborhood and city lines were indicative of how a region had historically expressed its political will. Overall, we

attempted to keep neighborhoods together where possible, especially in larger areas such as New York City, where city limits could not be used to determine district lines. Additionally, we relied on institutions such as universities, hospitals, and local parks to display where certain communities of interest might lie. For instance, in District 4, we drew lines in a way that would keep the community surrounding the Nassau University Medical Center together, while putting the Farmingdale University community in District 2. By keeping these communities together, we were able to determine where lines might be drawn- as population deviance was also a concern, we would sometimes have to put larger communities in separate districts, in order to ensure that the communities were not broken up.

Geographic areas, such as counties, sometimes served as communities of interest, in areas such as Upstate New York. Additionally, cities and surrounding suburbs often made up relevant communities of interest that we preserved, such as the Rochester/surrounding suburbs area in District 24. Other relevant communities of interest included minority voting groups in both rural and urban areas, which we took care to not break up, so that we would avoid the pitfalls of potential voter dilution. By focusing on communities of interest in this manner, our team hoped to ensure that discrete communities were both preserved and adequately represented in the districts we created.

Goal IV: Political Neutrality

Finally, our Congressional map was driven by goals of political neutrality, where we attempted to create districts that were competitive and avoided incumbency advantage. To do this, we tried to pair areas with roughly similar numbers of urban and rural voters, or with varying political makeups, when the information was available. This goal was driven by a desire to draw districts that would truly represent greater numbers of residents, making representatives accountable to constituents of varying political ideologies.

In a time of extreme political partisanship, we felt that this was crucial to the drawing of fair and equal Congressional districts. For example, we drew District 24 to include both Rochester and some of the surrounding rural areas. While Rochester as a city may swing more Democratic in terms of the residents' overall political viewpoints, the inclusion of suburbs such as Henrietta and the more rural areas of Webster and Greece ensure that the district would include a fair number of residents with connected (in terms of the region) but varying political perspectives. Similarly, in District 23, the region includes a great number of Republican-leaning residents, such as in towns like Amity and surrounding rural areas in Steuben, Yates, and Ontario counties. To balance this, we included more urban block-groups, such as ones from university cities like Ithaca and Vestal. While this goal could not be completely effective in highly politically concentrated areas, such as the Adirondacks regions in Upstate New York, or the denser urban population of New York City, when we could form districts that could be fairly politically competitive, we did so.

Federal and State Law Requirements

Our New York Congressional district map meets both federal and state law requirements. Our districts afford equal representation to all residents of New York State, fulfilling federal

Constitutional requirements. The map adheres to the principle of "one person, one vote," as shown by our observance of the +/- 1% population deviance requirement, getting as close as only +1 constituent over 0 in District 6. Additionally, relevant provisions of the Voting Rights Act are met, as the districts do not abridge the right of individuals to vote based on race, color, or language. The Congressional districts drawn keep together communities of interest, and were not created in a manner that would weaken the ability of a minority group to vote as a community. In fact, our map includes 11 majority-minority districts, as opposed to the 9 majority-minority districts that currently exist in New York.

Regarding state law requirements, the Congressional district map meets relevant voting rights provisions which maintain that a district cannot deny or abridge racial minority voting groups. As evidenced by our focus on preserving cores of districts and communities of interest, and our increase in overall majority-minority districts, our districts do not curtail the voting rights of minority groups. Our goal was to increase the influence of minority groups, so that hypothetical representatives would have to cater to multiple groups of constituents.
We sought to make sure that the rights of each New York resident was protected, and that voting rights were not denied. Equal population standards were also met, as our districts meet the appropriate deviation threshold, and some come fairly close to reaching zero population deviance.

Our districts are also all contiguous, and are as compact in form as we could make them. Some of our districts have a compactness score as high as 57%, with half of all districts falling somewhere between 40-57%. District shapes that might suggest extreme gerrymandering are avoided, and when a district strays from a more compact shape, there are countervailing policy concerns (such as keeping together communities of interest or avoiding geographical splits) to balance out any issues.

Additionally, our Congressional districts were drawn in a manner that emphasized non-partisan goals. Along with a focus on competitiveness, the districts were not created in order to favor or disfavor any particular incumbent or candidate. District lines were drawn to pair urban and rural areas with roughly equal population where possible, so that any candidate would be on equal footing with another when trying to gain votes from a district's residents. We created our maps in a manner that maintained the cores of existing districts (for instance, the city of Buffalo in District 26, the rural and suburban areas of District 25, and the Rochester suburbs of District 24). Preexisting political subdivisions, such as are present in many urban areas throughout the state, were also respected, and were not "packed" or "cracked" for partisan advantage. Social and political communities of interest were kept together, such as university areas in New York City and the Binghamton region, and rural communities in Upstate New York. By focusing on these communities and keeping them together, we were able to draw district lines which complied with state law requirements governing these issues.

Conclusion

Overall, in approaching the New York Public Mapping Project, our team's goal was to create districts which were both reasonable and competitive, and which complied with all statutory and common law concerns. Primarily, we were concerned with the formation of districts that were

compact and centered around both geographic and social communities. We aimed to include both urban and rural areas in as many of our districts as was practicable, analyzing the political leanings of these areas in order to make each district as potentially competitive as we could. While our team exercised a certain degree of maintenance of the cores of existing districts, we attempted to draw our districts in a way that was devoid of favor for certain candidates or incumbents. We employed a neutral strategy, pairing together areas with core interests in common, rather than areas with a history of voting for the same or similar candidates. Our focus on the creation of districts that were politically competitive assisted in the way we drew our lines, as we took care to form districts that would force any potential candidate running for office to appeal to a wider range of voters in order to be elected, holding hypothetical representatives responsible for the goals of all of their constituents, rather than a small core base. By focusing on these goals, our team was able to create districts that were more compact than the current New York State Congressional districts, keeping key communities together while also introducing a level of potential political competitiveness. Our districts also tended to have greater diversity than the existing ones, including individuals from all backgrounds and political leanings. Our emphasis on drawing districts that would reflect more diverse voices thus helped achieve the creation of more majority-minority districts than currently exist in New York. By putting together our Congressional districts in a neutral, non-partisan manner, variety was embraced, leading to a potential for districts that might be reflective of a broader base of voters than before.

In this manner, our Congressional districts express our team's objective to employ the tool of redistricting fairly and not divisively.

We thank you for considering our submission to the New York Public Mapping Project.

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[1] *See* Reynolds v. Sims, 377 U.S. 533, 558 (1964) (reinforcing the directive of "one person, one vote").
[2] We were driven primarily by the allowed "race-neutral districting principles, including… compactness, contiguity, [and] respect for political subdivisions or communities defined by actual shared interests…" as set out in *Miller v. Johnson*, 515 U.S. 900, 917 (1995).
[3] For District 13, the +652 population deviance was caused primarily by our wish to keep certain communities of interest together, specifically, the Manhattanville and Harlem neighborhoods.
[4] *See* Miller v. Johnson, 515 U.S. 900, 944 (1995) ("Along with attention to size, shape, and political subdivisions, the Court recognizes as an appropriate districting principle, 'respect for . . . communities defined by actual shared interests.'").

University at Buffalo School of Law: N.Y. Senate Districts Submission Essay

Introduction

As part of the Legislative Redistricting class at the University at Buffalo School of Law, our team created a New York State Senate map using the District Builder software and the latest decennial census data. While drawing the Senate districts, we focused on district compactness, preserving communities of interest, and maintaining equal population apportionment. As a result,

our New York State Senate map includes six fewer county splits, two more majority-minority districts, and consistently higher compactness percentages than the operative map currently in use. Additionally, New York's existing State Senate map does not entirely meet the +/- 5% standard deviation requirements, and we have drawn our boundaries here with every district meeting this obligation.

We emphasized preservation of communities of interest, especially whenever counties were split. As courts have consistently held, communities of interest can include landmarks, schools, media markets, transportation centers, partisan registration data, and other related areas. When possible, our team took advantage of each member's familiarity with different regions of the state in determining communities of interest and in justifying any county splits. We intentionally did not duplicate parts of the existing maps, because we did not want to perpetuate the existing electoral advantages that exist. For self-serving mapmakers, continuity is a way to justify already favorable partisan advantages. A redrawing may at first appear to be partisan, but where districts are more compact, more diverse, and more contiguous than the existing map, communities of interest will be better served. By emphasizing these goals of compactness, population equality, communities of interest, and political neutrality while drawing our map, we were also able to create a map which complied with both State and Federal law redistricting requirements.

Primary Goals

Our first goal was to ensure that the Senate map complied with relevant state and federal requirements regarding equal population apportionment. Once our districts were in the standard deviation of +/- 5%, we were able to evaluate how compact they were, address issues of partisan advantage, and work at preserving communities of interest.

In the making of the Senate map, a great deal of thought went into how our team would handle prominent racial minority areas. Predominantly, we wanted to avoid "packing" and "cracking" current districts and communities of interest, thus creating as many diverse districts as possible. For example, in Buffalo, rather than making the city one district, our team decided to split the city into two districts, adding suburban areas to each of them. North Buffalo and much of the Elmwood Village area is now part of a district including the suburbs of Amherst, Grand Island, North Tonawanda, and Niagara Falls. The other district containing the City of Buffalo includes suburbs such as Cheektowaga and Depew. See *Figure 1* below to see how our team avoided cracking and packing the City of Buffalo:
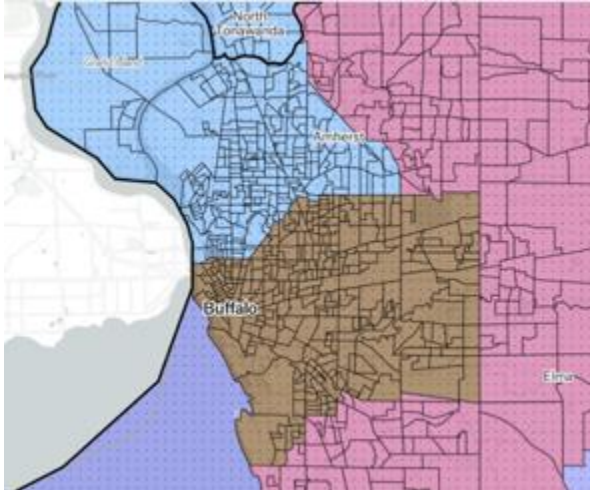
Figure 1: Senate Districts Drawn in the City of Buffalo

Compactness

Our team also prioritized compactness while drawing our Senate map. Compactness is found when districts have a small perimeter, creating a tight and semi-symmetrical region. We spent a great deal of time making sure our map had high compactness scores. Crucially, compactness helps keep existing political subdivisions and communities together, as the principle assumes that people who live in the same geographical regions will likewise be in similar communities of interests. Sometimes compactness was altered by locations like zoos, inland islands, and large parks. Assigning large blocks that had low populations (sometimes two or three people) in the middle of dense communities often presented a challenge for our team in keeping districts compact. This was especially difficult in assigning a district to blocks like the Bronx Zoo and Central Park. No matter how we assigned these blocks, it was going to have a negative impact on that district's compactness score.

Communities of Interest and Political Neutrality

Considering communities of interests when making our maps was the most important aspect to the later stages of our district building. Once our districts were relatively apportioned, analyzing the communities we were potentially making vulnerable was very important. Everyone on the team looked at communities, and what makes a community, from slightly different angles. This affected how we wanted to group towns and neighborhoods together. For instance, one team member tended to look at geographic areas and notice where universities and colleges were situated, knowing that where these places were assigned would affect how competitive a district was for a political party. However, another teammate looked at the map and immediately saw military bases. For that teammate, a person who had served in the military, military bases and the towns that were economically supported by them were communities of interest. For this reason, our map is particularly thoughtful in how district lines were drawn, as we had a group of diverse individuals focusing on various communities of interest.

Additionally, our team aimed to create a Senate map that would be politically competitive. Currently, many of the New York districts appear gerrymandered and created in a way to secure partisan candidates. Our team drew lines in a manner meant to fight political operatives, while still being respectful to the integrity of districts. We did our best to maintain county lines, we avoided cracking minority areas, and we considered many different types of communities of interests (not just race or political leanings). What resulted is a Senate map which better reflects the communities in New York State than what currently exists. Overall, our map is 37% compact, which is 15% more compact than the current state's Senate map. We have more majority-minority districts. Even in seemingly simple criteria, like county splits, our team created a state Senate map with fewer county splits than what currently exists.

Implementation of Goals

After we determined our primary goals, our team aimed to implement them while drawing district lines. What follows is a few key examples of how this was done, and an explanation of any major deviances that may be found.

Buffalo/Western New York

Buffalo is the economic and political magnet in Western New York and is a clear community of interest. Still, it was important not to pack Buffalonians into a singular, circular, concentrated district in our Senate map. Our map reflects the diversity of Buffalo by carving out portions of the city into several districts. One State Senate district in Buffalo, which spans from Elmwood Village to Blasdell, is a majority-minority district. Considering Erie County contains 954,236 people with 71% of its population being white, we tried to create a majority-minority district without completely packing Buffalo. We achieved this while still having a politically purple district to the North with Niagara Falls and Tonawanda paired with parts of Buffalo.
We contained towns surrounding the metropolitan Buffalo area to the same districts, as they have more in common with each other than with towns in larger districts spanning the Southern Tier or East toward Rochester. Our Senate map, which places Hamburg with other Buffalo suburbs like Williamsville, is an example of this. The district above Buffalo in our map is especially politically diverse, with Tonawanda and Niagara Falls included. Besides North Tonawanda and Niagara Falls being placed in a district with parts of Erie County, Niagara County is paired with the "G.L.O.W." counties that separate Buffalo and Rochester. Genesee, Livingston, Orleans, and Wyoming counties were kept together in the State Senate map because of their commonalities including their regional tourism program and cooperative efforts and committees that serve these areas.

Rochester/Monroe County

For our districts in Rochester, we made sure to not pack the diverse population in the city, as we split up a large community of interest into several districts. Monroe County is one of the larger upstate counties, so it was divided on the map pursuant to the population deviation requirement. The Genesee River is an obvious landmark that naturally divides the city, and that was considered in our map. In the current State Senate map, the Frederick Douglass Airport is carved into a district that spans Le Roy, Batavia, and all the way East to Williamsville and East Amherst. We included the Rochester-area airport in a district that coincides with the Monroe

County border line in order to ensure that one representative has these resources and can work on any regional transportation or airport projects that affect that nearby community.

South of Rochester, our State Senate map keeps the heart of the Finger Lakes region together along with the central Southern Tier counties. The current Senate map carves out Irondequoit and draws a district South that extends from Lake Ontario to Naples and the lower Finger Lakes region. This district, along with several others, are not compact and serve multiple, dissimilar communities of interest and counties due to the sparse nature of the district. Continuing the trend of keeping large rural districts together, our Senate map instead preserves the North Country and the Adirondack Mountains into two distinct districts. One traces Lake Ontario and the counties bordering Canada, while the other follows the Eastern border of the state, neighboring Vermont.

Binghamton/Syracuse

In our Senate map, Binghamton and all of Broome County was joined with Tioga and Chemung counties, preserving the rest of the Southern Tier. The population of this district is comprised of rural areas with a few notable college towns. Similarly, Ithaca and its universities are joined with more non-metro areas carving into Onondaga and Cayuga counties up to the area parallel with Syracuse. Nearby Clay, Cicero, and Rome were paired with Madison and Chenango counties. In the current State Senate map, Utica is paired with St. Lawrence, Potsdam, and Massena in a thin district that appears gerrymandered on its face. In our Senate map, Utica is joined together with Saratoga Springs because we believe Utica has more in common with parts of the Capital District than New York's northern border. Additionally, Saratoga Springs is one of the fastest-growing cities in the state, and we think it is more appropriate to group it with another population center such as the diverse city of Utica, compared to the current Senate map that places Saratoga with the extremely rural Columbia County.

Long Island/New York City

In approaching the Long Island districts, we prioritized compactness and keeping communities of interest together within the population standard deviation. To achieve this in our State Senate map, we started at the easternmost tip of Suffolk County at Montauk and went down the coast, stopping at Old Mastic. We generally looked to keep larger towns together and were cognizant of major highways like the Long Island Expressway and Hempstead Turnpike, as well as universities such as SUNY Stony Brook.

In our Senate map, the first borough we drew was Manhattan. We selected the financial district and split up the East and West side into their own districts along Sixth Avenue and Central Park. Harlem was drawn with East Harlem along FDR Drive and the Harlem River to the south, Eighth Ave to the west, and Bronx County to the north. The Harlem district is one of many majority-minority districts with a high Black and Asian population. The Northern portion of New York County was kept together along the Hudson River and is another majority-minority district with a strong Hispanic population that also includes Columbia University. By preserving these communities of interest, we were able to draw diverse, compact districts which would serve the needs of New York City's constituents.

In approaching the Bronx, our priority was to keep neighborhoods together. The West side of the county was maintained from High Bridge to Fordham in our Senate map. East Tremont was kept with Belmont and the district continues under the Bronx Zoo blockgroup to include Morris Park and Pelham. The least compact district in our Senate map, District 25, includes the large blockgroup of the Bronx Zoo and New York Botanical Garden, which juts out and is one of the largest and least populous blockgroups in New York City. This district contains similar communities of interest because of the location of the biggest metropolitan zoo in the United States, and the largest botanic garden within a city in the entire country. These institutions bring substantial tourism dollars and provide unparalleled educational benefits to the community, which is why we included them in our Senate district with a disadvantaged area that also requires social services and government funding such as Edenwald Houses, which is the largest New York City Housing Authority development in the Bronx.

When we approached Queens County, the district lines we drew ensured that the left portion was contained from Bronx County and Rikers Island to Kings County, while also including LaGuardia Airport. Above John F. Kennedy Airport, Rosedale is in a district with Queens Village and Glen Oaks along the county border of Nassau and Queens. This district, numbered 21 on our Senate map, is extremely diverse and mirrors the 13th community board of Queens. Grand Central Parkway was a useful landmark to divide districts in the center of Queens County. The district located at the top of Queens is similar to the 7th community board with College Point and Murray Hill, but it also crosses into Bronx County to include the Southeast Bronx neighborhoods like Throggs Neck and Schuylerville along the East River. Jamaica, the county seat of Queens, is the centerpiece of a State Senate district with Ozone bordering to the West and St. Alban's to the East in what comprises our most compact Senate district.

Richmond County and its nearly 500,000 people had to be broken in our Senate map. We created another majority-minority district in Senate District 15, which includes more diverse areas of Southeast Kings County and northwest Staten Island. In our Senate map for Kings County, we kept the Greenpoint neighborhood with Williamsburg. We cut along Prospect Park and Ocean Ave to carve out Flatbush, which mirrors the Q and B service bullets of the Metropolitan Transportation Authority. A Senate district of southeast Kings County follows the beach towns like Gerritsen and Bergen and crosses into Queens County and some of Nassau County to the Rockaway peninsula. These coastal towns are more sparsely populated and have similar communities of interest, especially as this relates to the various beaches, marshes, and the Jamaica Bay Wildlife Refuge. Included in the South Ozone Park and Jamaica neighborhoods' Senate district is the Aqueduct Racetrack facility and casino, which is the only racetrack in New York City, and a valuable interest to these neighborhoods. Southeast King County is preserved with Coney Island going East to also include the boardwalk, local hospital, and the New York Aquarium, which is the oldest continually operating aquarium in the United States, and an obvious staple of the area.

When comparing our Senate map to the one currently in place, it is interesting to note the differences regarding compactness and contiguity. The current map's failure to ensure that all districts are contiguous insinuates that other interests were prioritized in the drawing of these maps. Using ratio principles, a simple way to promote the one-person one-vote principle is to have each district contain approximately the same number of voters within reason. Non-

contiguous districts blatantly show partisan gerrymandering, and a simple way to ensure that communities of interest are reasonably kept together is by having a district that connects. It is the prerogative of the legislature to create fair districts that meet the requirements and promote the one-person one-vote principle. Still, it is not clear if legislators will reform themselves, engage in non-partisan redistricting, or be able to explain their objectives in drawing certain district lines as we have done here.

Compliance with Federal and State Law Requirements

In creating our map, our top priority was avoiding malapportionment. Equal protection, guaranteed in the Fourteenth Amendment of the U.S. Constitution, ensures that all populations within the state will be counted equally in their representation, using the principle of "one person, one vote."[1] A state with districts that do not abide by these federal and state directives would be violating Constitutional rights of groups of people. Before thinking about communities of interests, contiguity, and compactness, ensuring that our maps consisted of equally apportioned districts was our first step. If districts were malapportioned, we would be violating the Equal Protection Clause of the U.S. Constitution. Because of this, we made sure to keep to the +/- 5% population deviation requirement. The Voting Rights Act is also complied with in a similar manner, as none of our Senate districts abridge the rights of individuals to vote based on race, color, language, or other prohibited category. Instead, we prioritized keeping together communities of interest, increasing the overall number of majority-minority districts to 24.

The Senate map complies with state law, as it does not include districts which abridge the rights of racial minority voting groups. Equal population standards were met as required by state law, and the districts themselves are contiguous and compact, resulting in a higher overall compactness score than exists in the current Senate map. Any deviations from compactness were guided by specific concerns regarding communities of interest, and no districts were drawn that break up political groups into districts to dilute their voting power intentionally. Our Senate map was drawn in a way which emphasizes non-partisan goals, and was not put together with a political objective in mind. Incumbents were not given unfair advantages by the map, and we did our best to create politically competitive districts, while preserving the cores of existing districts where possible. By focusing on these objectives, our Senate map complies with both statutory and common-law requirements for drawing district lines.

Conclusion

On every account, our team aimed to create districts that reflected the best-case scenarios for districts in the New York State Senate. Our maps are not politically gerrymandered, they do not favor one party over the other, and they do not disenfranchise communities. Compactness, competitiveness, and communities of interest were emphasized in order to draw district lines that were fair and neutral. In this manner, we attempted to show what an ideal form of redistricting might look like, without emphasizing divisive and political goals that are all-too-common in the real-life redistricting process. Hopefully, our focus on these issues have created districts that reflect a broad variety of views, while providing for the opportunity for each New York resident to have their political will be represented in the state Senate.

[1] See Reynolds v. Sims, 377 U.S. 533, 558 (1964).

University at Buffalo School of Law: N.Y. Assembly Districts Submission Essay

Introduction

The redistricting process gives the people of New York State an opportunity to create a map which keeps communities of interest together and produces politicians who have the best interests of their district at heart. Considerations such as keeping communities of interest together, compactness, avoidance of county splits, and equal representation were the main driving forces behind the creation of UB Law's finalized state assembly district map. Given the focus on these factors, our final map reflects compliance with federal and state law regarding equal population apportionment and non-discrimination. What follows is an explanation of our methodology in choosing primary policy considerations, and examples of districts where we applied these factors.

Population and Demographic Shifts

We were significantly influenced by the overall demographic shifts that have occurred in New York State. Both population and demographic shifts have occurred in the state since the 2010 census. This creates shifting political and policy-driven goals and desires of the many regions within the state. These shifts create new communities of interest and change the political landscape of those same regions. Finally, it carves out new voting blocks, especially in areas with increasing minority (BIPOC) populations. Areas that before were controlled primarily by one large voting block are now potentially facing minority coalitions that could have different or oppositional policy ambitions to preexisting districts. New York, as a whole, experienced the following shifts between 2010 and 2020:

New York's raw population numbers increased by 7.4%, to a new total of 331.4 million citizens. This growth was in line with the national average of exactly 7.4%, however, it contrasts strongly with southern states where growth averaged at 10.2%. The National diversity index grew substantially, from 54.9% to 61.1% in the years 2010-2020. Self-reported race demographics were:

Race	National	New York
White alone	61.6%;	52.5%
Black alone	12.4%	13.7%

Hispanic	**18.7%**	**19.5%**
Asian alone	**6%**	**14.1%**
American Indian and Alaska Native alone	**1.1%**	**0.4%**
Native Hawaiian and Pacific Islander alone	**0.2%**	**0.1%**
Some Other Race alone	**8.4%**	**U/a**
Two or More Races	**10.2%**	**U/a**

Fig. 1: Population demographics in NYS
Source: Census.gov

Viewing the population shifts in New York through the lens of change in GDP allows for a more data-driven analysis in which the movement of individuals can be better viewed. Primarily, it allows the redistricting process to be viewed as a shift in economic means rather than a shift in where people report their home of record. This allowed our team to better view communities of interest as well as overarching political communities with their own primary goals and efforts. Movement within the state, due to poor economic downturn and issues therein, was hampered by the lack of funds to move with. Simply put, where people are earning and spending money better helps define communities of interest than relying on a singular data point of where someone gets their mail (typically, their primary residence). See *Figure 2*.

Change in Real GDP, 2009-2017
New York State Metropolitan Statistical Areas (MSAs)
In Rank Order of Percentage Change (All US MSAs = 17.5%)

	Change	US Rank (Of 383)
New York-Newark-Jersey City*	13.2%	175
Albany-Schenectady-Troy	8.6%	229
Buffalo-Cheektowaga-Niagara Falls	7.5%	249
Glens Falls	4.8%	277
Kingston	3.2%	288
Syracuse	3.1%	289
Ithaca	2.5%	293
Rochester	-0.4%	319
Elmira	-1.1%	327
Utica-Rome	-1.5%	334
Binghamton	-2.9%	344
Watertown-Fort Drum	-10.5%	375

* Includes some northern New Jersey counties
Source: Bureau of Economic Analysis

Fig. 2: GDP Change by MSA Region
Source: Bureau of Economic Analysis

The figure above allows bisecting points of data, creating a multi-faceted and modular view of population shifts and communities of interest therein. This data helped shape our understanding of communities of interest, and allowed to be better informed while drawing our district lines.

Focus on Communities of Interest

Our team used several lenses through which communities of interest can be viewed and determined. These range from policy needs, industrial and commercial interests, crime and punishment needs, to factors such as geographic locations and natural resources (and their potential preservation or exploitation) in an area. For our purposes of redistricting, we took a three-pronged approach, with checks and balances in reserve. First, we identified current legislative districts and the political action taking place within those regions. Second, we viewed those districts through the population shifts in those areas. For example, the Watertown-Fort Drum region had a vast shrinkage of population since 2015, when United States Central Command shut down Tenth Mountain Division's Third Brigade Combat team. For reference, this resulted in nearly a fourth of the troop- and dependent-population to leave the area; a massive population reduction considering the inherently low population numbers of the surrounding areas such as Watertown. Third, we examined the shift of commerce in geographic areas, specifically the shrinkage of certain industries versus the expansion of others.

Further, money and politics are inherently intertwined. More precisely, people are both individuals and economic units. Examining where people work versus where they reside is

imperative for the purposes of drawing district lines. See *Figure 3* above. Due to economic problems the state has faced in the last decade, horizontal maneuverability and the ability to change locations has been exceptionally difficult. People are taking longer commutes to their places of work and business in order to keep themselves fiscally solvent. While money doesn't vote, a community of interest can be defined industrially or commercially, and if one travels an hour to work daily, then their political beliefs will travel with them via simple cultural diffusion. Binding areas into communities of interests is a difficult task for any organization or group, as the many facets of what defines a community of interest vary widely. A low-income community next to a wealthy community may have always had a shared representative, however at what point can a representative accurately and in good faith represent both communities? When must the division occur? To that end, we looked not at political slants or the votes cast for certain candidates, but rather we examined grassroots movements and low-level community leaders. When examining these factors, there was special emphasis placed on policy over politics; more precisely, what did neighborhood X want as reflected in their local politicians versus neighborhood Y? This was further expanded upon by looking at policy arguments made by effective and elected leadership. If two communities, for example, both elected school board members who vowed to embrace a proprietary farm-to-table method of delivering food to the students, these communities would be considered having aligning interests, in spite of wealth or racial gaps. Using this multi-tiered validation of our communities of interest identification system, the UB team was able to ensure that the depersonalization of monetary and populace-based efforts did not remove humanity from the equation, but rather allowed that humanity to be better understood and politically engaged in an ethical manner.

Avoidance of Favoring Partisan Politics and Avoidance of Gerrymandering

A major effect when drawing any district, especially when a seat has been lost due to population issues, is the potential for creation of political in-fighting. Combining two former districts into a singular district must be avoided at all costs, lest the interests of competing communities of interest be set against one another. Care was taken to prevent and embrace the idea of allowing existing political leaders and citizen representatives to continue to represent their communities in a healthy and realistic manner. Avoidance of in-party fighting, and representatives being focused on a new and difficult political battle, rather than legislating and representing said communities was to be avoided. Therefore, the method used was to take existing political interests and districts and spread them more evenly among the surrounding areas that represent similarly minded and goal-oriented communities of interest.

There can be no doubt that gerrymandering is wildly political and grossly unethical. The districts produced herein were designed with the thought in mind for more accurate representation in political and policy-focused matters. Taking seats from one party or attempts to disenfranchise particular voting groups were immediately ruled out as viable options for the methodology of these districting efforts. Preventing inaccurate and bad faith representation in politics is an impossible task, but reducing the amount of effort utilized to lend support and political power to a particular party or ideal that is not in the interests of the constituency was a strong first step in helping to assuage some of these problems.

Each of the districts were drawn to have a healthy mixture of urban, suburban, and rural constituents where possible. By having such a diverse group of constituents, a candidate for each of these Assembly seats would have to listen to the concerns of each of these groups and advocate on their behalf if they were to hold onto their seat. An example of this would be the two districts that include Buffalo which were drawn to include some of the exurbs and less populous areas outside of Buffalo, while still ensuring that minority populations in the city do not have their vote diluted. When it came to districts downstate, the priority was making sure that communities of interest were kept together, as it is not realistic to create politically competitive districts, except in parts of Long Island and Staten Island.

Application of Methodology to the Assembly Map

What follows are some examples of how our team utilized our methodology and concerns surrounding communities of interest, compactness, and political neutrality in various regions around the state. While not all of the districts are expanded upon, we took care to choose certain districts and areas of the state which we felt best represent our goals for this project.

Western New York

In Western New York, the main political subdivisions include the city of Buffalo and the surrounding suburban and rural areas. On the map, the city of Buffalo is broken down primarily into two districts, with borders along the Towns of Kenmore, Cheektowaga, and Blasdell. The entire city did not fit within one district due to the large population, and therefore needed to be split. The vertical split of the city is identical to that of the current Assembly Districts. As Buffalo is still a fairly segregated city, our goal was to maintain a diverse population as opposed to packing any one race into one district. The two large districts made up from Buffalo are both majority-minority districts, with one being a minority coalition and the other being Black. When one discusses Western New York, it must be taken into consideration that the Southtowns and the Northtowns are two very different places. The suburban area surrounding North Buffalo is more metropolitan than that of its southern counterpart. Kenmore, Amherst, and Tonawanda are very close geographically, and have similar communities of interest. There is a hospital within Kenmore, Kenmore Mercy, that serves as a focal point for the district. The district ends with the partial splitting of Amherst. This split was made to account for the large population brought into the area by the University at Buffalo's North Campus location. Portions of the campus have a higher population density when compared to the neighborhoods that surround the area. This district also contains the Buffalo Niagara International Airport, the St. Joseph Campus of the Sisters of Charity Hospital, and Tifft Nature Preserve, which would not be easily split into separate districts, given the employment- and residential-based communities of interest which exist near these locations.

The Niagara River was utilized as a natural separation point between districts rather than the county line, as individuals living on Grand Island are more aligned as a community of interest with the city of Niagara Falls, than it would be with the city of Buffalo. As Niagara County has less than one-third of the population of Erie County, putting together districts that contained more than one county was necessary. The inclusion of Grand Island in a district with Niagara Falls is consistent with the current district representing that area. Outside of Niagara Falls, the

rest of Niagara County is predominately rural, leading to the remainder of the county making up the rest of the district, while also including small portions of Erie and Orleans County. This rural area of Western New York is the cause of the population deviance, with the district being several thousand people short of the recommended population.

The Southtowns of Western New York are also increasingly rural as one travels away from Buffalo and into Pennsylvania. The southernmost districts that were created within Erie County are much larger than their urban counterparts due to the lower population. The towns of Holland, Eden, Colden and Collins make up the core of the current district in that area. This district does not create a county split, and its population will align politically, given the mainly rural makeup, and its history as a community of interest.

Travelling North, the remainder of Wyoming County, Genesee County, Orleans County, a portion of Livingston County, and a small portion of Monroe County all create one district. This is one of the least compact districts in the proposed Assembly map, as it stretches across several counties, but it does have a primarily rectangular shape. The population of the proposed district is well within the 5% deviation threshold. SUNY Geneseo is also located within this district. This shape maintains the core elements of the current district as well.

Southern Tier

The Westernmost district in the Southern Tier is a largely rural one which includes Steuben County as well as parts of Livingston, Yates, and Steuben Counties. This district was organized to include rural populations from the Southern Tier, as they tend to have interests in common with their neighbors, allowing for a reasonably compact district despite low population. Just to the East is a district that encompasses Chemung County, as well as parts of Tioga and Schuyler Counties. This district remains fairly similar to the current district represented by Chris Friend, with the main change being the addition of part of Schuyler County. This district follows an economic corridor along Highway 17 that represents a group of people who are largely connected to Elmira, as it is a local hub. This district remains relatively compact despite its largely rural nature, in order to keep people with similar interests together and to respect the boundaries of municipalities where possible.

Just to the East of this district is another Southern Tier district that encompasses Binghamton and most of its suburbs. This district is highly compact and stays within the county, and most town lines are respected as well. Once again, it is similar to the current district represented by Donna Lupardo. Heading further Eastward is the last of the Southern Tier districts, which contains all of Chenango County, as well as portions of Broome, Tioga, Cortland, and Delaware Counties. As this is a highly rural district with the only population center being Norwich, multiple counties had to be included to have the district be within the +/- 5 % population deviation threshold.

Central New York

When determining how to draw the boundaries for districts in Syracuse, the ultimate decision was made to split the city into a Northern and Southern district. The Southern district has a highly diverse population, which should enable racial minority groups to have a voice in that

district, whereas if the city was split from East to West, this would have split the Black community in Syracuse and diluted their voting power. The focus of the Northern district was to primarily stay within the city limits so the municipal boundaries could be respected as much as possible, keeping the communities of interest located within the city itself together.

In Central New York, there was also a district that contained many exurbs of Syracuse (such as Clay) where our team aimed to keep these communities together, due to their shared connection with Syracuse. The remaining Central New York districts that were more rural ended up split across multiple counties, due to their low population density. This did not prove to be a drawback, as these counties and the rural areas within tend to have similar community concerns and issues that are prioritized. While it is ideal to try to create compact districts, we found that this was not always possible, due to low and uneven population density. When compactness could not be prioritized, we focused heavily on pairing together communities of interest and geographical areas that have been historically and politically aligned.

New York City

When creating districts for New York City, the most important factor our team prioritized was trying to maintain minority-coalition districts to ensure minority populations within the city have fair representation in the legislature. With the exception of Staten Island, there are no competitive areas of New York City between Democrats and Republicans, so political considerations were not as highly prioritized in drawing district lines for the city, unlike with other parts of the state. The other factor that was important in creating districts in New York City was trying to keep neighborhoods together. We paired neighborhoods together as communities of interest, as each has a unique set of issues and concerns. In this manner, we aimed to draw boundaries by neighborhood, also leaving colleges and public housing developments together. This can be seen in districts such as the Northernmost district of the Bronx, where the district was drawn so as to keep CUNY Lehman together, or the district below it, which is drawn to keep Fordham together.

Overall, identifying communities of interest utilizing these methods allowed the UB team to design districts that best represent the beliefs of not only the people who live street by street, but also to encompass political interests and beliefs with a much wider and more representative method.

Legal Considerations/Compliance with Federal and State Law

The majority of our legal considerations revolved around what federal courts have considered constitutes a community of interest, as well as case law regarding current redistricting efforts across the nation.[1] Some of this law is currently being adjudicated across the United States legal system, and therefore proved a minefield to navigate. However, our maps, given their emphasis on compactness, equal population, and non-discrimination, satisfy both federal and state law requirements relevant to redistricting.

Our primary legal concern was a simple one – representation of communities of interest that did not create racially segregated districts. Though there were many instances in which communities

had shared racial subsections, those subsections were due to other factors besides race. Further, even if they were not segregated de jure, they must also not be segregated de facto; that is to say, that even if the communities themselves had a specific racial component, they must not accidentally discriminate. This problem was dealt with in a number of ways. Firstly, utilizing the multi-facet community identification system as detailed earlier allowed districting to be based on factors other than simple single-point data. Further, the multi-tests and review systems discussed allowed holistic identification of potential problem areas. Finally, using a map overlay of racial makeup of the proposed districts allowed identification of potential unforeseen segregation while continuing to engage the multi-facet test that had been utilized thus far.

Our Assembly map adheres to population and representation requirements, are as compact as practicable, and keep together communities of interest and existing political subdivisions. The map was not drawn with an eye toward favoring incumbency or a particular political party. In this manner, the map complies with statutory and common-law requirements regarding redistricting.

Conclusion

Our UB Law Assembly districts were drawn with one major goal in mind – preserving communities of interest so those elected to represent each district in New York represent all communities fully, genuinely, and in good faith. The methodology for drawing of these districts was complex, however the team who worked on this project made effort after effort to ensure a reasonable, responsible, and unbiased approach to this redistricting work. With each of the maps being submitted, concerns surrounding minority voter dilution, compactness, and the creation of districts that promote diverse constituencies were prioritized in an effort to hopefully produce politicians who will listen to all of their constituents because of district competitiveness. Overall, the Assembly map was created to represent a competitive, bipartisan voting population. The reduction of gerrymandered districts ensures that the new districts drawn would better represent the citizens that live directly in the vicinity of their peers, and would be more racially and politically diverse. Rather than singling out one group in particular to be better represented than another, the map embodies the principle of equal protection under the law.

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[1] *See* Miller v. Johnson, 515 U.S. 900 (1995), regarding communities of interest.

Stony Brook University Seawolves
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Congressional Map: https://davesredistricting.org/maps#viewmap::a4499d1c-c56c-43f4-9e57-c036a5766002

State Senate Map: https://davesredistricting.org/maps#viewmap::aea995a8-40e7-4591-b7c1-a7c757dcdb8d

Assembly Map: https://davesredistricting.org/maps#viewmap::a5d82905-e453-4101-bc0a-2a0051790812

Steven Basileo, Class of '22
William Russell, Class of '23

INTRODUCTION

To design maps for New York districts in the wake of the 2020 Census, we have used Dave's Redistricting App (DRA). https://davesredistricting.org/maps#home
DRA is publicly available. Some of us were already familiar with DRA, which saved on start-up time to get going with this project. Our proposed maps for the three sets of districts along with the statistics and analytic properties (Analyze tab) can be accessed through these links: New York State's Congressional Seats (House of Representatives): https://davesredistricting.org/maps#viewmap::a4499d1c-c56c-43f4-9e57-c036a5766002 New York State's Senate Seats https://davesredistricting.org/maps#viewmap::aea995a8-40e7-4591-b7c1-a7c757dcdb8d New York State's Assembly Seats https://davesredistricting.org/maps#viewmap::a5d82905-e453-4101-bc0a-2a0051790812 Note that these files are very large and may take time to load.

PART I: Redistricting New York State's Congressional Seats Overview:

With results of the 2020 Census having been released, the reapportionment of electoral districts is bound to follow. New York's population grew less than most states of the nation and thus our state lost a Congressional seat in reapportionment (though only by a count of fewer than 100 persons). Using Dave's Redistricting App (DRA), which is publicly available, we have designed a map for the new 26 New York districts in the U.S. House of Representatives that can be accessed through this link:
https://davesredistricting.org/maps#viewmap::a4499d1c-c56c-43f4-9e57-c036a5766002

Our proposed districts meet these key requirements for redistricting:
● One, the 26 districts are roughly equal in size. They deviate from exact equality (776,971) by on average of only 0.19%, which is far below the 0.75% threshold tolerated by the courts.
● Two, all precincts are assigned to districts.
● Three, all precincts in districts are connected.
● Four, no districts are embedded in others.

Moreover, as shown by the Ratings graph provided by the DRA program, our proposed map scores very high on three other desirable attributes. One is compactness, with a score of 82 (out of 100), two, minority representation (score of 67), and three, proportionality of the state's partisan division (score of 76). The low score for competitiveness is the flip side of achieving minority representation, given the overwhelming Democratic support in minority communities. The low score for splitting comes about because several counties are too big for a single congressional seat (Suffolk, Nassau, Bronx, Kings, New York, and Queens).

In terms of the partisan make-up of the proposed districts, 18 would be expected to lean Democratic, based on an average of 55% or more of the vote in the 2016-2020 elections, and

one would lean Republican; seven would fall in the 45-55 competitive range. Important to note, there are 11 majority-minority districts.

We now describe in detail how our proposed district map was drawn in various parts of New York State. Long Island Districts:

The new map for Long Island districts differs little from the old one. We had to make some small changes for the 1st District, adding the western portion of the township of Smithtown, and the hamlets of Bayport and Bohemia, currently in neighboring districts. To compensate for this, we removed the northern portion of the township of Islip from the 1st District, instead adding it to District 2. This undid the split of the Islandia village in the 2010 map. Our 2nd District is also fairly comparable to the existing district's composition. Outside of the changes precipitated by District 1's absorption and ceding of some areas, the primary changes involve adding Hicksville, Old Bethpage and Plainview (all currently parts of the 3rd District), and removing Seaford and Levittown. This causes the 2nd and 3rd Districts to look less compact, but prevents needless splitting of townships (Seaford and Levittown are in the township of Hempstead, while Hicksville, Old Bethpage and Plainview are in the township of Oyster Bay). The 3rd District proposal makes some more substantial changes. All portions of the current district which are a part of Queens are removed, and several villages and hamlets within the Town of Hempstead are added instead (New Hyde Park, Garden City, Hempstead [village], Westbury and Salisbury). This prevents a Long Island district from impinging upon a New York City borough to the most practicable extent (although District 4 is forced to do this for a lack of remaining Long Island population). Our 4th District proposal does take a substantial portion of southern Queens. This was done for the sake of community maintenance; in other words, to avoid splitting communities. The part of Queens included stretches from JFK Airport to Breezy Point. It also encompasses the remaining portions of Nassau not absorbed by the 2nd and 3rd Districts.

New York Districts: New York City is where major changes of district boundaries were unavoidable. The current district map for the City was drawn in a way that ignored compactness and failed to ensure communities were not broken apart. Turning first to "Lower City" districts, we designed the 5th District in a way to make it more compact by stretching it from Parsons Beach to Jamaica. The new 6th District encompasses the area of Queens from Douglas Manor to Astoria, and also includes LaGuardia airport. The 7th District on our map takes the remaining parts of Queens, going from Long Island City to Howard Beach, and absorbs a part of Brooklyn tro ensure equal population. Moving on to Brooklyn, the new 8th District stretches from East New York to Gerritsen Beach. The 9th District reaches from Coney Island to Windsor Terrace. The 10th District takes Staten Island in its entirety (in contrast to the 2010 map where the 11th District encompasses Staten Island), and uses the area of Brooklyn between Fort Hamilton and Boerum Hill to fill the remaining population void. Almost all of the remainder of Brooklyn is taken by the 11th District, with a small pocket near the Williamsburg Bridge left to the 12th District due to population constraints.

Turning to the Upper City (Manhattan and The Bronx), we redesigned the 12th District to encompass southern Manhattan from the Battery Tunnel to Lenox Hill and a very small part of Brooklyn just east of the Williamsburg bridge. The new 13th District stretches from

southernmost Central Park to Washington Heights, leaving out only the northernmost tip of Manhattan. The 14th District takes the remainder of Manhattan (Hudson Heights to Marble Hill) and a substantial chunk of the Bronx (from Spuyten Duyvil to Highbridge). The 15th District rounds out the New York City-majority districts, stretching from Morrigania to Eastchester and leaving only a small portion of the Bronx left for District 16 to absorb.

Mid-State Districts: "Mid-State" represents the region from Westchester to Albany for the purposes of this assignment. The 16th District takes the last remaining area of the Bronx (Wakefield) and then expands from Mount Vernon to Tarrytown; New Rochelle, White Plains and Yonkers also fall in this district. The 17th District stretches from Mount Pleasant to Patterson, and includes the notable West Point academy. Unlike its predecessor, the 18th district is much more vertical in our proposal; it goes from Newburgh to Coeymans, and includes key cities such as Poughkeepsie and Hyde Park. The 19th District follows suit, going from Blooming Grove to Cortland, and including Binghamton, Oneonta and Vestal. The Mid-State "bloc" of districts is finished up with the 20th District, which encompasses Albany, Troy and Schenectady.

Upstate Districts: Given the declining population of this region since the 2010 Census, this is where the loss of a seat in the U.S. House of Representatives has to be accommodated in redistricting. Note that our definition of "Upstate" is a bit narrower than is conventional, as we classified a portion of traditionally upstate land as "Mid-State". Regardless, our "Upstate" definition encompasses the rest of the state (from the Adirondack region to Buffalo). The 21st District starts this set, and ranges from Saratoga Springs to Plattsburgh, and then from Plattsburgh to Watertown. The Adirondack region is particularly lacking in population, and so the district has to cover a rather large amount of land. The 22nd District is far more urban, encompassing Syracuse, Utica, Oswego and Oneida. The 23rd District covers the Finger Lakes region of the state, and includes college towns like Auburn and Ithaca. The 24th District takes the Greater Rochester area while also claiming the relatively small town of Clarendon to the west to achieve population parity. Our proposed District 25 takes the western portions of the old District 27, which has been eliminated. Its eastern portions were donated to District 23 alongside Niagara Falls. Finally, District 26 lays claim to most of the Greater Buffalo area in a minimally changed district.

PART II: Redistricting New York State's Senate Seats

Overview: Shifts of population within New York State since the 2010 census make it necessary to redraw the districts for the seats in the New York Senate, all the while the number of such seats remains the same at 63. The upstate region continued to lose population as the metropolitan region made gains. Using Dave's Redistricting App (DRA), which is publicly available, we have designed a new map for the 63 districts of the New York State Senate that can be accessed through this link:
https://davesredistricting.org/maps#viewmap::a5d82905-e453-4101-bc0a-2a0051790812

Our proposed districts meet these key requirements for redistricting:
● One, the 63 districts are roughly equal in size. They deviate from exact equality (320,537) an average of only 0.23%, which is far below the threshold tolerated by the courts.

● Two, all precincts are assigned to districts.
● Three, all precincts in districts are connected.
● Four, no districts are embedded in others.

Moreover, as shown by the Ratings graph provided by the DRA program, our proposed map scores very high on four other desirable attributes. One is compactness, with a score of 66 (out of 100), two, minority representation (score of 75), three, proportionality of the state's partisan division (perfect score of 100) and four, splitting (score of 74). The flip side of these high scores is a low score for competitiveness. Given the overwhelming Democratic lead among minority voters, majority minority districts are not very competitive. The compactness score also is somewhat lower because of the need to avoid splitting. We did our best to keep towns, communities, and neighborhoods together. The aim was to keep like-minded people together within one district. Given the sheer size of many counties in the state (Suffolk, Nassau, Bronx, Kings, New York, and Queens), however, splitting is unavoidable.

In terms of the partisan make-up of the proposed districts, 40 would be expected to lean Democratic, based on an average of 55% or more of the vote in the 2016-2020 elections, and six would lean Republican; 17 would fall in the 45-55 competitive range. Important to note, there are 25 majority-minority districts We now describe in detail how our proposed district map was drawn in various parts of New York State.

District 1 starts at the easternmost point of Suffolk County and follows town lines all the way into Brookhaven. We tried to keep communities and neighborhoods together as much as possible while also ensuring equal size of districts; it is not until we reach District 33 that the population deviates by more than ten from exact equality, rarely topping 100. District 4 reaches into southern Bellport and Brookhaven to ensure equal population. We also had to make adjustments for Islip and Sayville. Continuing into Nassau County and then Queens, communities were prioritized as towns and cities became too large for a single district. These regions are not particularly competitive and all lean Democrat, except for Districts 7 and 20. As we move past the New York City region and into the Westchester region, the districts continue to lean Democratic but drastically grow in geographic size. As we move further north on the map, the districts start to follow county lines rather than town lines. This slightly increases the deviation of their population from exact equality; still, few top 100. The upstate New York region also holds much more competitive and Republican districts. Perhaps the most difficult district to draw was Number 57, which covers the suburbs of Rochester. Keeping natural communities together was a daunting task, resulting in the largest deviation (581), though still well below the threshold tolerated by the courts.

PART III: Redistricting New York State's Assembly Seats

Overview: Just like for the New York State Senate, shifts of population within the state since the 2010 census make it necessary to redraw the districts for the seats in the New York Assembly, all the while the number of such seats remains the same at 150. The upstate region continued to lose population as the metropolitan region made gains. Using Dave's Redistricting App (DRA), which is publicly available, we have designed a new map for the

150 districts of the New York State Senate that can be accessed through this link:
https://davesredistricting.org/maps#viewmap::a5d82905-e453-4101-bc0a-2a0051790812

Our proposed districts meet these key requirements for redistricting:
● One, the 150 districts are roughly equal in size. They deviate from exact equality (134,626) by an average of only 0.62%, which is far below the threshold tolerated by the courts.
● Two, all precincts are assigned to districts.
● Three, all precincts in districts are connected.
● Four, no districts are embedded in others.

Moreover, as shown by the Ratings graph provided by the DRA program, our proposed map scores very high on other desirable attributes as well. One is compactness, with a score of 71 (out of 100), two, minority representation (score of 79), and three, proportionality of the state's partisan division (perfect score of 100. The flip side of these high scores are low cores for splitting and competitiveness. Given the overwhelming Democratic lead among minority voters, majority minority districts are not very competitive.

In terms of the partisan make-up of the proposed districts, 99 would be expected to lean Democratic, based on an average of 55% or more of the vote in the 2016-2020 elections, and 16 would lean Republican; 35 would fall in the 45-55 competitive range. Important to note, there are 53 majority-minority districts.

Given 150 Assembly seats, it is not feasible to do a district-by-district analysis here. All we can do is to provide a summary for each of the regions of the state.

Districts 1-22 cover Long Island, including the East End's District 1, Smithtown's District 6, Oyster Bay's District 12, Massapequa's District 14, and Hempstead's District 16.

Districts 26-39 cover Queens, including John F. Kennedy Airport's District 25, Utopia's District 29, LaGuardia Airport's District 32, and Jackson Heights' District 37.

Districts 40-46 and 51-63 cover Brooklyn, including Bergen Beach's District 44, Coney Island's District 46, Borough Park's District 59 and Red Hook's District 63.

Districts 47-50 cover Staten Island, including Seaside's District 48 and New Brighton's District 50.

Districts 64-76 cover Manhattan, including Tribeca's District 65, Central Park's District 71, and Harlem's District 73.

Districts 77-87 cover the Bronx including Hunt's Point and Rikers Island, District 81, Middletown's District 85, and Eastchester's District 86.

Districts 88-98 cover Westchester, Putnam, and Rockland counties including White Plains' District 92, Mount Pleasant's District 93, and North and South Salem's District 98.

Districts 99-108 cover the southern central counties of New York including Dutchess, Ulster, and parts of Albany County.

Districts 109-113 cover Albany and its surrounding areas including Albany and Rensselear's District 110, Troy's District 111, and Schenectady's District 112.

Districts 114-119 cover the northwestern most counties of New York including Saratoga Springs' District 115 and Plattsburgh's District 117.

Districts 120-130 cover the northern central counties of Madison, Onondaga, and Cortland including Cortland's District 122, Syracuse's District 124, and Clay's District 125.

Districts 131-138 follow up from Steuben County into Monroe County including Rochester's District 135, Greece's District 127, and Brockport's District 138.

Districts 139-145 are Buffalo and its surrounding areas including Amherst's District 139 and Buffalo's District 141. Districts 146-150 are the remaining northern districts around the outskirts of Buffalo and the Great Lakes including Orchard Park's District 147 and Fredonia's District 150.

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Congressional Map: https://app.districtbuilder.org/projects/b467d57a-cb7c-436b-81bb-8f6f616f5d6e

Explanatory Essay
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The overarching goal that motivated the drawing of our New York State Congressional District Map was a commitment to fairness, largely understood as competitiveness within each electoral district. In an era of deep partisan polarization, worsened by the aggressive gerrymandering of electoral districts, we sought to closely adhere to the guidelines set forth by the Supreme Court and the mapping project. Those guidelines require that state legislatures draw districts that are compact, contiguous, and consistent with existing political subdivisions. While none of these principles guarantees against partisan gerrymandering, in operation together, they prevent the most egregious kinds of boundaries drawn without regard to community, people, and places.

Guiding Principles and Accomplishments

We set our sights on the overarching goal of creating an electoral map that advances the values of fairness, responsiveness, and preservation of communities of interest. Fairness can be defined as the equal distribution of voting power across interests and persuasions.[1] Responsiveness reflects the level of competitiveness of electoral districts. For example, a perfectly responsive district will shift representation to reflect changes in citizen preferences; districts that are impervious to such shifts are not responsive.[2] Voters may be more likely to participate in elections if they view them as competitive.[3] The League of Women Voters defines a community of interest as "groups of individuals that are likely to have comparable legislative and community concerns based on similarities and who therefore would benefit from cohesive representation in the legislature."[4] When rooted in geographical locations, these communities may be composed of people that share similar economic, political, and/or environmental concerns; cultural, racial, and/or linguistic characteristics; and institutions such as school districts and municipal boundaries.

In an effort to avoid partisan gerrymandering, we sought to include one major metropolitan area within each electoral district while controlling for compactness, contiguity, and consistency with existing political subdivisions. Although the Supreme Court has not prohibited partisan gerrymandering in cases such as Rucho v. Common Cause (2019), one of the very purposes of non-partisan redistricting commissions like the one in NY State is to avoid gerrymandering for the gain of political parties by guaranteeing safe Democratic or Republican Districts. We believe that the map drawn is compatible with the goal of competitiveness as a measure of fairness and equal voting power.

The map we created also sought to promote majority-minority districts in an effort to increase diversity in NY State's legislative bodies. Although debates about the best method to promote diversity continues, creating majority-minority districts ensures that the state Senate and House reflect the demographic and racial diversity of the state. By increasing the total number of majority-minority districts, racial minorities will likely see more representatives that look like themselves and reflect their interests in a way more closely attuned to the realities of racial inequality in the state and the nation.

There are various criteria that can be used to maximize fairness, responsiveness and the preservation of communities of interest: contiguity; compactness; adherence to preexisting electoral and political boundaries; and the creation of majority-minority districts.

Contiguity. Contiguity creates districts where all parts of the district are connected in one continuous area, without any geographic separation of parts of the district that require crossing district boundaries. Contiguity lessens the possibility of gerrymandering. Our final published map made every district contiguous and with equal population.

The DistrictBuilder Program only included a few variables to work with, so we challenged ourselves to balance the population using the block view to get as close to 0 deviations as possible. The 2018 map had an average deviation of 3% while our map had an average deviation of -0.0.4% across all districts. This required us to strategically draw our lines sometimes across county lines or use specific blocks that allowed for a minor deviation.

Compactness. Compactness refers to the shape of a district and provides a measure of how close constituents live to one another. A district in the shape of a circle has maximum compactness; contorted boundaries and dispersed districts are less compact. Compactness as it appears on a map – "physical" compactness – must be balanced against the practical considerations of geography, such as rivers and mountain ranges that prevent "functional" compactness.[5] Elected representatives can have more frequent and easier contact with their constituents when they are in a more limited geographic area, rather than spread out over a larger distance. Additionally, constituents that live close to one another are more likely to share characteristics and interests, and they can more easily organize with one another to voice their concerns and interests when a district is compact.

In our final published map, the average compactness score increased by 1%. However, when the map was examined more closely, 11 districts decreased their compactness score while 15 districts increased their compactness score from the current map.

Electoral and Political Boundaries. To the extent possible, redistricting efforts should try to preserve existing subdivisions, including counties, cities and towns. Practically, maintaining such divisions reduces the burden on election administrators by keeping all races within the same precinct. Moreover, political boundaries are presumed to provide a good approximation for the communities of people that share common interests.[6]

The total number of counties that were split increased by five in our final published map. Due to the density of the greater New York City Metropolitan area, it is unavoidable that counties are split when drawing districts. In other parts of the state where the density is less of pressing concern, efforts were taken to preserve the existing county lines. We made the decision to have a metropolitan area in each district allowing for each district to have a hub in order to voice their opinions in one place. For example, the 21st district is mostly the Adirondack region but also includes Utica as a way to include a metropolitan area in a district that is incredibly spread out. This allows for a city to become the hub and then branch out from there.

When we discussed preserving communities of interest, we focused on two regions; the boroughs of New York City and Oswego. When it came time to begin redistricting for this year, Oswego County Administrator Phillip Church requested that the commission try to keep Oswego County together as it has its own interests, especially since they will be the only county with interests concerning nuclear power plants and power over their Great Lake access. Our map takes this request into consideration and includes Oswego county into the Adirondack regions, further described in our table. This consideration protects the interests of Oswego while also allowing for a partnership with Utica that is also included in this district, giving residents of the district two small metropolitan areas that are looking for the same goals. The other communities that attempted to protect were the boroughs within New York City. In order to have a balance of population, you need to divide the boroughs or include multiple boroughs in one district. We see this specifically within Kings and Queens counties, in the 2018 map, there are 6 districts in Kings County and 7 within Queens County. In our improved map, there are 5 in Kings County and 6 in Queen County. This allows for less carving within the boroughs while protecting the strength of neighborhoods within Brooklyn

and Queens. This aligns with our value of equity, allowing for these neighborhoods to have an amplified chance of participating in voting and protecting their most important concerns.

Majority-minority districts. In a majority-minority district, one or several racial minority groups together comprise a majority of the district's population. Such districts increase opportunities for minority candidates to win elections and increase the political power of persons of color. In our final published map, we increased the total number of majority-minority districts by two. More notably, the relative proportion of these districts is greater in the proposed map at 42% of total districts.

Our map increases from 9 majority-minority districts to 11 which is about a 10 % increase from the last time that the maps were drawn. When we increase the majority-minority split, we simultaneously amplify the voice that the minority voters have on the issues that concern them. For example, we needed to amplify the voices in the cities, especially in the neighborhoods that are a majority of a specific minority, thus giving us a more representative Congress.

Endnotes: [1] Nagle, John F. 2019. "What Criteria Should Be Used for Redistricting Reform?" Election Law Journal 18:1, 63-77.
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Congressional Map: https://app.districtbuilder.org/projects/6dba3790-b30d-4179-b991-75689899aaec

State Senate Map: https://app.districtbuilder.org/projects/f7b1e8f0-8324-44d6-a49f-96f2dd6e8614

Explanatory Essay

CONGRESSIONAL MAP

Congressional districts are more than divvied up plots of land – they are reflections of the demographics of those who live there and a congressperson should represent his or her constituents. New York is one of the largest states in the Northeast and no two congressional districts in this state have the same exact interests – each district is unique and should be represented by someone who understands these interests. When we created this map, we took into account demographics, urban/rural divides, economic interests, existing incumbents and where they live. We believe that this map is a reflection of our effort to ensure that every community is represented by someone who best serves its interests and we'll describe more down below.

Beginning in Western NY, we've tried to keep all of the existing districts as they were. In Central NY, we put Tompkins County together with Onondaga County, since we believe that the two have very similar political and economic interests. This district would be one of the more educated districts in the upstate region and it would contain two of the state's most prominent universities in Cornell and Syracuse. Moving east, we created two large north-south districts, which span large areas. We believe that even though these areas are wide-encompassing, the populations that they represent have similar interests and would be best served by congressmen and women who understand these issues, as they currently do. Albany's congressional district would serve Albany, Saratoga, Troy, Schenectady, and Kingston – areas which have similar interests and tend to lean Democratic. Moving downwards, we decided to divide Sullivan and Orange counties into areas which best serve different communities and interests. Monticello and Liberty have a growing Latinx population and are more Democratic-leaning than other parts of the two counties, so we've decided to group them into Democratic-leaning areas in the east.

Moving downstate, we've tried to keep existing congressional districts as much as we could, in order to ensure that ethnic communities continue to be represented by the representatives that best understand their unique interests. We've also tried to link newly-emerging ethnic communities with one another as much as we could so that their interests could be properly represented in Congress. With respect to Staten Island's congressional district, we've tried to link it as much as we could with conservative-leaning areas of Brooklyn such as Bay Ridge and Dyker Heights. Moving east, we've tried to divvy up Long Island into districts where interests are aligned. We felt that North Shore and South Shore have different interests, and thus, we divided the two into different districts. We've also divided the districts based on ethnic considerations as well. We confidently believe that our map best represents every community in Congress, even though it may be slightly odd-looking on first sight, and we hope that you'll take our districts into consideration.

STATE SENATE MAP

Every community deserves just representation in Albany. State government is influential in deciding what is best for the state as a whole and distributing resources and needs, but different communities have different needs, and a voice is needed for each community. So we've decided to divide the state into districts which benefit each community as much as possible.

Starting in Western NY, we've divided the Buffalo-Niagara Falls metropolitan area into 3 districts which we believe represent the interests of a growing, newly-revived city. The state senator representing Amherst would also represent one of the largest economical drivers in the region – the University at Buffalo, and the city of Buffalo would have its own state senator (representing interests which are different from the suburbs). In Rochester, we've divided the city into two districts – two sides of the city which have different demographics and interests. The western district would include three economic drivers in U of R, RIT, and Eastman Kodak and the eastern district would include major corporations such as L3Harris and Paychex. Moving east, we've grouped western Syracuse with Auburn, Geneva, and Ithaca, three Democratically-leaning areas. Binghamton would share a senate district with Corning and Elmira, areas which have similar economic interests. We've grouped Plattsburgh with Fort Drum and other North Country areas based on similar interests. The Capital District was divided based on different interests in each county. For example, Troy shares similarities with Schenectady and northern Albany suburbs such as Loudonville and Latham. The city of Albany was paired with Hudson Valley districts such as Hudson, Catskill, and Hyde Park due to their similar economic and political interests.

Moving south, Westchester was divided based on economical differences. Yonkers has more in common with New Rochelle than it does with Scarsdale. NYC was divvied up based on similar economic backgrounds and demographics. Washington Heights has a large Hispanic population and thus would most likely be represented by a state senator who understands what affects the community. The same applies to the district which is divided amongst northwestern Astoria, East Harlem, and Alphabet City. Brooklyn and Queens are extremely diverse with pockets of different communities and we've tried to group these areas so that they are represented by individuals who know and will fight for their interests. For example, Prospect-Lefferts Garden has a large Caribbean population and thus would ideally be represented by someone from that background – somebody that their constituents would be comfortable going to with issues facing their community. Ozone Park was grouped with Richmond Hill – both areas which have a strong south Asian presence. Staten Island was divided into north and south districts, as the two have very different economic and political interests. Stapleton has more in common with Ulmer Park, southern Bay Ridge, and Coney Island than it has with Tottenville. Nassau County was divided similarly, and Suffolk County was divided mostly based on income.

We believe that our map is a reflection of our effort to divide districts based on unique community needs.