

Whatever the need may be, to divide large counties among multiple legislative districts in order to keep them nearly-equal in size, this need is not present for smaller Upstate counties. This map is a mathematic proof of this, showing a possible redistricting of upstate Senate districts based on 2020 census number, that keeps every county, city, village, and town with a population under 320655 undivided, without skirting any of the other Constitutional criteria the IRC must follow.

Upstate NY (Westchester Northwards) has a 2020 population of 8,475,365. This corresponds to 26.43 times the average Senate district size (320655, or 1/63 of the state's population). This means that approximately 140,000 of the Westchester County population should be grouped with approximately 180,000 of the Bronx population to make a combined Upstate/Downstate Senate district. Because of the narrow neck of land connecting Upstate and Downstate via Bronx and Westchester Counties, there is simply no other way for a combined district to be compact and contiguous. It is in fact quite easy to define a close grouping of undivided jurisdictions within southern Westchester County (namely New Rochelle, Pelham, Mamaroneck, and Scarsdale), that can be sensibly grouped with some (undefined) neighboring portion of Bronx County, to create this Upstate/Downstate district. Taking out this combined district, this leaves 36 Senate districts that should be Downstate-only, and 26 that should be Upstate-only.

Westchester County as a whole has enough population for 3.1 Senate districts. However, after the necessary carve-out of 140,000 to make a combined district with Bronx County, the remainder of Westchester has enough population only for 2 full districts, plus a remainder that must be combined with other county(counties) to the north. The districting done below keeps Westchester divided among just 4 State Senate districts, which is appropriate for its population equal to 3.1 districts; but it only ends up with 2 Senate districts all its own.

Besides Westchester, there are only 5 other Upstate counties with populations entitling them to over one full State Senate district: Erie (almost exactly 3 full districts); Monroe (2.4); Onondaga (1.5); Orange (1.25), and Rockland (1.05). All the remaining 50 counties have fewer than 320,655 inhabitants in the 2020 census, and according to the NY Constitution should therefore *not* be divided between multiple Senate districts, Federal court rulings notwithstanding. The districting map below shows that it is possible to avoid such unnecessary division of counties, without creating population imbalances sufficient to trigger the Federal court ruling in Reynolds v. Sims. The districting map below furthermore divides *no Upstate city* (none of which has a population greater than a standard Senate district). This is important for giving communities with nonwhite majorities in Syracuse, Rochester, and Buffalo the maximum voting power to gain direct representation in the NY Senate.

The biggest deviation from the standard district population of 320,655 in the districting here is +7.5% for the district labeled "59" (the 4 counties in southwest NY). This could be "corrected" by moving several towns from Chautauqua and Steuben County into districts 55 and 58. Despite a better adherence to equal-sized districts, It is doubtful that the residents of any of these counties would feel that this would give them more of a voice, per person, in the State Senate.

Besides a few additional (smaller) population inequalities, there are a few remaining features of this districting map that are concerning on their face, but are unavoidable if counties are not to be divided unnecessarily:

- 1) The "excess populations" of Onondaga, and Orange counties (over their populations that entitle them to 1 full district) are each divided among 3 and 2 neighboring Senate districts, respectively, rather than just 1. This means that the Boards of Elections in these 2 counties must each track one more State Senate race than the minimum necessary; and voters' identities in these 2 counties are divided more than the minimum necessary to achieve equal-sized districts. So far I have not found an Upstate Senate districting map that reduces this problem further.
- 2) District 63, which contains the whole of Buffalo, plus the towns of Lackawanna and Grand Island, stretches to the limit the definition of "contiguous". However, any town consisting of a single island is, by any strict definition, non-contiguous with any other jurisdiction. The only jurisdictions in Erie County that are "more" contiguous with Grand Island than Buffalo would be Tonawanda Town and Tonawanda City. I could not come up with an equal 3-way division of Erie County that kept the City of Buffalo intact in a single district, and that also grouped Grand Island with either of the Tonawanda jurisdictions. If one is found, I would consider it superior to the district map below.

- 3) District 43 consists of Dutchess County plus 2 appropriately sized towns in Orange County, that are across the Hudson River. The shape of this “tab” in District 43 is less compact than desirable. However, Dutchess County is just a bit too small for a single Senate district. Shifting these 2 towns from Orange County equalizes the population of districts 42 and 43 as no “more-compact” town shifts between these 2 districts can.
- 4) District 57, consisting of Rochester suburbs in Monroe County, connects the Towns of Irondequoit, Webster, and Penfield to the rest of the district by a narrow neck of land, reducing the compactness of this district. However, some such narrow neck appears unavoidable if Monroe County is to contain two full contiguous Senate districts, without dividing the City of Rochester between them. If a better division of this county can be found, without splitting any towns or the City of Rochester, it should be considered superior to this one. As it turns out, the narrowest point of this “neck” is very close to where I spent the first 18 years of my life, living in the town of Brighton but in the Penfield Central School District. Keeping these 2 towns together was not at all a priority of mine in generating this map. However, now that it has worked out that way, based on my intimate knowledge of this area, it makes perfect sense to make this a priority despite the narrow connecting neck..

District #	Counties/Towns in Proposed Upstate NY Senate District	2020 Population	Deviation from Average District (320655)	% Deviation From Average District
37	Westchester-SE (New Rochelle, Pelham, Mamaroneck, Scarsdale) To be added to ~177840 Bronx residents for a complete district.	142,815	-177840	-55.5%
38	Westchester SW (Yonkers, Mt Vernon, Eastchester)	320,103	-552	-0.2%
39	Westchester-Central (White Plains City, Rye City, Rye town, Mount Pleasant, Harrison, New Castle, North Castle)	324,534	+3879	+1.2%
40	Putnam + Rockland (Stony Pt only) + Westchester N (Peekskill, Cortlandt, Mt Kisco, Ossining, Yorktown, Somers, North Salem Bedford, Lewisboro, Pound Ridge)	329,486	+8,831	+2.8%
41	Rockland (except Stony Point)	323,516	+2,861	0.9%
42	Orange (except Cornwall, Highlands, Wallkill, Middletown)	314,656	-5999	-1.9%
43	Dutchess + Orange SE (Cornwall, Highlands)	321,734	+1079	0.3%
44	Sullivan/Ulster/Orange-N (Wallkill, Middletown)	321,306	+651	0.2%
45	Albany	314,848	-5807	-1.8%
46	Schenectady/Schoharie/Montgomery/Fulton/Delaware	334,939	+14284	4.5%
47	Washington/Rensselaer/Columbia Greene/	331,933	+11278	3.5%
48	Saratoga/Warren/Hamilton	306,353	-14302	-4.5%
49	Herkimer/Saint Lawrence/Clinton/Franklin/Essex	333,423	12768	4.0%

District #	Counties/Towns in Proposed Upstate NY Senate District	2020 Population	Deviation from Average District (320655)	% Deviation From Average District
50	Broome/Chenango/Otsego	304,427	-16,228	-5.1%
51	Madison/Oneida+ Onondaga SE (Fabius,Pompey)	309,227	-11,428	-3.6%
52	Jefferson/Lewis/Oswego + Onondaga-N (Clay)	319,655	-1,000	-0.3%
53	Onondaga E (Syracuse,Salina,Cicero,Dewitt,Manlius,Onondaga, Onondaga Nation,Lafayette,Otisco,Tully)	308,472	-12,183	-3.8%
54	Wayne/Cayuga/Cortland+Onondaga-SW (Lysander, VanBuren, Geddes, Elbridge,Camillus,Skaneateles,Marcellus,Spafford)	314,461	-6,194	-1.9%
55	Yates/Seneca/Schuylers/Tompkins/Tioga/Chemung	314,829	-5,826	-1.8%
56	Monroe-Core (Rochester,Greece,Parma)	324,287	+3,632	+1.1%
57	Monroe-Inner Suburbs (Irondequoit,Webster,Penfield,Brighton,Henrietta, Chili,Gates,Ogden,Sweden,Clarkson,Hamlin)	327,658	+7,003	+2.2%
58	Wyoming/Livingston/Ontario + Monroe Southern Suburbs (Riga,Wheatland,Rush,Mendon,Pittsford,Perinton)	322,321	+1,666	+0.5%
59	Chautauqua/Cattaragus/Allegany/Steuben	344,739	+24,084	+7.5%
60	Niagara/Orleans/Genesee	311,397	-9258	-2.9%
61	Erie-NE (Tonawanda City,Tonawanda Town,Amherst,Clarence Newstead,Lancaster,Alden,Marilla)	319,020	-1,635	-0.5%
62	Erie-S (Wales,Holland,Sardinia,Elma,Aurora,Colden, Cheektowaga,West Seneca,Orchard Park,Boston,Concord, Hamburg,Eden,North Collins,Collins,Evans,Brant,Seneca Res.)	315,529	-5,126	-1.6%
63	Erie Core (Buffalo/Lackawanna/Grand Island)	319,687	-968	-0.3%

