

Supplementary Information: Simulated redistricting plans for the analysis and evaluation of redistricting in the United States

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1 Table of State Rules

Redistricting rules vary across states. However, all states require districts to be contiguous and have approximately equal populations. Further, many states include references to avoid splitting particular geographic areas, such as counties or “communities of interest.” As a result, we use a set of common “base constraints” applied to every state, and incorporate additional constraints for particular state circumstances (e.g., Colorado requires competitive districts, Louisiana requires preserving the cores from previous districts, etc.).

Our base constraints are contiguity, approximately equal populations, and a county / municipality constraint to avoid splitting. Further, districts are drawn to be compact and are compared with the metrics described in the main text, unless the state explicitly mentions a measure that should be used (e.g., Iowa). Consistent with laws in many states, none of our districts are drawn to favor incumbents or a political party.

Some states, such as Virginia and Pennsylvania, have residential segregation by race which naturally ensures that minority opportunity districts are included from a race-blind simulation process. While we check performance as a validation step, no additional constraints are needed within the simulations to ensure that compliance.

State	Legal Criteria (beyond Federal)	Constraints
Alabama	Reapportionment Committee Redistricting Guidelines	- Base constraints - VRA constraint (BVAP)
Arizona	State Constitution (Article 4)	- Base constraints - Favor competitive districts - VRA constraint (HVAP)
Arkansas	No additional laws	- Base constraints
California	California State Constitution (Article 21)	- Base constraints - VRA constraints (HVAP, BVAP, AVAP)
Colorado	Colorado State Constitution (Section 44)	- Base constraints - Favor competitive districts
Connecticut	No additional laws	- Base constraints
Florida	Florida State Constitution (Article 3, Section 20)	- Base constraints - VRA constraint (BVAP and HVAP)
Georgia	2021-22 Guidelines for the House Legislative and Congressional Reapportionment Committee	- Base constraints - VRA constraint (BVAP)
Hawaii	HRS Title 1, S25	- Base constraints - Census tracts not split - Complete district in Honolulu
Idaho	Idaho State Constitution Title 72, Chapter 15	- Base constraints - Connect counties based on highways
Illinois	Illinois State Constitution Article 4, Section 3	- Base constraints - VRA constraint (BVAP)
Indiana	Indiana State Constitution	- Base constraints
Iowa	Iowa State Constitution Article 3	- Base constraints - Districts constructed from counties - Be compact, as defined by length-width and perimeter compactness

State	Legal Criteria (beyond Federal)	Constraints
Kansas	Proposed Guidelines and Criteria for 2022 Kansas Congressional Redistricting	- Base constraints - Preserve the cores of existing districts
Kentucky	Criteria and Standards for Congressional Redistricting adopted by Interim Joint Committee on State Government's Redistricting Subcommittee (1991)	- Base constraints
Louisiana	Louisiana Joint Rule No. 21	- Parish and municipality constraint - Preserve cores of previous districts - VRA constraint (nonwhite VAP)
Maine	Title 21A, Chapter 16, Section 1206	- Base constraints
Maryland	Maryland State Constitution (Article 3) Executive Order 01.01.2021.02	- Base constraints
Massachusetts	Massachusetts State Constitution (Articles XVI, CI)	- Base constraints
Michigan	Michigan State Constitution (Article 4)	- Base constraints -VRA constraint (nonwhite VAP)
Minnesota	Minnesota State Constitution (Article 4) Minnesota 2021 Statute 2.91	- Base constraints
Mississippi	Mississippi State Constitution (Article 3) Agreements of the State Legislature Joint Legislative Committees on Reapportionment and Redistricting	- Base constraints - VRA constraint (BVAP)
Missouri	Missouri State Constitution (Article 3)	- Base constraints - VRA constraint (BVAP)
Montana	Montana State Constitution (Article 5)	- Base constraints
Nebraska	Nebraska State Constitution (Article 3) Legislative Resolution 134	- Base constraints - Preserve cores of previous districts
Nevada	Nevada State Constitution (Article 4)	- Base constraints
New Hampshire	New Hampshire State Constitution (Part 2)	- Base constraints - Townships not split
New Jersey	New Jersey State Constitution (Articles 2, 4)	- Base constraints
New Mexico	New Mexico State Constitution (Article 4), SB304	- Base constraints - Preserve cores of previous districts
New York	New York State Constitution (Article 3)	- Base constraints
North Carolina	North Carolina State Constitution (Article 2)	- Base constraints - VRA constraint (BVAP)
Ohio	Ohio State Constitution (Article XIX)	- Base constraints - Not split Cincinnati or Cleveland - Minimize splitting of Columbus - Split no more than 18 counties once, and no more than 5 counties twice, and no counties three times

State	Legal Criteria (beyond Federal)	Constraints
Oklahoma	Oklahoma State Constitution (Article 5) 2021 Senate Select Committee On Redistricting Guidelines	- Base constraints
Oregon	Oregon State Constitution (Article 4) Revised Statute 188.010	- Base constraints - Districts must be connected by transportation links
Pennsylvania	Pennsylvania State Constitution (Article 2)	- Base constraints
Rhode Island	Rhode Island State Constitution Public Laws, Chapter 100, Section 2	- Preserve state senate districts - VRA constraint (nonwhite VAP)
South Carolina	Guidelines and Criteria for Congressional and Legislative Redistricting	- Base constraints - VRA constraint (BVAP)
Tennessee	No additional laws	- Base constraints
Texas	No additional laws	- Base constraints - VRA constraint (HVAP and BVAP)
Utah	Utah State Constitution (Article 9) Code 20A-20-302	- Base constraints - Preserve cores of prior districts
Virginia	Virginia State Constitution (Article 2) Code 24.2-304.04	- Base constraints
Washington	Washington State Constitution (Article 2) RCW 44.05.090	- Base constraints - Not be connected across geographic barriers, although ferries across water may establish contiguity - VRA constraint (nonwhite VAP)
West Virginia	West Virginia State Constitution (Article 1)	- Base constraints - Counties not split
Wisconsin	Wisconsin State Constitution (Article 4)	- Base constraints

Table 1: Redistricting rules incorporated in our simulations for all states with redistricting processes. All states include a set of "base" constraints that include contiguity, approximately equal populations, and a county / municipality constraint to avoid splitting. Further, we implement state-specific criteria when available. More detail on specific code implementation of these constraints is available on our website, <https://github.com/alarm-redist/fifty-states>.