Simulating the creation of WI Assembly maps _without_ election data

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Methods

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District Solutions LLC's FastMap redistricting algorithm was used to create 1000 legally acceptable maps of Wisconsin's 99 assembly districts. Each map satisfied legal requirements for contiguity, population deviation (+/- 1%), and the Voting Rights Act (6 districts with > 50% Black VAP and 2 districts with > 50% Hispanic VAP). Also, each map had excellent compactness (i.e., nice district shapes).

No election data were used in the mapmaking process. After making the maps, we investigated their partisan performance.

Results

Expected number of assembly districts won by Democrats

Average: 42.5; Minimum: 40.5; Maximum: 45.4

Expected # Dem Seats (rounded)	# Maps
0-40	0
41	73
42	409
43	444
44	72
45	2
46-99	0

Likelihood the Democrats will win a seat majority in the Wisconsin Assembly

Average: 0.24% chance; Minimum: 0.009% chance; Maximum: 5.2% chance

Dem Seat Majority Likelihood (%)	# Maps
0% to .009%	0
.009% to .01%	1
.01% to .03%	32
.03% to .1%	268
.1% to .3%	445
.3% to 1%	238
1% to 3%	15
3% to 5.3%	1
5.3% to 100%	0

District Solutions LLC has used election data and the FastMap algorithm to make _proportional_ maps that are legally acceptable and highly compact. For the dataset used above, a proportional map gives Democrats (Republicans) 50 (49) expected seats and a 51% (49%) chance of winning a seat majority.