

Voting district plan restrictions

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4 **WHEREAS**, the U.S. Constitution requires congressional districts to have equal populations; and

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6 **WHEREAS**, Washington state law also requires equality in legislative districts:
7 *"By statute, the boundaries of each district shall...be drawn to produce districts with... as*
8 *nearly equal population as possible."* ; and

9
10 **WHEREAS**, the recent problems with Texas redistricting showed that district population equality
11 is not sufficient to assure equal representation (the resultant Texas districts were almost exactly
12 equal in population); and

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14 **THEREFORE BE IT RESOLVED** that a Washington state or county district plan which violates
15 a measure of "one person - one vote" by more than 5% shall not be approved; and

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17 **BE IT FURTHER RESOLVED** that such a district plan which violates a measure of district
18 compactness by more than 15% shall not be approved.

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21 Submitted to 34th District Democrats for consideration on 2006-04-11 by James W. Burrows.

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23 Outcome—passed, rejected, referred back to proposing organization for clarifications or revisions,
24 etc. on (date).
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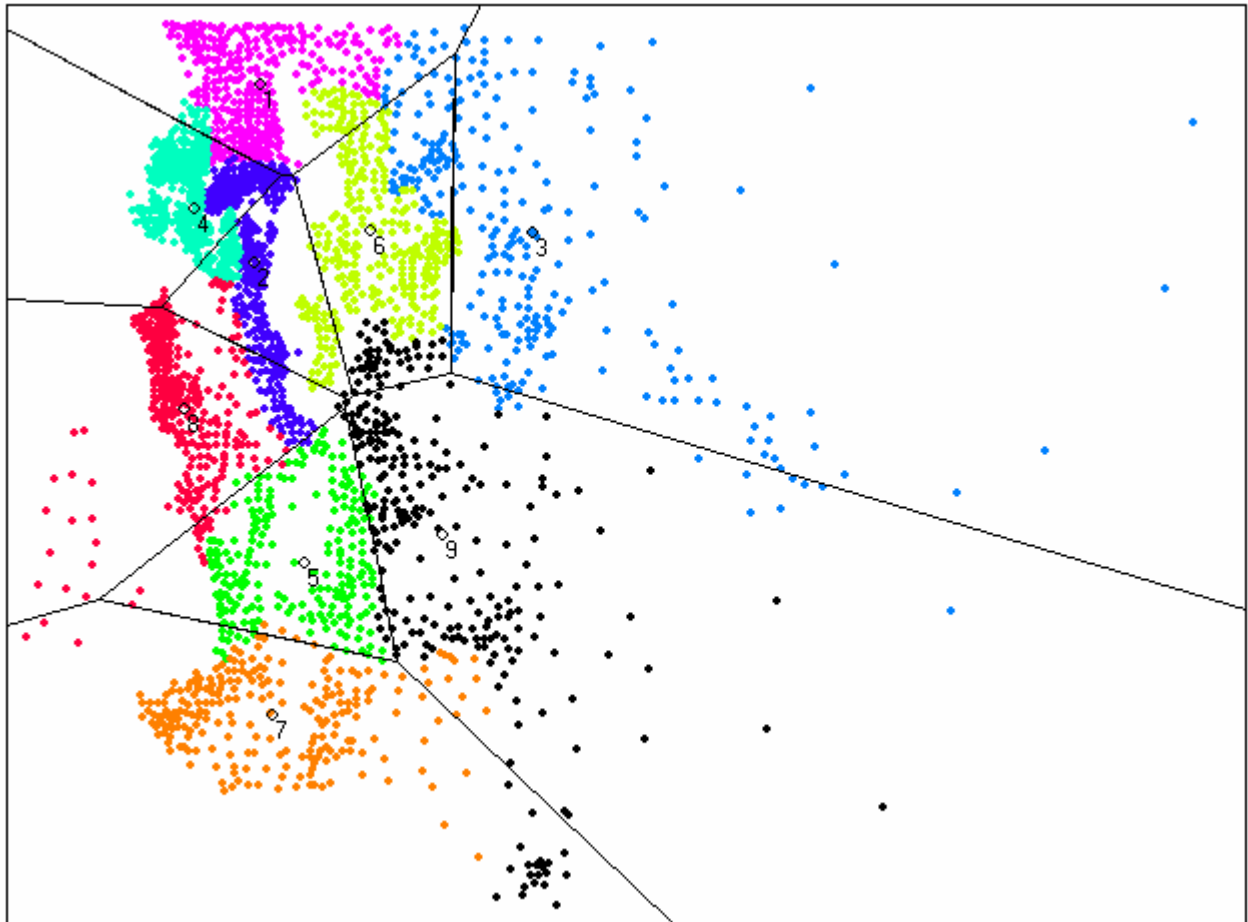
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29 In the first resolution, the measure of one person - one vote violation is the statistical **coefficient of**
30 **variation** (CV), equal to σ/N^* expressed as a percentage, with standard deviation σ of the number
31 of registered voters per planned district, and N^* the average number of voters per district.

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33 The compactness violation of the second resolution is the percent of voters nearer to the center of a
34 district other than their assigned district.

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36 The first attachment is a plot of the current 9 King County Council districts with each dot a
37 precinct; all dots of precincts assigned to a district have the same color. The number of registered
38 voters per precinct was obtained from King County Council staff. This is sufficient data to say that
39 current district plan would not pass the first resolution - the violation of one person-one vote is CV
40 $= 11.3\%$.

41 The small labeled black circles are the districts' centers, using the voters per precinct data. The lines
42 are drawn equidistant to the centers, so precincts on the wrong side of the lines have been
43 gerrymandered; the second resolution measure is too large at 31.2%.

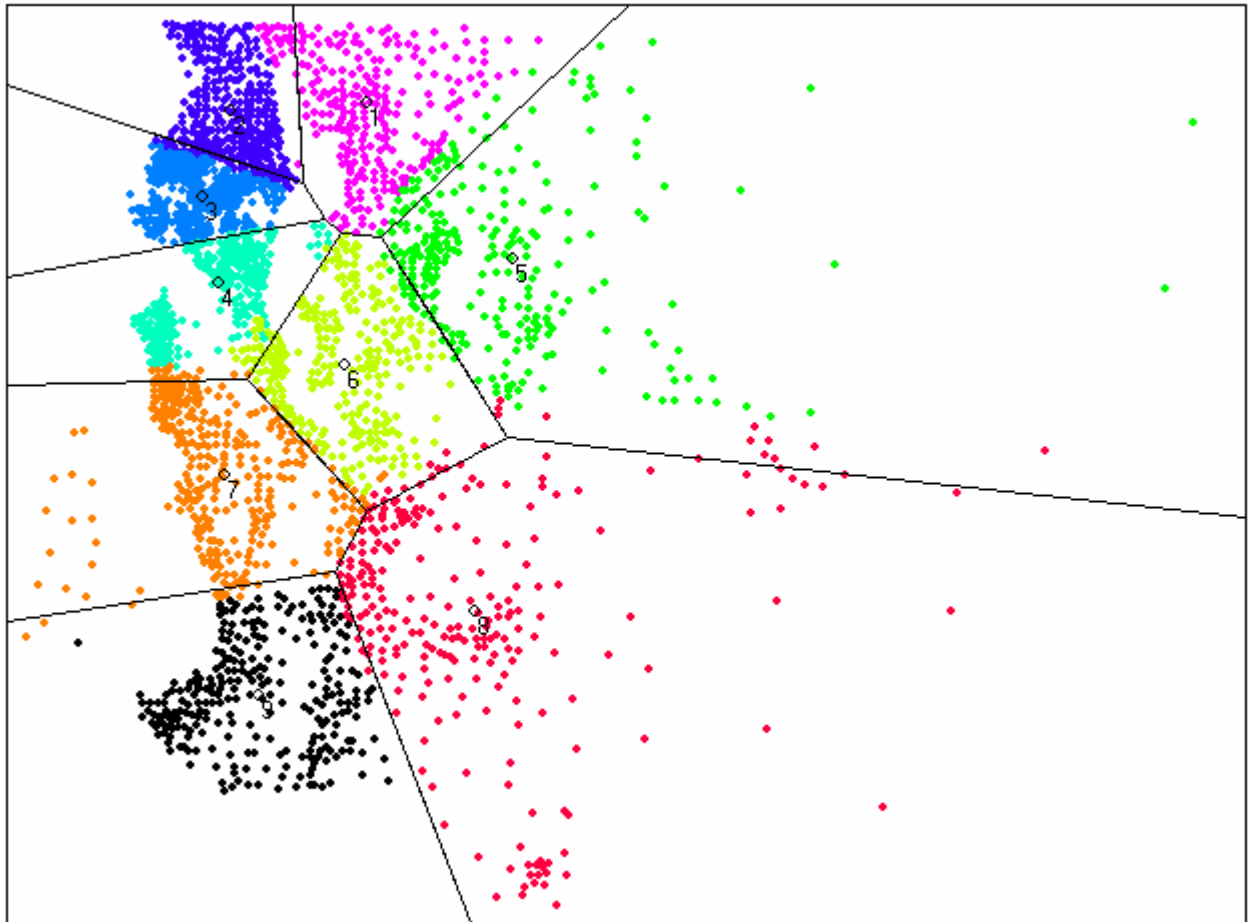
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45 The second attachment is an example of a 9-district plan for King County Council which readily
46 passes the requirements, 1.0% for the first resolution measure and 7.9% for the second. The plan
47 was generated by a simple program using only the precinct position and voter number data.



Current King County districts, sigma = 11.3%, gerry = 31.2

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Redistricting plan resolution to prevent unequal representation



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Better KCC districts: sigma = 1.0%, gerry = 7.9%