

DISAGGREGATION OF POLITICAL DATA

Election returns and voter registration information are collected at the voter precinct level and in special cases at the county level. To build the computer data base, data collected at the county level was disaggregated to the voting precinct level and then disaggregated to the census block level according to the formulas set forth below.

The purpose of disaggregating the political data is related to the fact that users of the data base will occasionally want to draw new districts that split current precincts. If the political data is attributed to individual census blocks, the election data for all the blocks in the new district can be summed, and predictions can be made about the voting behavior of proposed districts.

*It is important to remember that the census block-level election and voter registration data base are not actual data. The block-level numbers **are only estimates** of election returns and voter registration by block. They are not accurate at the block level, although they should be more reliable when many blocks are added together.*

Voter Registration

Voter registrations, furnished by the Secretary of State's office for each precinct, have been disaggregated in proportion to voting age population, according to the following formula:

$$\frac{\text{Democrat or Republican in Census Block X}}{\text{Democrat or Republican in Voting District 101}} = \frac{\text{Voting age population in Census Block X}}{\text{Voting age population in Voting District 101}}$$

This calculation was repeated for Democrat, Republican, Minor Political Party, and Unaffiliated registrations in each census block in the state. Unaffiliated refers to registered voters not registered with the major two political parties or a minor political party.

Election Returns

Since some voters are reported at the county level and not by precinct, one possibility was to ignore them in building the data base. However, any voter is significant enough that they should be considered, and these voting rates and patterns differ widely among counties. To try to account for this portion of the vote, the data base includes these votes that have been disaggregated from the county level to voting districts within the county, and then from voting districts to census blocks.

1. Disaggregating the data from counties to voting districts

The following formulas were used to disaggregate voters to voting precincts:

$$\frac{\text{A for Jones in Voting Votes for Jones in Voting District X}}{\text{Total A for Jones in the county}} = \frac{\text{Votes for Jones in Voting District X at the polls on election day}}{\text{Total votes for Jones in the county at the polls on election day}}$$

The formula provides that if election day voters from a certain precinct gave Candidate Jones 10% of the votes cast for him then 10% of the these votes for Candidate Jones will be allocated to that precinct. It should be noted that when a district covers less than an entire county, the formulas were applied only to the voting districts in the portion of the county where the candidate ran.

2. Disaggregating the data from voting districts to census blocks

The voting district-level numbers from those voting, derived according to these formulas, were then added to the actual precinct-level returns from the polls on election day. The resulting numbers were then disaggregated to census blocks in proportion to voting age population according to the following formula:

$$\frac{\text{Votes for Jones in Census Block X}}{\text{Total votes for Jones in Voting District 101 (including A and votes at the polls)}} = \frac{\text{Voting age population in Census Block X}}{\text{Voting Age population in Voting District 101}}$$