Proportional Representation

Municipal Elections in Cambridge

Since 1941 the City of Cambridge has elected its City Council and School Committee by Proportional Representation (PR).

Elections for nine members of the Council and six members of the School Committee are held in November in odd-numbered years.

Under PR, any group that numbers more than one-tenth of the voters may elect at least one member of the City Council.

Any group that numbers more than one-seventh of the voters may elect a member of the School Committee.

The mayor is elected by the City Council from among its own members and acts as chair both of that body and of the School Committee.

Proportional Representation (PR)

A voter may vote for as many candidates as are listed on the ballot in a PR election, but *the voter must* ***rank the candidates in order of preference*** *(1, 2, 3, and so on).*

If the voter's 1st choice is not elected, a 2nd, 3rd, or subsequent preference may still be elected by that voter's ballot.

The voter also has the option of voting for only one candidate, or for as few as are preferred.

Marking the Ballot

The PR ballot lists candidates with numbered ovals next to their names.

To vote for a candidate, the voter fills in ***one oval only next to the candidate's name:*** *1 for first choice, 2 for second choice, 3 for third choice, and so on.*

Example: **Correct Marking**

Candidate A ● (2) (3)
Candidate B (1) ● (3)
Candidate C (1) (2) ●

Candidates' names are rotated on ballots so that each candidate's name appears at the top of the ballot an equal number of times.

Invalid Votes

Votes are invalidated when more than one oval is filled in for the same candidate, or when the same numbered oval is filled in for more than one candidate.

Example: **Invalid Votes for Candidates**

Filling in more than one choice for a candidate

Candidate A ● ● (3)

Filling in the same choice for more than one candidate

Candidate A ● (2) (3)
Candidate B ● (2) (3)

Votes may also be invalidated by marking ovals incorrectly, so that they cannot be read by the optical scanner.

Example: **Incorrect Marking of Ovals**

(1) ✓ ✗ ● (1)

If a mistake is made in marking the ballot, the voter may return it to the election official in charge and receive another one, but no voter may receive more than two such new ballots.

Counting the Ballots

The precinct order in which ballots are counted is determined by a random draw prior to the election.

Tabulation of PR ballots begins with the sorting and tallying of first choice votes for each candidate and the establishment of quota, the minimum number of votes sufficient for election.

It continues with the transfer of surplus and the redistribution of votes from defeated candidates to continuing candidates until nine Councilors and six School Committee members are elected.

First Choices

The initial count of ballots determines the total number of first choice votes for each candidate. The candidates are then ranked in order according to the total of number one (#1) votes each has received.

Quota

In a PR election, a candidate needs to win a certain proportion of the votes to be elected. This proportion is referred to as quota.

Quota is established after the count of first choices.

Quota is determined by dividing the total number of valid ballots by the number of candidates to be elected plus one and adding one to the result.

Example: If 25,000 valid ballots are cast for City Council, the quota will be 2,501 (25,000 divided by 10, plus 1).

Surplus

Candidates who reach quota after the count of first choices are declared elected. Any votes they receive beyond quota are surplus votes.

Example: If Candidate A receives 3000 first choice votes and quota is 2501 votes, Candidate A is elected with a surplus of 499 votes.

A formula determines which ballots are selected to be counted as surplus.

Surplus votes are transferred to the second choice candidates on the surplus ballots.

Eliminating Candidates

After surplus votes are transferred, candidates who have fewer than fifty number one (#1) votes are eliminated.

Their votes are transferred to the continuing candidates marked next in preference on those ballots.

After each transfer of ballots from a candidate being counted out to continuing candidates, a new ranking is established.

The candidate with the lowest number of votes is declared defeated and that candidate's ballots are transferred to the next continuing candidate marked on each ballot.

Electing Candidates

Transferred ballots are added to the totals of the continuing candidates until they reach quota or are counted out. After a candidate reaches quota and is declared elected, no more ballots are transferred to that candidate.

Computerized Ballot Tabulation

In 1997 the Election Commission computerized the City of Cambridge PR elections using a precinct-based optical scanning system and specially designed software.

Tabulating the Votes

The PR Count, which used to be performed manually during the course of a week by a staff of over a hundred, is now completed in a matter of minutes through the electronic sorting, counting, and transfer of votes.

Unofficial Results

Unofficial results for City Council and School Committee are available on election night. These results are "unofficial" because not all ballots have been counted.

The tabulation does not include ballots with write-ins or ballots marked in a way that could not be read by the scanner. These are auxiliary ballots which must be processed manually and added to the computer totals.

Official Results

On the day after the election, votes from write-in and auxiliary ballots are added to the totals from the previous night.

The complete ballot records are tabulated, without reference to the earlier tabulation of unofficial totals, to produce the official first choices.

Next, the software distributes surplus ballots, transfers votes, and eliminates candidates until the number of seats for each office has been filled.

Only then are the results declared to be official.

For further information on PR elections in Cambridge, please refer to the Election Commission Department Web Site at:

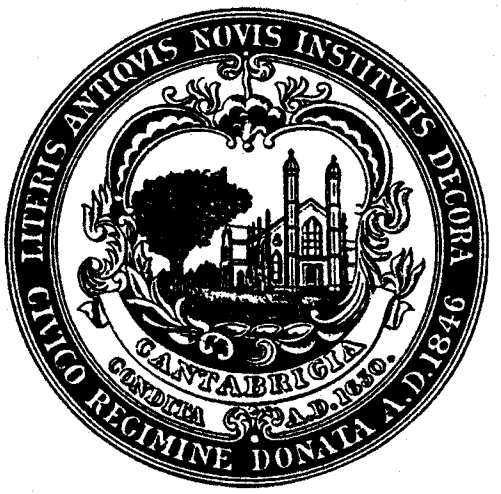
www.ci.cambridge.ma.us

CITY OF CAMBRIDGE

MUNICIPAL ELECTIONS

Voting by

Proportional Representation



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