

# Ranked Choice Voting Glossary

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Note: Underlined items indicate terms that are defined in this glossary.

**Ballot Summary Forms:** forms used in a Minneapolis Method hand count that list the number of votes cast for each 3-candidate combination in a precinct. The forms are color-coded by office.

**Ballots cast:** the total number of ballots cast in an election, including votes, undervotes and overvotes. See also votes cast.

**Batch elimination:** the simultaneous defeat of multiple candidates for whom it is mathematically impossible to be elected.

**Canvas:** The official certification of election results.

**Chief Election Official:** the City Clerk and City Clerk's designees.

**Continuing candidate:** a candidate who has been neither elected nor defeated and therefore advances to the next round of ranked choice voting vote counting.

**Data analysis:** obsolete term. Formerly used to refer to the Tabulation Phase of the Minneapolis Method.

**Declared write-in candidates:** Candidates who have filed a written request with the chief election official no later than seven days before the election to have their names and the number of votes cast for them individually recorded. See also "undeclared write-in candidate."

**Defeated candidate(s)** are a) the last place candidate after any round; and b) any candidates who are mathematically impossible to be elected.

**Defective ballot:** see "partially defective ballot" and "totally defective ballot."

**Determining Voter Intent:** the process of determining which candidate a vote is cast for. Voter intent is defined in Minnesota Statutes 204C.22 and Minneapolis Code of Ordinances 167.60(a)(2) and 167.70(a)(2).

**Duplicate ranking:** *obsolete term. See "repeat candidate ranking."*

**Elected candidate(s)** are a) those who have reached the threshold; and b) all remaining candidates after the field of candidates has been reduced to the number to be elected to the office.

**Election night results:** results returned by the electronic voting system after the polls close. See also, machine count. (Note: all results are unofficial until certified by the canvassing board).

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**Electronic voting system:** a system in which the voter records votes by means of marking a ballot so that votes may be counted by automatic tabulating equipment in the polling place where the ballot is cast or at a counting center.

An electronic voting system includes automatic tabulating equipment; nonelectronic ballot markers; electronic ballot markers, including electronic ballot display, audio ballot reader and devices by which the voter will register the voter's voting intent; software used to program automatic tabulators and layout ballots; computer programs used to accumulate precinct results; ballots; secrecy folders; system documentation; and system testing results. (Minn. Statutes 206.56 Subd. 8)

**Exhausted ballot:** is a ballot that cannot be advanced to subsequent rounds because it contains no votes for continuing candidates at rankings lower than have already been examined. See Minneapolis Code of Ordinances 167.60(a)(2) and 167.70(a)(2).

**Hand count:** Generally, a process where the voting results are obtained by election judges examining each ballot and counting the votes for each candidate in a race. Specific to ranked choice voting a hand count is the process examining each ballot and recording the number of ballots for each unique three-choice combination, entering the resulting data into an tabulation file, and performing the round-by-round calculations and vote transfers characteristic of ranked choice voting until the winner(s) is determined. See also Minneapolis Method.

**Highest continuing ranking:** the ranking on a voter's ballot with the lowest numerical value (i.e. 1<sup>st</sup> choice is higher than 2<sup>nd</sup> choice) for a continuing candidate.

**Instant Runoff Voting:** a type of ranked choice voting for single-seat elections that simulates a series of runoff elections in which the last place candidate and candidates mathematically impossible to be elected are defeated. The votes for defeated candidates are transferred to the next continuing candidate on each ballot. Tabulation continues in rounds until a candidate is elected. Minneapolis has avoided using the term to avoid the perception and expectation of instant results in the absence of a fully automated ranked choice voting tabulation equipment, and because Minnesota does not have runoff elections.

**Machine count:** the results as returned by the electronic voting system. See also election night results.

**Mathematically impossible to be elected:** a candidate who could never win because his or her current vote total plus all votes that could possibly be transferred to him or her in future rounds would not be enough avoid defeat in a future round.

**Maximum possible threshold:** the number of votes sufficient for a candidate to be elected based only on each ballot's number one ranked choices as read by the electronic voting system. The maximum possible threshold is given by the following formula:

$$\frac{B}{S + 1} + 1, \text{fractions disregarded}$$

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Where B= the ballots cast in the race, including votes, undervotes, overvotes and skipped rankings  
S= the number of seats for the office.

**Minneapolis Method:** a ranked choice voting counting and tabulation system developed by the City of Minneapolis which minimizes the handling of each ballot and allows for the simultaneous counting of multiple races, leading to election results being delivered in as short of time as possible. The Minneapolis Method has three phases:

- Hand count phase: A hand sort/count of all the ballots by precinct is done, and the number ballots cast for each three-candidate combination in each race is recorded on ballot summary forms.
- Data entry phase: The data generated by the hand count phase is entered into an Excel tabulation file.
- Tabulation phase: The tabulation file for each race is used to determine the election results. Using only the sort, cut/copy & paste and arithmetic functions of Excel, round-by-round vote totals are added, candidates are defeated and the vote transfers characteristic of ranked choice voting are carried out to determine the winner(s) of the election.

*Note: the first two phases of the Minneapolis Method are necessary only when a hand count of ballots is required.*

**Normalization:** see “determining voter intent.” (Obsolete term; its use was discontinued in May 2009).

**Overvote:** Generally, more votes cast for the office than are allowed. Specific to ranked choice voting, when more than one candidate is chosen at the same ranking.

**Partially defective ballot:** a ballot that the election judges are unable to determine the voter's intent with respect to the office being counted. See also “totally defective ballot.”

**Post-election review:** The manual hand count of randomly selected precincts following the election to determine if counting accuracy meets a defined standard.

**Ranked choice voting:** Generally, an election method in which voters rank candidates for an office in order of their preference and the ballots are counted in rounds. Specific to Minneapolis, in the case of a single-seat election the rounds simulate a series of runoffs until one candidate meets the threshold or until two candidates remain. In the latter case the candidate with the greater number of votes is the winner. In the case of a multi-seat election, votes or fractions of votes may be transferred according to the preferences marked on each ballot as described in the Minneapolis Code of Ordinances 167.70.

**Ranked choice voting hand count:** See “hand count.”

**Ranked choice voting tabulation center:** the place selected for the automatic or manual processing and tabulation of ballots and/or votes.

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**Ranking:** the number assigned by a voter to a candidate to express the voter's preference for that candidate. Ranking number one (1<sup>st</sup> choice) is the highest ranking. A ranking of lower numerical value indicates a greater preference for a candidate than a ranking of higher numerical value.

**Repeat candidate ranking:** when a voter ranks the same candidate at multiple ranking for the office being counted.

**Round:** a cycle of counting votes, determining if any candidate(s) have met the threshold, and transferring the votes for defeated candidates and/or the surplus fraction of votes for elected candidates to the next continuing candidate on each ballot.

- Round 1 consists of tabulating all the first choice votes and determining if all the seats for the office have been filled (i.e. the number of seats to be filled equals the number of candidates who have met or exceeded the threshold). If all the seats are filled based on the Round 1 results no further rounds are needed.
- Beginning with Round 2 and each subsequent round, the following steps occur: defeat candidates for whom it is mathematically impossible to be elected, transfer votes of defeated candidates, transfer surplus votes (applies only to multi-seat races where some candidates have met the threshold but not all seats have been filled) and determine if the number of elected candidates equals the number of seats to fill. Rounds repeat until all seats have been filled.

**Single Transferable Vote:** a type of ranked choice voting. As used in Minneapolis, votes are tabulated in the following manner:

- For a single seat office, the votes cast for defeated candidates are transferred to the next highest ranked continuing candidate for the office. Counting proceeds in rounds until a candidate has been elected. Note: for a single-seat office Single Transferable Vote and Instant Runoff Voting are the same process.
- For a multi-seat office, the votes cast for defeated candidates are transferred to the next highest ranked continuing candidate on each ballot and the surplus fraction of votes cast for elected candidates are transferred to the next highest ranked continuing candidate on each ballot.

**Skipped ranking:** a blank ranking followed by a candidate chosen at a subsequent ranking. A ranking is not considered skipped if no choices were made by the voter at lower rankings.

**Spoiled ballot:** a ballot on which a voter has made an error and has exchanged the ballot with the error for a new blank ballot. Votes on spoiled ballots are never counted. The voter's replacement ballot is the ballot that is counted.

**Surplus:** the total number of votes cast for an elected candidate in excess of the threshold. Applies to multi-seat contests only.

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**Surplus fraction:** the proportion of each vote to be transferred when a surplus is transferred. The surplus fraction is given by the following formula

$$\frac{S}{C}$$

where S=the surplus vote of an elected candidate; and C = the total vote for that candidate. The surplus is calculated to four decimal places, ignoring any remainder.

**Tabulation:** determining official results by any combination of machine count, hand count and use of a tabulation file.

**Tabulation file:** a spreadsheet used to add round-by-round vote totals, perform the vote transfers characteristic of ranked choice voting and determine final results of a ranked choice voting election. See Minneapolis Method.

**Threshold:** the number of votes sufficient for a candidate to be elected. The threshold is calculated by the following formula:

$$\frac{V}{(n+1)} + 1 \quad (\text{fractions disregarded})$$

where V is the number of votes casts for the office after defective ballots have been removed; and n is the number of candidates to be elected to the office. Fractions are disregarded in making the calculation.

**Totally defective ballot:** a ballot that the election judges are unable to determine the voter's intent with respect to any office on the ballot. See also “partially defective ballot.”

**Transfer value:** the fraction of a vote that a transferred ballot will contribute to the next ranked continuing candidate on that ballot. The transfer value of a vote cast for an elected candidate is calculated by multiplying the surplus fraction by its current value, calculated to four (4) decimal places, ignoring any remainder. The transfer value of a vote cast for a defeated candidate is the same as its current value.

**Transferable vote:** a vote or a fraction of a vote for a candidate who has been either elected or defeated.

**Undeclared write-in candidate:** a write-in candidate who is not a declared write-in candidate. Votes for undeclared write-in candidates are recorded as a group by office. See also “declared write-in candidate.”

**Undervote:** Generally, when a voter chooses fewer candidates than are permitted for the office. Specific to Minneapolis ranked choice voting, an undervote occurs when a voter does not rank any candidates for an office.

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**Votes Cast:** The number of votes for candidates and write-in candidates made in an election. The total number of votes cast in an election does not include undervotes, overvotes or any other ballot on which it is not possible to determine voter intent. See also Ballots Cast.

**Voter Error Accounting:** see “determining voter intent.” Obsolete term; its use was discontinued in March 2013.

**Voter intent:** see “determining voter intent.”

**Weighted Inclusive Gregory Method:** (WIGM) a method of tabulating a multi-seat single transferable vote election. WIGM is incorporated in the Minneapolis Code of Ordinances 167.70. In WIGM, tabulation proceeds in rounds until all of the seats to be elected for the office have been filled. In each round the votes cast for defeated candidates are transferred to the next highest ranked continuing candidate on each ballot and the surplus fraction of votes cast for elected candidates are transferred to the next highest ranked continuing candidate on each ballot.

**Write-in candidate:** See “declared write-in candidate” and “undeclared write-in candidate.”