# Problems with Plurality Voting 

## in Single-Winner Elections with 3 or More Candidates

## Some Notable

Plurality Elections
in which Most Voters Did Not Support the Winning Candidate

2018 Indiana Senator (GOP nominee)
Mike Braun 41.2\%
Todd Rokita 30.0\%
Luke Messer 28.8\%
2016 US President (GOP nominee) Donald Trump, Jeb Bush, Ben Carson, Chris Christie, Ted Cruz, Carly Fiorina, John Kasich, Rand Paul, Marco Rubio, and other candidates

Maine Governors (winning percent)
2014 Paul LePage 48.2\%
2010 Paul LePage 37.6\%
2006 John Baldacci 38.1\%
2002 John Baldacci 47.2\%
1994 Angus King 35.4\%
1990 John McKernan 46.7\%
2002 Colorado 7th Cong District Bob Beauprez (81,789 votes - 47\%)
Mike Feeley (81,668 votes - 47\%)
3 others: Chandler, Good, Martin
1998 Minnesota Governor
Jesse Ventura 37\%
Norm Coleman 34\%
Hubert Humphrey III 28\%

When you can show your support for only one candidate....

1) You can't express your preferences as clearly as in other voting methods.
2) You might be inclined to vote for a candidate who is not your favorite, or you might be discouraged and not vote at all.
3) Two similar candidates may split the vote, resulting in the election of a third, less desirable candidate.

The plurality vote is pretty much the worst voting system there is. -UC-Irvine mathematician Donald Saari https:// www.sciencenews.org/article/spoil-proofing-elections

## Three Examples of <br> Non-Plurality <br> Voting Methods

Approval Voting - You can vote for more than one candidate even in a single-winner contest. You don't have to choose between two election. The candidate with the most voutes wins. Approval voting is used the University of Colorado - Boulder student government elections and has been recommended for municipal elections in Fargo, ND.
brownie
banana split
sugar cookie
lemon bar

Score or Range Voting - You can rate every single candidate, much like Yelp or Amazon ratings. The candidate with the highest total score wins. in the example below, the range is from 0 to 3 where 0 indicates no support and 3 indicates maximum support.

| brownie | 0 | 1 | 2 | 0 |
| :--- | :--- | :--- | :--- | :--- |
| banana split |  | 1 | 2 | 3 |
| sugar cookie | 0 |  | 2 | 3 |
| lemon bar | 0 | 1 | 2 |  |

Instant-Runoff or Single-Winner Ranked choice Voting (IRV) - You rank the candidates: 1 for your first choice, 2 for your second choice and so on. If a candidate receives a majority of 1 st -choice votes, that candidate wins. Otherwise, the candidate with the fewest 1 st -choice votes is eliminated. If your first choice gets eliminated, your vote will be transferred to your next-higher choice that has not yet been eliminated. The eliminatio the most widely used alternative voting method in the US. In 2016 Maine voters adopted it for state elections.

| brownie |  | 2 | 3 | 4 |
| :--- | :--- | :--- | :--- | :--- |
| banana split | 1 | 2 | 3 | 0 |
| sugar cookie | 1 | 2 |  | 4 |
| lemon bar | 1 |  | 3 | 4 |

