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To: Colorado Secretary of State Wayne W. Williams

Re: Comments to proposed amendments to Colorado's Rules Concerning Elections (8 CCR 1505-1)

Date: June 22, 2018

Dear Secretary Williams,

Thank you for providing an opportunity to provide feedback on your proposed election rules pertaining to ranked-choice voting (RCV). My comments here focus on Rule 26, Ranked Voting Method. Because I received information about this request for comment a few days before the deadline, my comments will be less precise than you and I would prefer, and for that I apologize.

I am the Kenan Sahin Distinguished Professor of Political Science at MIT, where I have been on the faculty since 1985, and a Fellow of the American Academy of Arts and Science. I am the founding director of the MIT Election Data and Science Lab and the co-director of the Caltech/MIT Voting Technology Project.

My comments are based on two perspectives. The first is my teaching and research experience in the field of election administration and voting technology, which stretch back to 2000. The second is my residency in Cambridge, Massachusetts for the past 26 years.

As you know, Cambridge has used ranked-choice voting for its municipal elections since 1941, making it the U.S. jurisdiction with the longest-running use of this method. Cambridge is a medium-sized city (approximately 100,000 residents) with long Progressive and reform traditions in city government, which makes its political and administrative context similar to the types of jurisdictions likely to adopt RCV in your state.

Chapter 54A of the Massachusetts General Laws (MGL), which authorizes the use of the "Cincinnati Plan" for municipal elections, refers to this method of voting as "proportional representation." However, an examination of the law, the description of the process on the city's election website, and the actual implementation of the law all reveal that what Cambridge calls "proportional representation" is known more generally as the "single-transferrable vote" (STV) method. Therefore, both MGL Chapter 54A and the implementation practices of the City of Cambridge are highly relevant as Colorado considers adopting rules to govern ranked-choice voting in your state.

Based on this background, I would respectfully offer the following comments to help perfect proposed Rule 26. These comments are the most relevant to Section 26.7, which pertains to the implementation of the STV method. However, many of the principles also apply to the previous Section (26.6), which pertains to instant-run-off elections.

1. While I am sure that your excellent elections and legal staff have thoroughly researched the practices of jurisdictions that have a long tradition of using RCV, I would recommend reference to MGL Chapter 54A (<https://www.cambridgema.gov/~media/Files/electioncommission/Massachusetts-General-Laws-Chapter-54A.pdf?la=en>) and the Cambridge Election Commission website page describing RCV (<https://www.cambridgema.gov/Departments/electioncommission/cambridgemunicipalelections>) as resources providing information about successful implementation of RCV in Massachusetts.
2. Rule 26.1.11. This rule defines the “winning threshold” for RCV elections. The winning threshold is based on “the total votes counted in the first round of tabulation.” However, from my reading, it does not appear that the definition of “total votes counted in the first round of tabulation” is sufficiently clear. MGL Chapter 54A is quite explicit about how to determine this number, at Section 9. For instance, will completely blank ballots be discarded? (One assumes so, but it would help to be explicit.) How will ballots that are irregularly marked (for instance, with X’s, rather than filling in ovals) be treated? While questions such as these may already be accounted for in other Colorado rules or statutes, it may be prudent to specify important “special cases” in determining the total votes counted.
3. Rule 26.6.5. This rule deals with breaking a tie during the elimination of the lowest-ranking candidate. Rather than resort to the use of lots immediately, it may be wise first to try breaking the tie based on preferential information that appears on the ballot. For instance, MGL Chapter 54A, Section 9(k) specifies a process of examining the number of votes received by the tied candidates in the *previous* round of voting, and then following the process back in the event that the candidates were tied in the previous round. As a general matter, it would seem preferable to decide who wins or is eliminated based on information about voter preferences on the ballot before using lots as a last resort. Similar comments could be made about other parts of the rule that deal with ties, such as Rule 26.7.4(A)(3).
4. Rule 26.7.3(D). This rule states that the iterative process of eliminating lowest-ranked candidates and redistributing votes to higher-ranked candidates will continue until “all seats are filled.” I may have overlooked something in the rules, but the rule currently seems to suggest that *all* winning candidates must receive a number of votes greater than or equal to the threshold. However, it is quite possible, and indeed, likely, for a count to get to the point where all the low-ranked candidates have been eliminated, the number of continuing candidates equals the number of remaining seats to be filled, and none of the continuing candidates has --- or can ever achieve --- a number of votes equal to or greater

than the threshold. This can be due either to “ballot exhaustion” (voters not ranking all the candidates) or voters significantly dispersing the rankings of their votes. There are two ways of dealing with this. The first is to write a new rule stating that if the counting gets to this point (i.e., there are as many continuing candidates as open seats, but none has reached the threshold), the remaining candidates are declared winners. The second is to deal with this as MGA 54A does at Section 9(l). (“Whenever all ballots of all defeated candidates have been transferred, and it is impossible to defeat another candidate without reducing the continuing candidates below the number still to be elected, all the continuing candidates shall be declared elected and the election shall be at an end.”)

5. Rule 26.7.4. This rule pertains to the transfer of surplus votes to continuing candidates. It appears that the intention is to allocate the surplus votes to continuing candidates in proportion to the fraction of second-place (or next-place) votes given to the continuing candidates. From the perspective of using as much information as possible about voter preferences in determining the outcome of the election, this seems like a preferable method to the one used in Cambridge, which is to (randomly) choose a number of ballots equal to the surplus from the winning candidate, and then to transfer whole ballots to the appropriate next-place candidates.
6. Rule 26.8.2. This rule deals with “skipped” rankings. For instance, a voter may rank Candidate A as number 1, Candidate B as number 2, and Candidate C as number 4, skipping number 3. This rule states that the vote for Candidate C “must be ignored.” It is not clear what this implies, but it seems to mean that the vote for Candidate C counts in no way, nor would (presumably) any votes for candidates ranked at number 5 and lower. If this reading is correct, then the rule would be unfortunate. In the example I have given, Candidate C is clearly the voter’s third choice, and there is every reason to proceed under this assumption. If there were a Candidate D ranked as number 5, one could similarly proceed as if the voter had ranked Candidate D as number 4. This is the practice reflected in MGL Chapter 54A, Section 9(a). (“If the consecutive numerical order of the figures on a ballot is broken by the omission of one or more figures, the smallest number marked shall be taken to indicate the voter's first choice, the next smallest his second, and so on, without regard to the figure or figures omitted.”)
7. Rule 26.8.3. This rule deals with “duplicate rankings,” for instance, if a voter ranks a candidate as both number 1 and number 2. First, the decision to count the highest ranking and ignore the other lower rankings seems to be right, because it would most likely reflect the intent of the voter. However, it is unclear how Rule 26.8.2 would function in light of Rule 26.8.3. In the example I have given, if a voter assigns rankings 1 and 2 to the same candidate, one could assume that the next-preferred candidate would be ranked 3. Is this vote to be ignored, because rank number 2 was skipped? That hardly seems correct, if the goal is to fully reflect the preferences of voters in the count.
8. Dealing with counting mistakes along the way. I may have overlooked something, but the proposed rule does not address what happens if it is discovered, mid-count, that a ballot had been previously credited to the wrong candidate. MGS Chapter 54A, Section 9(o) deals with this situation. I am not in a position to recommend this provision of

Massachusetts's law to Colorado, but it would seem prudent to anticipate in your rules what should be done if a vote count inadvertently got into such a predicament.

Thank you very much for this opportunity to contribute to this important change in the Colorado election rules. This rule-making is evidence of Colorado's continuing role as an innovator in the field of elections in the United States. I commend you, your staff, and other interested Coloradoans for the energy expended to enhance the experience of the voters in your state.