

# The Effect of Fair Representation Voting on 2013 Cambridge, Massachusetts Municipal Elections

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Cambridge, Massachusetts is the only municipality in the United States to elect its city council through the at-large form of ranked choice voting, a form of fair representation voting. This report examines the effects of this system on the city's 2013 city council and school committee elections, with a particular focus on comparing the outcome of the city council contest with the results of a simulated election using an alternative system: winner-take-all block voting. The effects of two structural features of the Cambridge system, ranked choice voting and the low electoral threshold, are examined. The report demonstrates that at-large ranked choice voting has benefited candidates from ethnic and political minority groups, who would have been unlikely to win election under a winner-take-all system. This difference in outcome can be attributed primarily to the low electoral threshold; ranked choice voting prevents vote-splitting from affecting the results of Cambridge elections, but did not have a direct impact on representation in 2013. Finally, the report discusses the school committee elections and the fact that the city council election triggered a hand-tallied recount, and issues raised by the recount.

## **Introduction**

Cambridge, Massachusetts is the only municipality in the United States to elect its city council and school board using the at-large form of ranked choice voting (also called “single transferable vote,” “choice voting,” and “proportional representation”). This report will examine the effects of this system on the city’s 2013 elections, with a focus on the race for the nine city council seats. The first section evaluates the impact of the system on representation by comparing the outcome of the 2013 election with the results of a simulated winner-take-all, block voting election, using actual ballot data from this year’s contest. In order to discuss the effects of electoral structure on the representation of ethnic minorities, the second section seeks to measure the degree of ethnically cohesive voting in Cambridge by looking for consistency between voters’ first and second ranked candidates. The third and fourth sections trace the impact of electoral structure on the election back to specific features of the city’s electoral system (the low threshold for election, and ranked choice voting), to determine the role played by each. The final section discusses the school committee election and issues that arose in a recount in the race for city council.

In 1941, Cambridge, Massachusetts became one of the two dozen American cities to have elected its city council using ranked choice voting in a multi-seat, at-large election, though it is the only city employing this system today. At-large ranked choice voting is a proportional voting system, as groups of like-minded voters can elect candidates in proportion to their share of the population, without fear of excessive electoral domination by the majority. In Cambridge, the nine City Council seats are filled by candidates who run together in a single, multi-seat election. A candidate is sure to win when receiving a number of votes equal to  $1/10^{\text{th}}$  of the total number of ballots cast plus one, as reaching this threshold ensures that they will be one of the top nine vote-getters. The six school committee seats are also elected at-large, with a candidate sure to win upon receiving one vote more than one-seventh of all votes. Voters cast one vote, but are able to rank any number of candidates on their ballot in order of their preference in order to maximize their opportunity to have their one vote count toward representation.

When the votes are counted, any candidate whose total number of first choices reaches or exceeds the threshold is elected, and their surplus votes are added to the totals of the next “continuing candidate” ranked on those ballots (i.e., the next candidate ranked who has not yet been elected or defeated). After these surpluses have been transferred, the candidate with the fewest votes is eliminated, and their votes are added to the totals of the next continuing candidate ranked by those voters on each ballot. This process is repeated until nine candidates have met the threshold, or until only nine candidates remain. If all nine elected candidates reach the threshold, more than nine in ten voters will have their vote help elect a candidate. Typically, more than 95% of voters rank a winning candidate among their top three choices.

## **Cambridge Elections 2013: A Year of Change**

Cambridge city council elections are always contested, with the number of candidates averaging 20.5 in the 12 elections since 1991. In 2013, 25 candidates entered the race for city council, the most since 1993. To win election, a new candidate needs only to secure the support of 10% of voters (plus one), rather than the majority or plurality required in winner-take-all systems. And because voters can rank candidates in order of choice, they need not fear “wasting” their vote on a candidate whose prospects are uncertain. Despite these advantages for challengers, incumbents have historically done well in Cambridge. By definition, winning a seat means having earned a strong following of voters who want you as their first choice, and thus incumbents can build on that base to try to stay in office.

The 2013 Cambridge City Council election demonstrated that, despite the historical success of incumbents, the city’s electoral system ensures that the city council remains responsive to the evolving preferences of the electorate. Two incumbents stepped down before the election, and two of the remaining seven incumbents were defeated, resulting in four new faces on the council – the most since 1989.

With the addition of these challengers, the city’s already diverse council became more so. Cantabrigians elected two black city councilors, as they have in each of the last seven contests, despite the defeat of one of the council’s two long-serving African American incumbents. Newly elected black city councilor Dennis Benzan is also the council’s first Latino member. Another new winner was 29-year-old Nadeem Mazen, a former Occupy Boston spokesperson who became the first Arab American elected to the council. He was one of two challengers to win as part of a slate of candidates who promised to bring new energy to Cambridge city government. Mazen’s election is reminiscent of the first election of Leland Cheung, Cambridge’s first Asian American city councilor, who needed transfer votes to win the last spot on the council as a young first-time candidate in 2009, but was the top vote-getter in 2013.

## **At-Large Ranked Choice Voting vs Block Voting**

The effect that Cambridge’s unique electoral structure had on the outcome of the 2013 election can be illustrated by using ballot data to simulate an election under the most likely alternative system: block voting.

Block voting, also called plurality-at-large voting, is the most common method for the election of city councils in the United States.<sup>1</sup> Under block voting, representatives are elected from a multi-member district in an election in which each voter can vote for a number of candidates equal to the number of seats to be filled. Block voting is a winner-take-all system, because the largest faction of voters can elect a slate of candidates they support to the exclusion of other groups, often leading to disproportionate results.

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<sup>1</sup> “Municipal Elections,” *National League of Cities*, accessed January 23, 2014, <http://www.nlc.org/build-skills-and-networks/resources/cities-101/city-officials/municipal-elections>

By treating each one-through-nine ranking as a vote made by Cambridge voters for the city's nine council seats, we can approximate what the election results would have been using a block voting system (the distribution of top nine rankings has been tabulated by Cambridge political observer Robert Winters).<sup>2</sup> Unsurprisingly, this counterfactual experiment demonstrates how block voting disadvantages candidates representing ethnic and political minority groups in favor of candidates who have greater name recognition and support among a plurality of voters.

2013 Election Results	
Candidate	Rank – Order of Election
Cheung	1
Maher	2
Simmons	3
Toomey	4
Benzan	5
McGovern	6
Kelley	7
Carlone	8
Mazen	9
vanBeuzekom	10
Reeves	11
Seidel	12

Simulated Block Voting Election			
Candidate	Votes	Rank – Votes	Change
Cheung	9299	1	-
Simmons	7181	2	+1
vanBeuzekom	6253	3	+7
Maher	6196	4	-2
McGovern	5822	5	+1
Kelley	5630	6	+1
Toomey	5547	7	-3
Reeves	5400	8	+3
Seidel	5179	9	+3
Benzan	5004	10	-5
Mazen	4687	11	-2
Carlone	4172	12	-4

Under a simulated block voting system, Cambridge voters would have elected just one new face to the Council instead of four, with the city's first Latino and first Arab-American city councilors among the defeated. Councilors-elect Dennis Benzan, Dennis Carlone, and Nadeem Mazen would each have fallen short of election, to the benefit of incumbent Councilors Kenneth Reeves and Minka vanBeuzekom, and former Councilor and Vice-Mayor Sam Seidel.

The outsized power of the majority in block voting systems would have denied representation to the supporters of these candidates, many of whom were members of the city's growing Latino population or voters hoping for new ideas and new faces in Cambridge government. Instead, the proportional system in Cambridge ensures that the voices of these constituencies will be heard in city government, and that the Council will remain responsive to changes in the city's electorate.

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<sup>2</sup> Robert Winters, "Different Measures of Popularity of City Council Candidates," *Cambridge Civic Journal Forum*, November 29, 2013, <http://cambridgecivic.com/?p=3300>

## **Ethnically Cohesive Voting**

The fair representation voting system used in Cambridge guarantees representation on the City Council to any block of voters making up greater than 10% of the electorate, ensuring that the voices of minority groups will be heard in city government. This feature is certain to benefit political minorities, but is most relevant to ethnic minority groups and their representation where they engage in ethnically polarized voting. Though racially polarized politics are not as dominant in Cambridge as they are in many other American cities, an analysis of ballot data from the 2013 election and voting patterns from elections past reveals that ethnically cohesive voting is still an important factor in the city's elections.

African American City Councilors Denise Simmons and Kenneth Reeves have long enjoyed strong support from African American voters in Cambridge. Ballot data made available by Robert Winters shows that in 2013, Cambridge voters who listed a first-choice preference for either Reeves or Simmons were two to three times as likely to record a second-choice preference for the other African American incumbent as for any other candidate.<sup>3</sup> Voters who listed either black incumbent first were also more likely to give other minority candidates like Leland Cheung and Dennis Benzan their second choice preferences than other candidates. This pattern was similarly true of voters who listed Benzan as their first choice.

<b>Dennis Benzan - #2 Preferences</b>	
<b>Candidate</b>	<b>%</b>
Simmons	12.8
Reeves	11.0
No #2 choice	10.9
Cheung	10.7
McGovern	9.5
Toomey	6.4
Carlone	6.0
Vasquez	5.5
Mazen	4.7
Maher	4.1

<b>Kenneth Reeves – #2 Preferences</b>	
<b>Candidate</b>	<b>%</b>
Simmons	35.4
Benzan	11.7
No #2 choice	10.9
Cheung	9.0
Toomey	6.2
Maher	4.8
Seidel	3.3
McGovern	3.3
vanBeuzekom	3.0
Kelley	2.5

<b>Denise Simmons - #2 Preferences</b>	
<b>Candidate</b>	<b>%</b>
Reeves	23.3
Cheung	11.9
Benzan	9.5
Toomey	9.3
No #2 choice	8.2
vanBeuzekom	6.3
McGovern	5.7
Maher	4.1
Seidel	3.4
Von Hoffman	2.9

The table below shows the distribution of second choices on ballots with first choices marked for the top three black and non-black candidates. Voters listing a black candidate as their first choice were more than twice as likely as other voters to list a black candidate as their second choice, suggesting a significant degree of racially cohesive voting in the Cambridge electorate. Further evidence comes from the geographic breakdown of votes in the city: black candidates did especially well in areas

<sup>3</sup> Robert Winters, “#2 Vote Distribution – 2013 Cambridge City Council Election,” *Cambridge Civic Journal*, accessed January 23, 2014, <http://rwinters.com/elections/election2013/council2013Number2.pdf>

with large African American populations, receiving 48.6% of the vote in precincts 2-1 and 4-1, compared to just 17.3% in the rest of the city.

**Distribution of 2<sup>nd</sup> Choices**

	<b>1<sup>st</sup> Choice Candidate</b>	<b>2<sup>nd</sup> Choices for Black Candidates</b>	<b>2<sup>nd</sup> Choices for Others</b>	<b>No Second Choice</b>
<b>Black Candidates</b>	Benzan	24%	65%	11%
	Reeves	47%	42%	11%
	Simmons	33%	59%	8%
	All Black Candidates	<b>33%</b>	57%	10%
<b>Other Candidates</b>	Cheung	18%	76%	5%
	Maher	18%	73%	10%
	Toomey	12%	68%	19%
	All Non-Black Candidates	<b>15%</b>	76%	9%

Identity-based voting was also apparent elsewhere in the election results. Voters listing James Lee as their first preference were more likely to list the election’s other Asian-American candidate, Leland Cheung, as their second choice than were voters who selected any other candidate as their first choice. Similarly, voters whose first choice was Luis Vasquez were more likely to make the race’s other Latino candidate, Dennis Benzan, their second choice than any other candidate.

The perception of a common ethno-religious identity is also likely to have played a role in the considerable overlap of supporters for Nadeem Mazen and Mushtaque Mirza. While the two candidates’ platforms overlap to some degree as well, the level of support for Mazen among voters who ranked Mirza first suggests an affinity in the minds of voters that goes beyond political similarity. Mazen campaigned as part of a slate with candidates Janneke House and Dennis Carlone, but received a higher proportion Mr. Mirza’s voters’ second preferences (29.9%) than he received from supporters of either House or Carlone (14.4% and 18.2%, respectively).

<b>Mushtaque Mirza - #2 Preferences</b>	
<b>Candidate</b>	<b>%</b>
No #2 choice	30.6
Mazen	29.9
McGovern	5.3
Cheung	4.9
vanBeuzekom	3.9
Reeves	3.5
Carlone	3.2

Maher	3.2
Simmons	3.2
Toomey	2.8

Certainly, ethnic identity considerations are not the primary factor affecting voters' decisions about what candidates to support. It was Leland Cheung, after all, who was by far the most popular candidate in a city that is just 15% Asian. Nevertheless, the influence of some degree of ethnically cohesive or identity-based voting in the 2013 Cambridge City Council election is undeniable.

The presence of ethnically cohesive voting patterns in the election results underscores the value of the low threshold for election in the at-large system for electing city councilors in Cambridge. Ethnically polarized voting has historically been to blame for the lack of representation of minority groups in legislative bodies across the United States that use winner-take-all systems, as any group not constituting a majority of the voting population of a city or specific electoral district would be perpetually shut out of government without significant support for minority candidates from voters in the majority. The Cambridge system allows minority groups to win representation on the Council in even the most polarized elections, provided they make up more than 10% of the voting population.

At the same time, ranked choice voting encourages inter-group cooperation and is less polarizing than “all or nothing” systems that do not allow voters to rank candidates. Despite the pattern of second choices following racial and ethnic lines, the percentage of voters who ranked someone outside their ethnic group grows rapidly as one examines additional rankings. For example, while 47% of first choice backers of Ken Reeves ranked another black candidate second, 80.5% of these voters also ranked a non-black candidate as a subsequent choice.

## **The Impact of Ranked Choice Voting**

The Cambridge system is distinguished from block voting by two structural elements: the low threshold for election that results from voters being given one vote, rather than a number of votes equal to the number of seats, and the use of ranked choice voting. The effect of ranked choice voting on the election's outcome can be isolated by comparing the election results to the initial tally of first choice preferences before the transfer of votes from elected and defeated candidates.<sup>4</sup> The tally of first choice rankings can be thought of as an approximation of the results of the election were it held under a single (non-transferable) vote system, in which voters can vote for one candidate in a multi-seat at-large election, but cannot transfer their vote after their preferred candidate has been elected or defeated.

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<sup>4</sup> Detailed election results are made available by the City of Cambridge: “November 15, 2013 – Cambridge, MA City Council Election Final Election Results,” *Cambridgema.gov*, November 15, 2013, <http://www.cambridgema.gov/Election2013/official/Council%20Round.htm>

<b>2013 Election Results</b>	
<b>Candidate</b>	<b>Rank – Order of Election</b>
Cheung	1
Maher	2
Simmons	3
Toomey	4
Benzan	5
McGovern	6
Kelley	7
Carlone	8
Mazen	9
vanBeuzekom	10
Reeves	11
Seidel	12

<b>First Choice Preferences</b>			
<b>Candidate</b>	<b>Votes</b>	<b>Rank – Votes</b>	<b>Change</b>
Cheung	2391	1	-
Maher	1464	2	-
Toomey	1457	3	+1
Benzan	1301	4	+1
McGovern	1187	5	+1
Simmons	1184	6	-3
Carlone	1151	7	+1
Kelley	1093	8	-1
Mazen	985	9	-
Reeves	934	10	+1
vanBeuzekom	875	11	-1
Seidel	701	12	-

If ballots in Cambridge had been tabulated using a single vote system in 2013, the same nine candidates would have been elected to the Council, so ranked choice voting cannot be said to have directly affected the outcome (though it may have affected voter behavior by allowing voters to express their sincere preferences without fear of splitting the vote). There would have been some changes in the order in which the candidates were elected, with Denise Simmons falling from third place to sixth, and Dennis Carlone leapfrogging Craig Kelley to finish seventh.

Although it did not alter the makeup of the Council in 2013, an examination of some of the rounds of vote transfers shows how ranked choice voting prevented candidates from being affected by the spoiler problem and illustrates its value for ensuring that factions within the electorate have a fair chance for representation, no matter how many candidates seek to represent them.

An excellent example of the role that ranked choice voting plays in preventing the spoiler problem can be found in the votes transferred from incumbent Councilor Kenneth Reeves, when he was eliminated in the 16th round of tabulations. Reeves was one of several African-American candidates in the field who would have been at risk of spoiling one another's chances, if not for ranked choice voting. When Reeves was eliminated, his supporters' votes were transferred to the next candidate ranked on their ballots. Unsurprisingly, the greatest benefactors of Reeves' transfers were other candidates of color: Dennis Benzan and Denise Simmons. The 238 votes transferred to Simmons after Reeves' elimination was the largest transfer from one candidate to another in the election, and explains much of the improvement in Simmons' position between the tally of first preferences and the election's final results.

<b>Candidate</b>	<b>This Round</b>	<b>Total</b>	<b>Status</b>
Leland Cheung	0	1775	Elected – 1st count
David Maher	0	1775	Elected – 15th count
Dennis Benzan	+159	1775	Elected – 16th count
Timothy Toomey, Jr.	+88	1775	Elected – 16th count
Denise Simmons	+238	1775	Elected – 16th count
Marc McGovern	+87	1679	Continuing
Craig Kelley	+91	1565	Continuing
Nadeem Mazen	+53	1549	Continuing
Dennis Carlone	+30	1548	Continuing
Minka vanBeuzekom	+123	1535	Continuing
Kenneth Reeves	-1165	0	Continuing

The election of Nadeem Mazen also demonstrates the value of these transfers for avoiding the spoiler problem when candidates share similar constituencies. As discussed above, Mazen received more transfers from Mushtaque Mirza than did any other candidate. The table below, also based on data from Robert Winters, shows the official (pre-recount) results in the 10th round of transfers, when Mirza was eliminated and his ballots distributed to his voters' subsequent choices.

<b>Candidate</b>	<b>This Round</b>	<b>Total</b>	<b>Status</b>
Leland Cheung	0	1775	Elected– 1st count
David Maher	+11	1583	Continuing
Timothy Toomey, Jr.	+11	1535	Continuing
Dennis Benzan	+1	1408	Continuing
Marc McGovern	+19	1308	Continuing
Denise Simmons	+13	1304	Continuing
Dennis Carlone	+12	1250	Continuing
Craig Kelley	+6	1208	Continuing
Nadeem Mazen	+103	1198	Continuing
Kenneth Reeves	+12	1040	Continuing
Minka vanBeuzekom	+17	1021	Continuing
Sam Seidel	+7	792	Continuing
Jefferson Smith	+4	633	Continuing
Logan Leslie	+2	544	Continuing
Kristen Von Hoffmann	+7	485	Continuing
Janneke House	+4	451	Defeated – 10th count
Mushtaque Mirza	-324	0	Defeated – 9th count

Mazen and his fellow “clean slate” candidate, Dennis Carlone, also received a substantial number of transfer votes from the third member of their slate, Janneke House. The table below shows the distribution of House’s votes when she was eliminated in the 11th round of transfers.

<b>Candidate</b>	<b>This Round</b>	<b>Total</b>	<b>Status</b>
Leland Cheung	0	1775	Elected – 1st count
David Maher	+20	1603	Continuing
Timothy Toomey, Jr.	+8	1543	Continuing
Dennis Benzan	+19	1427	Continuing
Marc McGovern.	+25	1333	Continuing
Denise Simmons	+25	1329	Continuing
Dennis Carlone	+63	1313	Continuing
Nadeem Mazen	+66	1264	Continuing
Craig Kelley	+34	1242	Continuing
Minka vanBeuzekom	+57	1078	Continuing
Kenneth Reeves	+11	1051	Continuing
Sam Seidel	+29	821	Continuing
Jefferson Smith	+22	655	Continuing
Logan Leslie	+12	556	Continuing
Kristen Von Hoffmann	+29	514	Continuing
Janneke House	-451	0	Defeated – 10th count

While the support for Carlone and Mazen from voters who listed Janneke House as their first preference was not overwhelming, and was perhaps less than would be expected from candidates who ran together as a slate, they nevertheless received more transfers from House than any other candidates. The ability to rank multiple candidates thus allowed supporters of the “clean slate” group of challengers to help elect one of their preferred candidates, even though their first-choice candidate, Janneke House, failed to win election.

The transfer of votes under ranked choice voting did not ultimately alter the outcome of the 2013 Cambridge City Council election; a single vote election without transfers would have seen the same candidates elected, albeit in a different order. However, the transfers highlighted here illustrate the system’s value. Ranked choice voting allows multiple candidates representing political minority groups, like supporters of the “clean slate” candidates, and ethnic minority groups, like Cambridge’s African Americans, to run in the same election without fear of harming one another’s chances by dividing the vote. In the past, ranked choice voting has altered the outcome of many Cambridge elections in which the potential impact of the spoiler effect was greater, including two of the last six elections for City Council and School Committee. It also allows voters to maximize the chances that they will be able to help elect one of their preferred

candidates: 93% of Cambridge voters were able to help elect one of their top three choices in 2013.

## **Low Threshold for Election: One Person, One Vote**

As ranked choice voting did not affect the outcome of the 2013 Cambridge City Council election, the entirety of the difference between the results of the simulated block voting election and the election's actual results can be explained by the most significant feature of the Cambridge electoral structure: the low threshold for election. Because all nine councilors are elected at-large in a multi-member district in which voters are given only one vote, candidates require support from just over one tenth of voters to be elected, a lower barrier to representation than exists in city council elections anywhere else in the United States. This low threshold is the reason that supporters of Dennis Benzan, many of whom are Latino and African-American, and supporters of "clean slate" candidates Nadeem Mazen and Dennis Carlone, who sought to bring new energy to Cambridge city government, are represented on the Council. It is the critical element of a structure that ensures that the councilors elected in Cambridge will represent factions among the voters in a roughly proportional manner, distinguishing the Cambridge system from winner-take-all systems like block voting.

The demographics of Cambridge have evolved over the years, and the Cambridge system has ensured that the City Council reflects these changes. The low threshold has helped African Americans to win representation on the Council in every election since 1969, despite making up just 7% to 12% of the city's population over this period.<sup>5</sup> After several decades of growth, Latinos now make up close to 8% of the city's population. It is no surprise, then, that Dennis Benzan was elected as Cambridge's first Latino city councilor in 2013. Recent elections have also allowed other growing minority groups to gain representation in Cambridge, as when Leland Cheung became the city's first Asian American city councilor in 2009 after a period of significant growth in the city's Asian American population, and the election of Arab American Nadeem Mazen to the Council this year. While elections in Cambridge do not break down strictly along ethnic lines, the presence of some ethnically polarized voting suggests that consistent representation for ethnic minority groups would be unlikely without the ameliorating effects of a low threshold for election.

Mazen also exemplifies the ability of the Cambridge system to allow for the fair representation of political minorities, in addition to ethnic minorities. Mazen, Carlone, and Janneke House campaigned together because of a shared belief in the need to bring new energy to Cambridge City government, and because of shared positions on issues like affordable housing and the need for a master plan to guide development in the city. Ultimately, Mazen and Carlone were the eighth and ninth councilors elected, and the minority of voters who sought to shake up the Council by electing challengers

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<sup>5</sup> "City of Cambridge, Massachusetts Statistical Profile," *Cambridge Community Development Department*, 2011, <http://www.cambridgema.gov/cdd/externallinks/profiles/demographicprofile.aspx>

had their voices heard in the final count, an outcome that would have been unlikely were it not for Cambridge's low electoral threshold.

Cambridge is a very liberal city, to be sure, but Cambridge Republicans and centrist voters have a history of having influence as well, despite their status as another political minority group. The preferred candidates of Cambridge's moderates in recent years have been Timothy Toomey and former Mayor David Maher, who, unsurprisingly, each fared worse in the simulated block voting election than in the actual contest.

## **School Committee Election and a City Council Recount**

The Cambridge School Committee is a seven member body consisting of the mayor (a city councilor selected by his or her colleagues) and six members elected in a separate at-large ranked choice voting election. This year's election was also vigorously contested. African Americans Richard Harding, Jr. and Mervan Osborne each won reelection, and 3 of the 6 seats went to women candidates. While women have often done well in Cambridge City Council elections as well – four members of the council were women before the 2013 election, and women had made up at least one third of the council since 1993 – they did poorly in 2013, winning only one of the nine seats. However, the school committee results underscore that this result is anomalous.

The city council election was close enough that the tenth-place finisher, Minka vanBeuzekom, petitioned for a recount. VanBeuzekom trailed Dennis Carlone by only 13 votes at the time of her elimination in the initial count. This drew attention both to the high rate of ballots that were valid (more than 99.4% of voters cast a valid first choice), and the high rate of voters ranking multiple candidates (90.7% of voters ranked a second candidate, and the median number of rankings was 5). It also drew attention to the fact that the procedure used in Cambridge to transfer surplus votes after the initial count is limited by statute to imperfect methods that were in use before computerization of the count made more precise transfers possible. Under the current system, known as the "Cincinnati method," when a candidate has surplus votes after the first round – as was the case for Leland Cheung this year – some of that winner's ballots are transferred to second choices, while others stay to elect the candidate. Ballots are selected to be transferred at regular intervals, but changes to the ballot order before the recount, caused by the addition of absentee ballots that arrived after the election, led to fears that a different sample of transfer ballots could affect the election's outcome (ballot order in Cambridge is determined by geography, as ballots are counted in precinct order).

Ultimately, the recount did not alter the outcome of the election, and had a negligible effect on candidates' vote totals. The final margin between Carlone and vanBeuzekom in the decisive round changed from 13 in the initial count, to 20 after the recount – a small difference consistent with the expected effects of a recount under any system. The consistency of the pre and post-recount results underscores the degree to which the Cincinnati method of allocating surplus transfers represents only a minor blemish on what is otherwise an uncommonly fair electoral system. Nonetheless, adoption of the

“fractional method” of distributing surplus transfers, under which a portion of the value of every ballot stays with the elected candidate, and the remaining portion is transferred to the voters’ next choice, as is done in at-large ranked choice voting elections in Minneapolis for its Park Board and Board of Estimate and Taxation, would improve the Cambridge system, and is now feasible as the city’s ballot tabulations have been computerized.

## **Conclusion**

Cambridge, Massachusetts clearly benefits from its fair representation voting system: the at-large form of ranked choice voting. A comparison of the 2013 Cambridge City Council election results with the results of a simulated block voting election illustrates the effect this system has on electoral outcomes in the city. Block voting would have reelected two incumbents and one former councilor, at the expense of three candidates representing ethnic and political minority groups. This outcome is consistent with the expectation that winner-take-all systems like block voting will disadvantage candidates representing minorities within the electorate to the benefit of candidates with broader name recognition and the support of the majority.

The benefits of fair representation voting systems for the representation of political and ideological minorities are clear, but these systems’ potential to benefit the representation of ethnic minority groups is most relevant in environments where voting is ethnically polarized to some extent. The analysis of second place rankings suggests that ethnically cohesive voting is still a force in Cambridge city politics – as it is likely to be in cities throughout the United States. This means that the use of a winner-take-all system, like block voting, would be likely to have consistently deleterious effects on the representation of ethnic minorities in Cambridge city government.

Of the two structural features that distinguish the electoral system of Cambridge from block voting – the low threshold for election that results from voters having one vote rather than a number of votes equal to the number of seats, and ranked choice voting – it is the low threshold that is primarily responsible for creating a roughly proportional system that allows for representation of minority groups and is responsive to new groups and new ideas in the electorate. While the role of ranked choice voting is secondary to that of the low threshold for affecting minority representation, and in 2013 it did not ultimately affect the outcome of the Cambridge City Council election, ranked choice voting is nonetheless critically important for allowing voters to indicate support for a range of candidates, for eliminating the spoiler problem from elections, and for ensuring that voters can vote for very popular or very unpopular candidates without fear of their vote being wasted. Together, the low threshold and the use of ranked choice voting create a system that elects a Cambridge City Council that mirrors the experiences and views of the city’s electorate, and does so more effectively than the electoral system of any other city in the United States.

The long history and continued use of fair representation voting in Cambridge, Massachusetts make the city’s politics an important area of research for those interested in the effects of such systems in the context of American municipal

government. The findings of this report suggest that, in Cambridge, fair representation voting has a meaningful impact on electoral outcomes, facilitating the election of a council that more accurately reflects the electorate. However, this snapshot of Cambridge electoral politics cannot capture the full relationship between electoral structure and the city's politics. Future research should use a broader sample of Cambridge electoral history to examine the issues discussed in this report, as well as measures of voter satisfaction, performance, and understanding; the representation of other traditionally underrepresented groups like women, young people, and low-income people; the effects of the system on the nature of campaigns; and the effects of the system on the nature of city government.

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FairVote is a non-partisan electoral reform organization seeking fair elections with meaningful choices. Our vision of “the way democracy will be” includes an equally protected right to vote, instant runoff voting for executive elections and proportional voting for legislative elections.

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