

Article 5: Town Meeting Electronic Voting Study Committee Report to the November 2, 2015 Special Town Meeting

Introduction

The Town Meeting Electronic Voting Study Committee (TMEVSC) was formed in January 2015 by the Amherst Town Meeting Moderator. The Committee Charge is as follows:

The charge of the Amherst Town Meeting Electronic Voting Committee is to bring a proposal for Electronic Voting to Town Meeting. The Committee will research technology options and associated costs, consulting with vendors and with other Massachusetts towns that have already implemented electronic voting at their representative town meeting. The goal of the committee is to present two warrant articles to the 2015 Fall Special Town Meeting; one to appropriate funds for a specific system, and a second to modify the applicable town bylaws to incorporate electronic voting.

The goal of an electronic voting system at Town Meeting is three-fold: improve accuracy, save time, and provide accountability to the voters.

The following seven members were appointed to the committee:

Jonathan O’Keeffe (at large member)
Chris Riddle (at large member)
Mandi Jo Hanneke (at large member)
Jim Pistrang (Town Meeting Moderator)
Sean Hannon (IT Department Staff)
Alan Powell (Town Meeting Coordinating Committee member)
Sandra Burgess (Town Clerk)

Andrew Steinberg has attended meetings as a liaison to the Select Board.

The full committee has met five times since its inception and a Bylaw Subcommittee has met one additional time. In addition, a subset of the committee traveled to Brookline in June to observe electronic voting in action. Our June 03 committee meeting included an online demonstration from a vendor who supplies software and hardware to a number of Massachusetts Town Meetings.

The committee has researched systems that are already in place in Massachusetts, considering a number of factors such as hardware and software capabilities, cost, rental vs. purchase options, and the manner in which electronic voting is used in the Meetings. Our focus for this report is

twofold: 1) the hardware, software and vendor options, and 2) the bylaw revisions necessary to support electronic voting. The details of our findings and recommendations are below.

Hardware and Software Summary

Electronic voting systems consist of three primary components:

1. The handsets used by members to cast their votes
2. The receiver used to receive the votes cast by the handsets
3. The server hardware and software that processes the data from the receiver and formats the results

The handset is a small, hand-held device, usually similar in size and shape to a TV remote control. Several sample devices are shown here.



The exact layout of the device depends on the specific system, but they usually include several input buttons, and often a screen or LEDs to provide feedback to the voter. In considering handset options, the committee will require a device containing a screen that provides positive confirmation to the user that the vote was properly sent and recorded.

Handsets are battery-powered, either with a built-in rechargeable battery, or replaceable batteries, depending on the system. Vendors we contacted quoted battery lives ranging from six months to several years.

The handsets send the votes through secure encrypted radio-frequency signals to the receiver, which collects the vote data from the handsets. Different systems have varying capacities in terms of the number of handsets they support, and it is important for a body like Town Meeting to have a system that is capable of listening to multiple hundreds of handsets.

The server is the computer system that processes the data and tallies the vote totals. Each system has its own proprietary software to manage this process, but they all provide similar functionality – the ability to set up a question to be voted on, project the question on the screen, provide options for displaying results, and provide live and after-the-fact reporting on all the questions that were voted on. The software systems generally integrate with a presentation package such as PowerPoint to facilitate easy display of the questions and the results on-screen.

Benefits and Concerns of Electronic Voting

As with the adoption of any new technology, the implementation of electronic voting in Amherst Town Meeting would offer benefits relative to current practice, while introducing some new concerns. It will be the job of the Moderator and Town Meeting Members to keep the small-town culture of Town Meeting alive, by using the electronic voting mechanism as a tool merely to record, not to replace, the vigorous debate that Amherst has come to expect. The committee feels that the electronic voting process which follows will support this goal.

Benefits

A properly implemented electronic voting system can deliver tangible benefits to Town Meeting, primarily in three ways: increasing public information about Town Meeting proceedings, streamlining voting and recording time, and ensuring an accurate vote. These benefits would decrease the time commitment needed to serve on Town Meeting, decrease the contention interpreting the outcome of the vote, and increase the accountability of Town Meeting members to the citizens they represent, which may in turn enhance the public's confidence and interest in Town Meeting.

Increased Accountability to the Public

An important benefit of electronic voting to a representative town meeting is the opportunity to quickly record and publish how individual members voted. Currently, a member-by-member voting record is available only with a time-consuming tally vote, which is used in very few substantive votes. As a result, constituents rarely know how their elected representatives vote. An electronic voting system would allow Town Meeting to take and publish individually recorded votes with the required accuracy but in dramatically less time.

It is up to Town Meeting and the Moderator to determine which votes would be taken this way, but recording and publishing more individual votes, especially on the substantive motions, would increase transparency and accountability in the Town's democratic process, further elevating Town Meeting as a representative legislative body.

Public access to town-meeting-member voting records for more substantive votes would provide a better-rounded view of a Member's record than is available with our current practice, where constituent awareness of their Members' votes is often limited to the most controversial issues. This change may also encourage more competitive elections, as the Town's voters will be able to easily determine where their representatives stand on a larger number of issues. To the Committee's knowledge, all Massachusetts representative town meetings now using electronic voting routinely publish individual vote reports to the town website, and they report widespread acceptance of this practice by Town Meeting Members and by the community at large.

More Efficient Use of Time

Adoption of electronic voting would significantly decrease the time Members spent voting. Electronic votes can be completed in an average of 90 seconds. At the 2015 Annual Town

Meeting, the average time to conduct a standing vote was 4 minutes 55 seconds. The average time for a tally vote was 10 minutes 49 seconds. At the 2015 Annual Town Meeting, there were 9 tally votes and 4 standing votes. In just 8 nights, Town Meeting Members spent over 1½ hours conducting tally votes and nearly 2 hours on all non-voice votes combined. The Committee estimates that replacing all 13 votes with electronic voting might have saved Town Meeting one meeting night, and possibly two.

Further, because electronic votes would be automatically recorded in a computerized database, adoption of e-voting would save the Town Clerk's office considerable time. Currently, the Town Clerk must hand count and hand record all tally votes for the public record, which takes a lot of time. If electronic voting is adopted, the Town Clerk would receive a spreadsheet of the vote, negating the requirement of hand-counting the votes after Town Meeting and allowing the Clerk to work more efficiently.

Improvements in Counted Votes

Using electronic voting in place of standing votes provides for a higher degree of accuracy than current practice. Electronic voting is quicker than a standing vote. Additionally, Town Meeting could use electronic voting to take more counted votes in place of voice voting without sacrificing significant meeting time, allowing for the Meeting Members to be confident that the Moderator's ruling is accurate, hopefully lessening the contentiousness that can sometimes result from close votes.

Protection Against Unauthorized Voting

Because electronic voting systems employ uniquely identified handsets to enter votes, they greatly reduce the potential for inadvertent or intentional votes made by unauthorized individuals, such as non-members who are improperly inside the enclosure on a standing vote, or who contribute to voice votes from the gallery.

Concerns

The Committee addressed the major concerns that are likely to arise when considering the adoption of an electronic voting system for Town Meeting. Where applicable, mitigation approaches for the concerns are discussed. However, Town Meeting must ultimately determine whether the benefits of electronic voting enumerated above outweigh these concerns.

Integrity of the Vote

One of the most significant concerns is whether a selected electronic voting system will provide accurate tallies. Electronic voting systems ensure the integrity of wirelessly collected votes by a number of means, including:

- *Transmission ranges* that are suitable for the size of the meeting hall, ensuring that all transmitted votes will reach the receiver associated with the vote tallying computer system.

- *Authentication:* Linkage of uniquely-formatted voting data transmissions to unique handset devices that are assigned to specific Town Meeting Members, and which are distributed and collected in a controlled manner.
- *Positive real-time feedback* to the handset user acknowledging that a keyed-in yes, no, or abstain vote has been received by the system.
- *Procedures* put in place to address incorrectly recorded or missed votes detected as a result of onscreen review, or originating from a failed handset.

Fraud

Of equal concern is whether electronic voting systems open up avenues for fraudulent voting that make them significantly easier to abuse than current non-electronic voting procedures.

The Committee considered the following specific concerns:

- *Use of unauthorized devices:* The handsets used by electronic voting systems are typically commercial off-the-shelf items available for public purchase. However, linkage of specific handsets to specific Town Meeting Members (described above), along with handset distribution controls, effectively prevents potential misuse.
- *Multiple voting:* The electronic voting system is designed to record only one vote per member during each time-limited open voting window, which is generally the last yes, no, or abstain vote entered on a member's handset before the window closes. Thus, a member can change his or her vote during the voting window (typically to correct for an initial mis-keying), and only the final corrected vote will be posted.
- *Proxy voting:* Electronic voting systems do not provide direct technical safeguards against proxy voting—a situation where a handset properly registered and checked out to a particular Town Meeting Member might be provided to another person for voting. Proxy voting is not allowed at Town Meeting. The Committee recommends deterring proxy voting by public scrutiny. It is expected that if a Member is observed using multiple handsets during a vote, such activity would be reported to the Moderator (as, for example, the presence of non-Members within the enclosure would be reported now).

Ease of Use

Adoption of a new voting method risks some initial confusion about use of the technology and related procedural changes. To successfully address this challenge, training sessions for town-meeting members will be conducted, test votes will be taken prior to a meeting's actual votes, and instructional videos and/or handouts on system use are planned. Each of the other town meetings currently using electronic voting reported rapid, widespread acceptance of the systems by their members. At Brookline Town Meeting, our committee members observed trouble-free use of electronic voting devices by their more than 200 members.

Accessibility for People with Disabilities

Appropriate accommodation would be made for any Town Meeting members with physical disabilities that impeded use of an electronic voting handset. The specific accommodation required would depend on the needs of the individual. Other towns using e-voting in Town Meeting have adopted policies to assign an official aide to individuals requiring assistance in using e-voting equipment, such as telling the voter which button has been pushed, reading out the handset's visual feedback, and reading the Member's vote if it is displayed in the hall. If

Town Meeting votes to adopt electronic voting, the Town's Disability Access Advisory Committee may be consulted to assist in evaluating voting equipment and to recommend appropriate accommodation policies to the Moderator.

System Failures

A deployed electronic voting system, like any other computer-based technology, can fail at a critical time. While outages should be very rare, the proposed bylaw amendments permit use of the same non-electronic voting methods in use today, in the event of a technical problem.

Amending the Bylaws to Adopt Electronic Voting

The Committee unanimously supports adopting electronic voting in Amherst's representative Town Meeting. Based on our study, we believe the benefit of greater accountability and transparency to constituents, more efficient use of Members' and the Town staff's time, and improved accuracy is well worth the modest costs, and that the risks are manageable.

Adoption of electronic voting requires amending the Town's Bylaws. The methods for voting at Town Meeting are spelled out in the Rules of Order for Town Meeting, Section 8 of Article 1 of the Town Bylaws. Those Rules allow three methods of voting: voice, counted standing and tally card. There is no provision in the Bylaws to permit any other method of voting. Therefore, in order to allow electronic voting, the Bylaws must be amended.

The Committee has proposed amendments that integrate electronic voting into the current voting practices of Town Meeting. *The abiding intent is to fit electronic voting into current procedures, preserving as much as possible how Town Meeting now votes.*

What does the proposed bylaw amendment do?

The proposed bylaw amendment:

- Maintains the voice vote in the first instance
- Defaults to electronic voting in instances where currently a standing or tally vote would occur
- Continues to provide that any member who doubts the voice vote may call for a counted vote, which would be taken electronically
- Continues to provide that 15 town meeting members who rise may require a tally vote (which may be taken electronically) on any motion
- Allows all current, non-electronic voting procedures (voice vote, standing count, tally vote) to be used if electronic voting equipment fails or is not available
- Leaves discretion to the Moderator to set and adjust operating procedures for votes taken with electronic equipment

The proposed bylaw amendment **does not**:

- Dictate how votes will be displayed during the voting period

- Dictate whether or how votes will be displayed at the end of the voting period
- Eliminate the availability of an anonymous counted vote, where the official count will be published, but not how each member voted
- Dictate the length of time an electronic vote will remain open for voting

As stated, the overarching goal of the Committee is to provide a means for allowing electronic voting at Town Meeting, all the while keeping the current system of three separate types of votes intact. The Committee has not made any attempt to dictate in the bylaws what will be seen by members when actually voting, or the actual process for electronically voting—that will be up to the Moderator, just as the process for taking a tally vote is left up to the Moderator (e.g. the bylaws do not say anything about how many tellers collect tally cards, how they are collected, etc.)

Questions & Answers About Electronic Voting at Town Meeting

Why does the Town Meeting Electronic Voting Task Force recommend using an electronic-voting system to count votes at Town Meeting? Is the current system flawed?

The Committee feels such a system would provide greater accountability and communication to Amherst residents in the form of a record of votes at Town Meeting. Other benefits include quicker vote counting, more efficient use of Town Meeting Members' time, ease of official record keeping by the Town Clerk, and improved accuracy on close votes. The Committee emphatically does not believe the way we have been doing business for a hundred years is broken. Rather, we feel that this technology can fulfill even better the democratic promise of the Town Meeting form of government.

Would electronic voting save time?

Most likely, depending on how it is used. However, the operation of the system is not instantaneous. Voice voting will still be used in the first instance. Electronic voting will save time over standing votes and tally votes, with the possibility of reducing the number of sessions needed to complete Annual Town Meeting each spring.

How would Town Meeting members vote electronically?

Members would be issued a voting handset, like a TV remote, which they check out and return each night. They would vote by pressing buttons corresponding to “yes”, “no”, or “abstain.” Each handset would be numbered and assigned to the member who checked it out. Members would return the handsets at the end of each night.

What forms would electronic voting take?

The proposed bylaw provides for an *Electronic Count*, which produces a yes-no count and is analogous to the standing vote, and an *Electronic Tally*, which produces a member-by-member list of yes, no, and abstain votes analogous to the traditional tally vote. The proposal would preserve the current rules that gives one member the right to rise and doubt the result of a voice

vote (resulting in the electronic equivalent of a standing vote), and 15 members the right to rise and request the electronic equivalent of a tally vote.

What if the system breaks during Town Meeting?

If the electronic system is unavailable for any reason we will automatically fall back to the existing method of voting, including having tally cards available for distribution.

What if my hand-held device breaks during Town Meeting and I am unable to vote?

IT staff and extra devices will be on hand at all Town Meeting sessions.

How will I learn how to vote electronically?

There will be a demonstration, including training, on the first night of the November 02 2015 Special Town Meeting. All Town Meeting members who are in attendance can participate. If adopted, demonstrations will also take place prior to the 2016 Annual Town Meeting.

Who would decide when to use electronic voting?

The Town Moderator and/or Town Meeting Members, similar to the current practice of call for a standing vote or tally vote.

What are the differences, as proposed, between the Electronic Count and the Electronic Tally?

The Electronic Count produces an aggregate count of yes and no votes, which will become part of the official record of the meeting. The Electronic Tally produces a member-by-member tally, which will become part of the official record.

Are there other benefits of electronic voting?

Yes. Electronic voting eliminates or mitigates several possible sources of fraud or error, such as nonmembers sitting in the enclosure and voting. Only handset votes would be counted.

Are there any disadvantages of electronic voting?

The primary disadvantage is the cost of purchasing and operating the system. Also, the practice of voting using remote handsets introduces the possibility of a new kind of fraud, in the form of illegal proxy voting (e.g. a member gives their handset to another member to illicitly delegate their vote). The Committee has proposed a measure to discourage proxy voting. Generally, the Committee finds that electronic voting is likely to be more accurate and efficient than the voting methods we currently enjoy. Unauthorized voting is not unknown at Town Meeting today when nonmembers enter the enclosure or add their voices to voice votes. Electronic voting avoids the opportunities for these errors.

What about computerized fraud, in which electronic data are deliberately intercepted or altered?

The electronic voting systems in use today are very secure from manipulation. They use dedicated wireless handsets that interact directly with the system, not an internet connection. Data are encrypted, and handsets are assigned to individual voters with each handset accounted for.

Who will decide which system to purchase, if Town Meeting approves the bylaw amendment and the appropriation?

The Town will purchase a system through its standard procurement process. The Committee will work with the Town's IT department to prepare a Request for Proposal, evaluate the results and recommend a vendor.

Why not rent a system?

The cost to rent a system for a town meeting of our size and length is prohibitive. It is less expensive to purchase a system.

Why do we need to buy something? Don't we have experts in the town or at UMass who can provide this?

A reliable and secure system that meets the needs of Town Meeting is not a trivial task. The committee will recommend a vendor that has experience and a good track record providing this service to representative town meetings in Massachusetts.

How long before we need to replace the system?

The committee estimates that the hardware will last at least 8 years. We will pay an annual support fee for the system, which includes software updates as they occur.

Why bother with electronic voting if Town Meeting might go away?

It is possible that there will be a vote to establish a Charter Commission, and it is possible that our form of government might change. However neither of these events are certainties, and Town Meeting will be with us for at least a few more years. An electronic voting system will improve Town Meeting immediately.

What happens if we pass the bylaw revision but do not approve the appropriation?

The bylaw revision would go into effect, but since there would not be an electronic system available we would continue to vote as we do now.

What happens if we do not approve the bylaw revision?

If the bylaw revision fails, a member of the committee will move to dismiss the appropriation article.