

Electronic Voting in Arlington Town Meeting

An Informal Guide

- The OPTIONFINDER G3 system is a secure wireless radio system that works in the 2.4GHz range. Each Town Meeting representative is issued a unique coded and numbered handset. Do not give yours to anyone to vote for you.
- Your handset will be turned on before the start of Town Meeting. The most reported problem with the handset is that the user has turned it off.
- The only keys we use are: 1 = Yes, 2 = No, and 3 = Abstain.
- While voting is open, you may change your vote multiple times by pressing a new number. The last number pressed when voting closes will be the vote recorded.
- Your vote will be confirmed on the handset's display screen

How do I claim my handset? How should I care for and return it?

You have been assigned a specific numbered handset and may use no other unit. You may claim yours from the volunteers near the check-in table every night.

Your handset should be turned on and ready to use continuously. If it ever is turned off, press and hold the power button in the lower right corner to turn it on.

Never turn off the handset during the meeting. It will not turn off automatically as long as the base station is on. The batteries should be good for 150 hours of use.

Return your handset at the end of each evening by placing it in any of the receptacles at the edge of the enclosure when you leave. If you leave early you may return it to an electronic voting volunteer.

Do not take your handset home.

How do I cast a vote using the handset?

When the Moderator declares that voting is open and before the countdown clock has reached zero seconds, simply press either the numeric keys 1, 2, or 3, corresponding respectively to Yes, No, and Abstain.

Pressing any additional keys, e.g. send, del, or link, will have no effect.

Your selection will be broadcast to a base station connected to the voting computer, which will record your vote and broadcast a confirming signal back to your handset.

The confirmation is a complete round trip of your vote from handset to base station and back.

Do not turn your handset off after the vote.

What if I change my mind while the votes are being cast?

There will be a voting period of approximately 20 seconds. You may change your vote during the voting period. Only your final vote at the close of the voting time period will be tallied.

The 20-second period allows the system to poll the hall several times to ensure that all votes are received and confirmed back to the handsets.

What if I change my mind after the votes have been cast?

As with other forms of voting, the vote you cast during the voting period is your final legal vote and cannot be changed after the fact. There is no provision to change your vote after the vote closes.

What will be displayed on the big screen?

In most instances the individual votes will not be projected on the display screen. The Moderator will announce the result of the vote in the usual way.

Under some circumstances the Bylaws or the Moderator may require that votes of individual members be projected on the screen. If so, the votes will be shown 3 precincts at a time for approximately 10 seconds each screen.



How can I verify that my vote has been correctly recorded?

For all votes, your handset will confirm the vote broadcast from your handset to the base station and back.

For roll-call votes, and for votes that are very close, and for other votes as directed by the Town Moderator, the votes of all members will be projected onto the display screen, three precincts at a time.

What if there is an error with my handset or my vote?

If your handset does not confirm your vote, immediately rise and gain the attention of the Moderator. You may be issued a new handset and, if analysis determines that your handset malfunctioned, the record of your vote will be corrected.

There will be a test vote at the start of each night to check the accuracy and performance of your handset.

May I give my handset to another person to vote in my absence?

No. Proxy or absentee voting is not authorized for Town Meeting. You must be present to vote.

If you see a member with two or more handsets immediately bring it to the attention of the Moderator with a Point of Order.

How will we decide whether to use the handsets to vote?

That decision is in the hands of the Town Moderator. The Committee expects that we will vote with the handsets frequently, replacing many but not every instance of voting by voice and thus eliminating the necessity of the standing counted vote.

For any voice votes called by the Moderator, a standing or electronic tally may be required by 5 members rising for that purpose immediately after the voice vote as provided for by

From the Moderator

Under what circumstances might you choose to conduct the vote by voice or standing count?

In almost all instances of a *no action vote*, I anticipate using a voice vote, as well as on the consent-agenda vote when we initially go over the budget.

May I give my handset to another person to cast a vote on my behalf?

No! There is no provision in either our Bylaws or in State law for proxy voting at a Representative Town Meeting.

Under what circumstances will you instruct the electronic voting administrator to project the individual votes on the display screen?

When 30 or more members arise to challenge the vote as provided for in the Bylaws, or when the vote is close.

What if I have a question about voting?

Just as you would have done previously, rise and ask for a "Point of Order."

—John D. Leone
Town Moderator

the Bylaws. Similarly, on an electronic vote, 30 or members can rise and require that the individual votes be projected for review.

What is the difference between a regular tally and a role-call vote?

The difference is not as great as it used to be. All of your votes will be recorded and be publicly available after the day of the meeting. A roll call, however, provides that the individual votes be immediately projected and included in the permanent legal record of the meeting that is prepared by the Town Clerk.

Furthermore, in the event of a call for a roll call following an electronic vote, there will be no second vote; the votes already cast will be projected and *become* the roll call.

How can members require a roll call?

As provided for in the Bylaws, 30 members rising immediately after any vote will cause the individual votes already cast (in the case of a prior electronic tally) to be projected and the roll call to be entered into the legal

record of the meeting. There is no second electronic vote.

Are my votes secret?

No they are not. Unless a secret ballot has been voted for, by a two-thirds vote of Town Meeting prior to the vote on the Article being taken, a record of your vote will be public.

What is the significance of an abstention? Could such votes affect the outcome of a vote?

Abstentions allow members to show that they are present but not voting. Abstentions are not votes and do not count in any way in the outcome of a vote. Majorities are determined by yes or no votes cast.

Is there anything else I should know?

Only that this is new for everyone and the Moderator will be trying out different approaches as we go along. If you have a question or a suggestion about any vote or the process, please raise it promptly with the Moderator or any member of the Committee.

This guide was prepared by the Town Meeting Electronic Voting Study Committee. It is not an official set of rules and does not replace the Town Bylaws or the rulings of the Moderator.

Adam Auster, Wes Beal, Roland Chaput, Eric Helmuth, John D. Leone, Elizabeth Patton, Steve Storch.

Report of the Town Meeting Electronic Voting Study Committee

April 14, 2014

Last spring Town Meeting amended the Town Meeting voting bylaw to permit electronic voting and appropriated funds for a one-year trial of voting equipment and services. Since then the work of your committee has focused primarily on implementation, as follows:

- We advised the Town in its design of a request for proposals for electronic-voting services, and helped to evaluate the two vendor proposals submitted in response.
- Since January, when the Town selected Option Technologies as the vendor for voting services this year, we have focused on working with the vendor, the Town Moderator, Clerk, and different Town departments to make this year's trial a success.

This work comprises the tasks of preparing for Town Meeting, introducing the new voting methods, supporting the administration of the voting system, and finding ways to make the voting data available to the people of Arlington.

The committee also identified a problem with the wording of the new voting bylaw and has recommended small but meaningful change to resolve the issue.

This year, the committee is asking Town Meeting to take the following steps:

- Amend the bylaws (Article 11) to address the aforementioned wording problem.
- Decide whether to continue to tally and record votes electronically in future Town Meetings (Article 54), and, if so, to fund that decision (Article 55).

As of this writing, we have met 8 times since Town Meeting dissolved last spring. At least one other meeting is planned before the start of Town Meeting.

In this and all of its work, your committee acts in a capacity that is solely advisory to the Town Moderator, ~~the~~ Town staff, and to Town Meeting itself.

Submitted by Eric Helmuth, Chair

For the committee: Adam Auster, Wes Beal, Roland Chaput, Eric Helmuth, John D. Leone, Elizabeth Patton, and Steve Storch.

ATTACHMENTS

- **Town Meeting voting bylaw** as amended last year to provide for electronic voting;
- **Article 11** bylaw amendment recommendation;
- **Q&A about electronic voting** in Arlington Town Meeting, for Town Meeting Members

Electronic Voting Study Committee Report to Town Meeting April 2013

Introduction

Background

Electronic voting, as used in municipal legislative bodies such as Representative Town Meeting, accurately produces an instant count of the vote and an instant record of how each elected representative voted. Results from an electronic voting system are immediately displayed at the meeting and may be easily published online for public review.

Several other representative Town Meetings in Massachusetts now use electronic voting: Brookline, Framingham, Chelmsford, and Billerica. Lexington voted in March 2013 to adopt it for FY2014. The town of Wayland uses EV for open town meeting with hundreds of people voting.

Arlington Town Meeting created the Town Meeting Electronic Voting Study Committee at its 2013 Annual Town Meeting to study and make recommendations on the use of this technology for Arlington Town Meeting.

Committee Membership

The committee is comprised of Town Meeting members, and community members who are technology professionals. Members are Town Moderator John Leone, Eric Helmuth (chair), Adam Auster (Secretary), Ray Charbonneau, Liz Patton, Steve Storch, and Wes Beal. Alan Jones is a non-voting member.

Summary of main recommendations

- 1. Amend the Town Bylaws** to permit, but not require, the use of an electronic tally and display device in for voting in Town Meeting, subject to policies and procedures determined in the bylaws and by the Town Moderator.
- 2. Appropriate funds** to rent an electronic tally and display system for use at Town Meeting in FY2014, and begin budgeting to purchase a system for subsequent years. (The Finance Committee is recommending an appropriation of \$10,000 to cover a rental for as many sessions at Annual Town Meeting 2014 as the amount will cover.)

Summary of Conclusions

Electronic voting would significantly increase accountability to constituents by enabling more frequent recording of individual votes in a form that is easily published to the town website.

Electronic voting would likely offer some improvements over our current voting methods in the accuracy of counted votes, streamlined voting procedures, blocking current avenues for unauthorized voting, and much faster roll call votes.

Electronic voting introduces some potential concerns about ease of use, & confidence in the technology, cultural change, and a new avenue for voting fraud. However, Town Meeting can implement practices to adequately mitigate these issues.

The financial cost of electronic voting is reasonable and worth the potential benefits, in the view of the committee. Town Meeting, however, must ultimately make this determination.

Current technologies provide adequate security and operating features, and other Town Meetings have experienced high levels of acceptance and minimal difficulties with electronic voting.

Synopsis of the committee's work

The committee met **X** times from September 2012 through April 2012. We addressed the following major questions:

1. Is available technology feasible (secure, reliable, and easy to use)?
2. What does it cost to obtain and operate?
3. What are the potential benefits and potential concerns?
4. What would be the best way to obtain and implement EV for Arlington TM?

To address these questions, we:

- Visited Framingham and Brookline town meetings to observe e-voting;
- Watched online town meeting video and spoke with people from additional towns using these systems;
- Interviewed key Town of Arlington officials and personnel;
- Consulted study report and bylaws from other towns regarding electronic voting in Town meeting;
- Issued a Request for Information (RFI) to solicit technology functionality, security, and rough pricing information from vendors in the space;
- Thoroughly explored benefits and costs for various potential methods of using electronic voting in Arlington's Town Meeting.

As a result of our inquiry, the committee voted to submit warrant articles for bylaw amendments and appropriations that would enable electronic voting. The Board of Selectmen and Finance Committee have voted favorable action on these articles; please see their respective reports to Town Meeting for details.

How Electronic Voting Works

Overview. The electronic voting systems on the market for small legislative bodies are essentially upgraded, more secure versions of audience response technologies that are common in high school, higher education, and professional conference settings. These systems that use wireless, TV-remote style handsets to transmit each person's vote to a central computer for tabulation and display. Versions sold for legislative use have additional features and security.

Voting. Each town Meeting member is issued a wireless handset with a unique ID number. When the Moderator announces that voting is open, each member votes by pressing buttons on his or her handset during the timed voting period, and the signals are securely transmitted via radio frequency to a receiver connected to a voting computer.

Tabulation, display and publishing. The voting computer contains a database of town meeting members and the unique ID of each member's handset, and has software to prepare and record the votes. The computer is connected to the projection system in the hall and the Cable TV video feed, to display the text of the vote at hand and the subsequent voting results. The total time to prepare, launch and tabulate an electronic vote can be as little as one minute, with additional results display

**Watch electronic voting in use at
Massachusetts Town Meetings**

<http://votevideos.wordpress.com>

time (1 to 2 minutes) if the votes of each Member votes are displayed. If a handset device fails, it can quickly be replaced (“hot swapped”) with a new device. Required margins for a simple or 2/3 majority are automatically tabulated. The computer tabulates, stores, and exports voting results to a standard document format that may easily be published on the town’s website.

Procedural options. Depending on which voting system a town uses and which system options are selected, various way of using EV are possible depending on the preference of the Town Meeting. For example, voting results may be displayed as a simple counted tabulation, or full report of the individual votes for each Member. Voting results, whether simple vote tallies or individual votes, can be displayed during the open voting period, or not until the voting period expires.

The different ways EV can be used in Town Meeting are illustrated at <http://votevideos.wordpress.com/>, a website created by a committee member. It features captured public access TV video from several Massachusetts town meetings using EV, with explanatory notes.

Security and verification. Security is enforced and votes are verified with various technologies, depending on the particular system chosen. Some available handsets provide a visual return confirmation of a person’s vote from the voting computer. See sections XX, *Benefits and Concerns*, and Section XX, *Vendor Investigation*, for a full discussion.

Management of handsets. In the practice of other towns currently using these systems, voting handsets are distributed to TMM immediately after they check in with the Town Clerk’s staff. In our observations at Brookline and Framingham Town Meeting, handset check-in was rapid and did not cause backups at the door. Handsets are collected each night when members leave; most towns provide bins for rapid mass return and the remotes are later checked in and re-filed before the next session. Many towns use a small group of TMM volunteers to hand out remotes at the beginning and check them back in at the end. All towns use paid personnel, either a town employee or a contractor, to operate the voting computer.

Benefits and Concerns of Electronic Voting in Town Meeting

As with the adoption of any new technology, the implementation of Electronic Voting (EV) in Arlington Town Meeting would offer benefits relative to current practice, while introducing some new concerns.

BENEFITS

A properly-implemented EV system can deliver tangible benefits to Town Meeting, primarily in increasing public information about TM proceedings, but also with efficiency and precision of voting. These benefits would enhance the accountability of our Representative Town Meeting to constituents, and may enhance public confidence and interest in Town Meeting.

Increased accountability, via more recorded votes available to the public

The greatest benefit of electronic voting to a Representative Town Meeting is the opportunity to easily and quickly record and publish how individual Town Meeting Members voted. Currently, a member-by-member voting record is available only with a time consuming voice roll call, which is very rare. An EV system would allow Town Meeting to take such votes with the required accuracy but with dramatically less time. It is up to Town Meeting and the Moderator to determine which votes are taken this way, but recording and publishing more individual votes – especially on substantive motions – would substantially increase transparency and accountability in the Town’s democratic process, further elevating Town Meeting as a true representative legislative body. This change may also encourage attendance at Town Meeting, since the presence of absence of a

member at a given time may be inferred by the presence or absence of a given vote.

Additionally, public access to TMM voting records on a wide spectrum of issues provides a much more complete view of a given representative's record compared to current practice, in which public roll call votes are taken only for the most controversial issues. To the committee's knowledge, all Massachusetts Town Meetings currently using EV regularly publish individual vote reports to their town's website, and they report widespread acceptance of this practice by Town Meeting Members and by the community at large.

Improvements in counted votes

Using EV in place of standing votes provides for a higher degree of accuracy than current practice, since fast and extremely precise counts are inherently part of such a system. Electronic voting is at least as quick as a standing vote and can be faster, depending on how it is implemented.

Additionally, Town Meeting could use EV to take more counted votes in place of voice voting without sacrificing significant meeting time. This could eliminate the need for a separate votes on a motion (voice vote followed by a standing vote) when desired.

Importantly, Town Meeting can and should decide which votes should be taken electronically, in accordance with the desired culture and processes for the meeting. In our study of other Town Meetings, we observed considerable procedural variety in this regard, as seen on at <http://votevideos.wordpress.com>.

Protection against current avenues for unauthorized voting

Because EV 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 following concerns that are likely to arise when considering the adoption of an EV system for Town Meeting. Where appropriate, mitigation approaches for the concerns are discussed. However, Town Meeting must ultimately determine whether the benefits of EV enumerated above outweigh any of these concerns.

Integrity of the vote

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

- Wireless transmission mechanisms that are designed to continue to provide robust communication in the presence of inadvertent or intended (malicious) radio frequency (RF) interference.
- 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.

- Public onscreen display of voting results after the voting window closes, enabling each TM Member to further confirm the accuracy of his/her own vote.
- Procedures put in place to address incorrectly recorded or missed votes detected as a result of onscreen review or originating from a failed handset.

Potential for fraud

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

Specific concerns may include:

- Use of unauthorized devices: The handsets used by EV systems are typically commercial off the shelf items available for public purchase. Linkage of specific handsets to specific Town Meeting Members (as described above), along with handset distribution controls during the meeting, effectively mitigate against potential misuse.
- Multiple voting: The EV system is designed so as 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 (typically to correct for an initial mis-keying), with only the final, and assumed to be correct, vote included in the tally.
- Proxy voting: EV systems do not provide any direct technical safeguards against proxy voting – where a handset properly registered and checked out to a particular Town Meeting Member is provided to a non-authorized person for voting. Public displays of vote results after voting closes, where votes attributed to currently absent Members may be observed, offer protection against this risk. In addition, it may be apparent to others in the hall when an individual is using one or more devices to vote in such an unauthorized manner. The proposed bylaw amendments include a requirement mandating immediate public display of all individual member votes when the margin of Yes/No votes is very small, thus ensuring that the strongest detection method is always employed in situations where proxy voting would be the most harmful.

Ease of use and change to procedures

Adoption of a new voting method risks some initial confusion about use of the technology and related procedural changes. Other towns have successfully addressed this issue by offering training sessions to Town Meeting Members prior to the system's first use, creating an instructional video on system use, and/or running test votes prior to a meeting's actual votes until comfort with the system is achieved by the Members.

A related issue is the effect of adopting and implement EV on Town officials who would be affected by the changes. The committee consulted the Town Clerk, Chief Technology Officer, Town Manager and the town's Webmaster to fully explore the implications to their work. All parties indicated a high degree of comfort with their ability to support EV based on the information currently known.

Accessibility for Persons with Disabilities

Appropriate accommodation would be made for any Town Meeting members with physical limitations resulting in difficulties with the use of an EV handset and/or review of voting result screens. The specific accommodation required would depend on the needs of the individual. Other towns using e-voting in Town Meeting have adopted policies that would 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 when it is displayed in the hall.

If Arlington Town Meeting votes to adopt electronic voting, the Committee would consult the Town of Arlington Disability Commission to recommend appropriate policies for accommodations to the Moderator in light of the particular voting equipment the Town obtains.

System failures

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

Vendor/Technology Investigation

Our inquiry into specific electronic voting systems on the market was limited to establishing the feasibility and cost of these products. The committee decided that recommending a specific vendor at this stage would be premature. Should Arlington Town Meeting vote to authorize and fund electronic voting, the Town IT department and Town Manager's office, in consultation with the Clerk, Moderator, and Electronic Voting Study Committee, will perform a robust vendor evaluation and procurement process before selecting a specific product and services package.

Our investigation focused on security, desired operating features, reliability, technical compatibilities, cost, and the general parameters for purchasing or leasing a system.

To determine that adequate systems are available, we:

- Observed electronic voting in action in other local communities having representative town meetings and spoke with town meeting or town officials about their experience with the systems.
- Read detailed reports from electronic voting study and selection committees from other Town Meetings in Massachusetts, many of whom spent several years carefully evaluating technologies.
- Issued a detailed Request for Information (RFI) to ascertain operating features, security measures, and costs for currently available technologies. We invited RFI responses from the two vendors who had sold or leased EV systems to other TM in Massachusetts as of that time. The RFI document and detailed vendor responses are available on our committee's website at www.arlingtonma.gov/evsc.

Based on this investigation, the committee concluded that the available technologies are sufficient in all important respects.

NOTE FROM THE CHAIR: The following sections are unfinished. Bullet points for proposed key points are included.

Financial Costs

Procuring and operating an EV system will require a financial commitment by the town, with both up-front as well as recurring costs. EV systems currently on the market are available for purchase, or as rental/lease arrangement which can include vendor-supplied personnel to operate and maintain the equipment.

- Purchase option
 - Estimates provided in RFI
 - Estimated additional annual costs
 - Our long term recommendation because we believe the town can operate the system itself and it's likely to be a better value
- Lease/rental and service agreement option
 - Estimates from RFI
 - Estimated annual costs
 - Our short term recommendation, in consultation with Finance Committee. Briefly explain capital expenditure issue and the desire to allow TM to try out the system before making a purchase commitment

Committee Recommendations

- Brief enumeration of Warrant articles submitted
- Brief explanation of what the proposed Bylaw amendments will do
 - Permits but doesn't require evoting
 - Leaves the current voting processes as equal options
 - Specify a limited number of policies
 - Close votes (proxy vote protection)
 - Allows a previous EV to be used as an official roll call vote
 - It is also possible to re-vote and someone may offer an amendment thereto, if desire (??)
 - Always make individual vote data available to public regardless of whether or not they are part of an official roll call
 - Grants discretion for operating procedure and policies to the Moderator
- Financial/Appropriation recommendation
 - Explain FinCom vote and what it would fund
 - Supports FinComs determination to rent vs buy for the first year
 - Favors capital planning process to purchase a system as early as FY2015, pending the approval of Town Meeting next year which is likely contingent on a positive experience with the rental.

Appendices

A. Questions and Answers (next page in this draft)

B. Bylaw amendment proposal (redlined)

C. Copy of FinCom vote for appropriation

DRAFT

Questions & Answers About Wireless Voting at Town Meeting

Why does the Town Meeting Electronic Voting Study Committee 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 Arlington residents in the form of a record of votes at Town Meeting. That, rather than time savings, is the principal benefit. 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.

Wouldn't wireless voting also save time?

It might, depending on how it is used. However, the operation of the system is not instantaneous. Except for roll-call votes, which take 40 minutes under the current system, voting will probably take roughly the same amount of time.

How would Town Meeting members vote electronically?

Members would be issued a voting handset, like a TV remote, when they check in each night. They would vote by pressing "yes," "no," or a third button corresponding to "abstain" or "present." Each handset would be numbered and assigned to the member who checked it out. Members would return the handsets as they leave the meeting for the night.

What forms would electronic voting take?

The proposed bylaw provide for an *electronic tally*, which produces a yes-no count and is analogous to the standing vote, and an *electronic roll-call*, which produces a member-by-member list of yes, no, and present votes analogous to the traditional roll call.

The proposal would preserve the current rules that give five members the right to rise and doubt the result of a voice vote and thirty members the right to rise and request a roll-call vote. The proposal also creates a new option, which is to allow (but not require) a wireless vote in the first instance, in lieu of a voice vote.

Who would decide when to use electronic voting?

The Town Moderator.

Why wouldn't the Moderator always use the system?

The Moderator might use a voice vote for routine procedural motions to save time, or because of problems operating the system on any particular night.

What are the differences, as proposed, between the electronic tally and the electronic roll call?

The tally produces an aggregate count of yes and no votes, which may become part of the official record of the meeting. The roll call produces a member-by-member roll call, which will always become part of the official record.

Roll-call votes are also subject to review and correction by members before the vote is final. This would probably take the form of displaying voting results on screen for members to check accuracy.

All votes however would produce a member-by-member voting record, like a roll call, that the Town would make available to the public even if not part of the official record.

Are there other benefits of electronic voting?

Yes. Wireless 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 leasing or owning 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 wireless voting is likely to be more accurate than the voting methods we currently enjoy. Illegal 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 (or frauds).

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. The bylaw recommended by your committee also provides for review and correction of all formal roll-call votes (invoked by 30 members) and of all close votes that are conducted electronically.

How much will it cost to operate and lease or purchase a wireless voting system?

As of this writing, lease costs run about \$1,000 per night. The most expensive system costs \$26,000. The Committee thinks that operating costs, chiefly staff time, would likely be about \$100 per night. There could be annual costs of about \$500 associated with owning a system.

Is this worth the expense?

That's the question for Town Meeting. It's hard to put a price tag on democracy.

Why is this year's proposal to lease a system next year, rather than to buy one?

The Finance Committee has recommended an appropriation of up to \$10,000 for electronic voting next year. This might cover 8 nights or so. Purchase might be an option for 2015, after review by the Capital Planning Committee and a further appropriation by the 2014 Annual Town Meeting. The capital-planning process spans several years so it was not possible to include such an appropriation in this year's capital budget.

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

The Town will bid the lease or purchase through its standard procurement process. The Town Manager will award the contract. The Committee has already developed a Request for Information that describes many possible requirements for a system that may form the basis for a Request for Proposals.

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Submitted by Eric Helmuth, Chair

For the committee: Adam Auster, Wes Beal, Roland Chaput, Eric Helmuth, John Leone, Elizabeth Patton, and Steve Storch.

Attached to this report is an explanation of Article 11 and a brief guide for Town Meeting members about using the electronic voting system.

Title I- General Government

ARTICLE 1: TOWN MEETINGS,

Section 10. Procedural Rules, C. Votes:

(ART. 13, ATM – 04/29/92), (ART. 22, ATM – 05/11/11)

C. Votes:

(ART. 13, ATM – 04/29/92), (ART. 22, ATM – 05/11/11), (ART. 12, ATM – 04/22/13)

"All votes, unless otherwise provided by law, shall be taken in the first instance by a "yes" and "no" voice vote or by an electronic tally at the option of the Moderator. If the Moderator is in doubt as to the voice vote, or if five voters immediately question a voice vote, the Moderator shall call for a standing vote or an electronic tally, at the option of the Moderator. In an instance where the difference between the yes and no votes according to an electronic tally is less than 6 votes, then the individual votes shall be displayed.

On all questions submitted for the consideration of the Town Meeting, when requested by thirty or more Town Meeting Members present at the meeting, there shall be a roll call vote, either by voice or by an electronic vote, at the option of the Moderator. If an electronic tally was previously taken on the question, the vote of each Town Meeting Member who voted electronically in the first instance shall be displayed and recorded. All roll call votes, oral or electronic, shall be recorded so as to indicate the individual vote of each Town Meeting Member who shall have voted. Said record of roll call votes, oral or electronic, shall be available as recorded at the Town Clerk's Office.

Whenever a vote of two-thirds of the Town Meeting Members present and voting is required on any matter, the Moderator may declare a motion passed by a voice vote or electronic tally of at least two-thirds in favor. A standing vote or further electronic tally need not be taken unless required by law or these Bylaws. The Town Clerk shall record the Moderator's declaration that the motion passed by a two-thirds vote in favor.

All electronic tallies and votes shall be recorded so as to indicate the individual vote of each Town Meeting Member. These results shall be electronically available to the public for a minimum of three years, or such longer time as required by law."

Article 11

Recommendation of Town Meeting Electronic Voting Study Committee

Proposed Bylaw Amendment

All votes, unless otherwise provided by law, shall be taken in the first instance by a “yes” and “no” voice vote or by an electronic tally at the option of the Moderator. If the Moderator is in doubt as to the voice vote, or if five voters immediately question a voice vote, the Moderator shall call for a standing vote or an electronic tally, at the option of the Moderator. ~~In an instance where the difference between the yes and no votes according to an electronic tally is less than 6 votes, then the individual votes shall be displayed.~~ *The individual votes shall always be displayed if the margin of success of the prevailing side, calculated by subtracting the smallest number needed to prevail from the actual number of prevailing votes, is less than three.*

Purpose

The provision on close votes is intended to detect and deter error and fraud, and to provide a high level of confidence in the integrity of the vote. For this purpose, the definition of a close vote is critical.

The problem is that for supermajority votes, such as a two-thirds majority required for zoning bylaws, the current “difference between the yes and no votes” rule fails.

Example: If a vote requiring two thirds is 50 in favor and 50 against, it is not at all close, rather it fails to get the necessary two thirds by a 17-vote margin. Yet the difference between yes and no votes could not be closer. A vote of 66 to 34, on the other hand, is very close, but would not be flagged as such by the “difference between the yes and no votes” rule.

Results of New Rule

The heart of the new requirement is the part about the “margin of success” being “less than three.” That’s a less intuitive than the current rule, but the current rule is wrong.

The proposed rule produces the desired outcome by identifying a spread of the 6 closest possible votes for every kind of majority.

Proposed Rule: Six Vote Spread

**Simple Majority Vote
Hypothetical 100 votes cast**

Yea	Nay	Difference from smallest needed
54	46	3
53	47	2
52	48	1
51	49	0
50	50	0
49	51	1
48	52	2
47	53	3

**Two-Thirds Vote
Hypothetical 100 votes cast**

Yea	Nay	Difference from smallest needed
70	30	3
69	31	2
68	32	1
67	33	0
66	34	0
65	35	1
64	36	2
63	37	3

(The “smallest number needed to prevail” are emphasized. The 6 close votes, less than 3 from “the smallest number needed to prevail,” are enclosed in dotted lines.)

The proposed rule flags 6 possible close outcomes clustered around the “smallest number needed to prevail.” It does so whether the total number of votes cast is odd or even, unlike the current rule, and it works as intended for supermajorities such as two thirds.

Electronic Voting in Arlington Town Meeting

An Informal Guide

- The OptionFinder G3 system is a secure wireless radio system that works in the 2.4GHz range. Each Town Meeting representative is issued a unique coded and numbered handset. Do not give yours to anyone to vote for you.
- Your handset will be turned on before the start of Town Meeting. The most reported problem with the handset is that the user has turned it off.
- The only keys we use are: 1 = Yes, 2 = No, and 3 = Abstain.
- While voting is open, you may change your vote multiple times by pressing a new number. The last number pressed when voting closes will be the vote recorded.
- Your vote will be confirmed on the handset's display screen.

How do I claim my handset? How should I care for and return it?

You have been assigned a specific numbered handset and may use no other unit. You may claim yours from the volunteers near the check-in table every night.

Your handset should be turned on and ready to use continuously. If it ever is turned off, press and hold the power button in the lower right corner to turn it on.

Never turn off the handset during the meeting. It will not turn off automatically as long as the base station is on. The batteries should be good for 150 hours of use.

Return your handset at the end of each evening by placing it in any of the receptacles at the edge of the enclosure when you leave. If you leave early you may return it to an electronic voting volunteer.

Do not take your handset home.

How do I cast a vote using the handset?

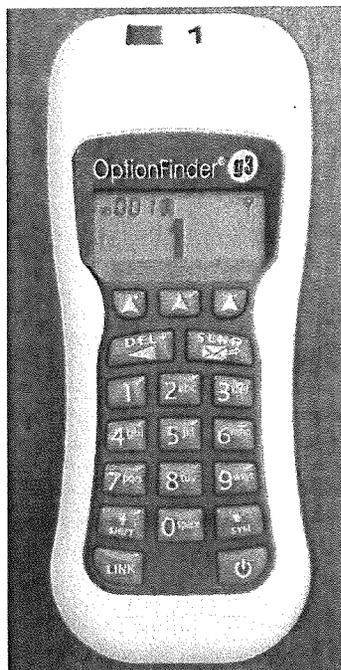
When the Moderator declares that voting is open and before the countdown clock has reached zero seconds, simply press either the numeric keys 1, 2, or 3, corresponding respectively to Yes, No, and Abstain.

Pressing any additional keys, e.g. send, del, or link, will have no effect.

Your selection will be broadcast to a base station connected to the voting computer, which will record your vote and broadcast a confirming signal back to your handset.

The confirmation is a complete round trip of your vote from handset to base station and back.

Do not turn your handset off after the vote.



What if I change my mind while the votes are being cast?

There will be a voting period of approximately 20 seconds. You may change your vote during the voting period. Only your final vote at the close of the voting time period will be tallied.

The 20-second period allows the system to poll the hall several times to ensure that all votes are received and confirmed back to the handsets.

What if I change my mind after the votes have been cast?

As with other forms of voting, the vote you cast during the voting period is your final legal vote and cannot be changed after the fact. There is no provision to change your vote after the vote closes.

What will be displayed on the big screen?

In most instances the individual votes will not be projected on the display screen. The Moderator will announce the result of the vote in the usual way.

Under some circumstances the Bylaws or the Moderator may require that votes of individual members be projected on the screen. If so, the votes will be shown 3 precincts at a time for approximately 10 seconds each screen.

How can I verify that my vote has been correctly recorded?

For all votes, your handset’s display screen will confirm the vote broadcast from your handset to the base station and back.

For roll-call votes, and for votes that are very close, and for other votes as directed by the Town Moderator, the votes of all members will be projected onto the display screen, three precincts at a time.

What if there is an error with my handset or my vote?

If your handset does not confirm your vote, immediately rise and gain the attention of the Moderator. You may be issued a new handset and, if analysis determines that your handset malfunctioned, the record of your vote will be corrected.

There will be a test vote at the start of each night to check the accuracy and performance of your handset.

May I give my handset to another person to vote in my absence?

No. Proxy or absentee voting is not authorized for Town Meeting. You must be present to vote.

If you see a member with two or more handsets immediately bring it to the attention of the Moderator with a Point of Order.

How will we decide whether to use the handsets to vote?

That decision is in the hands of the Town Moderator. The Committee expects that we will vote with the handsets frequently, replacing many but not every instance of voting by voice and thus eliminating the necessity of the standing counted vote.

This guide was prepared by the Town Meeting Electronic Voting Study Committee.

It is not an official set of rules and does not replace the Town Bylaws or the rulings of the Moderator.

Adam Auster, Wes Beal, Roland Chaput, Eric Helmuth, John D. Leone, Elizabeth Patton, Steve Storch.

From the Town Moderator

Under what circumstances might you choose to conduct the vote by voice or standing count?

In almost all instances of a *no action vote*, I anticipate using a voice vote, as well as on the consent-agenda vote when we initially go over the budget.

May I give my handset to another person to cast a vote on my behalf?

No! There is no provision in either our Bylaws or in State law for proxy voting at a Representative Town Meeting.

Under what circumstances will you instruct the electronic voting administrator to project the individual votes on the display screen?

When 30 or more members arise to challenge the vote as provided for in the Bylaws, or when the vote is close.

What if I have a question about voting?

Just as you would have done previously, rise and ask for a “Point of Order.”

—John D. Leone. Town Moderator

For any voice votes called by the Moderator, a standing or electronic tally may be required by 5 members rising for that purpose immediately after the voice vote as provided for by the Bylaws. Similarly, on an electronic vote, 30 or members can rise and require that the individual votes be projected for review.

What is the difference between a regular tally and a role-call vote?

The difference is not as great as it used to be. All of your votes will be recorded and be publicly available after the day of the meeting. A roll call, however, provides that the individual votes be immediately projected and included in the permanent legal record of the meeting that is prepared by the Town Clerk.

Furthermore, in the event of a call for a roll call following an electronic vote, there will be no second vote; the votes already cast will be projected and *become* the roll call.

How can members require a roll call?

As provided for in the Bylaws, 30 members rising immediately after any vote will cause the individual votes already cast (in the case of a prior electronic tally) to be projected and the roll call to be entered into the legal record of the meeting. There is no second electronic vote.

What if a disability makes it hard for me to use the system?

You’ll be assigned a volunteer helper, or receive other accommodation as necessary, to enable your full participation. Simply notify the Moderator or any electronic voting volunteer prior to the start of the meeting.

Are my votes secret?

No they are not. Unless a secret ballot has been voted for, by a two-thirds vote of Town Meeting prior to the vote on the Article being taken, a record of your vote will be public.

What is the significance of an abstention? Could such votes affect the outcome of a vote?

Abstentions allow members to show that they are present but not voting. Abstentions are not votes and do not count in any way in the outcome of a vote. Majorities are determined by yes or no votes cast.

Is there anything else I should know?

Only that this is new for everyone and the Moderator will be trying out different approaches as we go along. If you have a question or a suggestion about any vote or the process, please raise it promptly with the Moderator or any member of the Committee.

TOWN OF ARLINGTON
MASSACHUSETTS

REPORT OF THE

TOWN MEETING ELECTRONIC VOTING
STUDY COMMITTEE



TO THE
ANNUAL TOWN MEETING
APRIL 2013

Town of Arlington, Massachusetts

Electronic Voting Study Committee
Report to Annual Town Meeting 2013

Introduction

Electronic voting in town meetings produces an accurate, instant vote count and a record of how each member voted. Results from an electronic vote may be immediately displayed and may be easily published online for public review.

The representative town meetings in Brookline, Framingham, Chelmsford, and Billerica use electronic voting. Lexington voted in March 2013 to adopt it for its next town meeting. Wayland uses electronic voting for open town meeting, with hundreds of people voting.

This report considers the question, "Should Arlington Town Meeting adopt electronic voting?" and contains our findings and recommendations.

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Summary of Recommendations

Amend the Town Bylaws to permit, but not require, the use of an electronic tally and display device for voting in Town Meeting, subject to policies and procedures determined in the bylaws and by the Town Moderator.

Appropriate funds to rent an electronic tally and display system for use at Town Meeting in FY2014, and begin budgeting to purchase a system for subsequent years. (The Finance Committee is recommending an appropriation of \$10,000 to cover a rental for some sessions at Annual Town Meeting 2014).

Summary of Conclusions

Electronic voting in Town Meeting would:

Increase accountability to constituents by creating a record of votes of individual Town Meeting members.

Improve voting methods by providing greater accuracy, preventing unauthorized voting, and allowing faster roll-call votes.

Introduce potential concerns about ease of use, security, and illegal proxy voting. However, Town Meeting can take steps to meet these concerns.

Incur financial costs and operating burdens that are reasonable and worth the potential benefits, in the view of the Committee. Town Meeting, however, must ultimately make this determination.

Employ technologies that provide sufficient security and operating features to ensure the integrity of the vote and ease of use.

Summary of the Committee's Work

The committee convened 14 times from September 2012 through April 2013. We addressed the following major questions:

- Is available technology feasible— secure, reliable, and easy to use?
- What does it cost to obtain and operate?
- What are the potential benefits and potential concerns?
- Should Arlington Town Meeting adopt electronic voting, and what would be the best way to implement it, if so?

To address these questions, we:

- Visited Framingham and Brookline Town Meetings to observe their electronic voting;
- Studied video of other Massachusetts Town Meetings using electronic voting;
- Consulted officials, and studied relevant reports and bylaws from the other towns;
- Interviewed key Town of Arlington officials and personnel;
- Issued a Request for Information (RFI) to obtain technology functionality, security, and pricing information from vendors;
- Explored benefits and costs for various methods of using electronic voting in Arlington's Town Meeting, and considered potential bylaw changes to permit it.

Consultations

The Committee consulted the Town Clerk, Chief Technology Director, and Town Manager to discuss the implications of electronic voting in Town Meeting. All parties indicated confidence in their ability to support electronic voting based on the information currently known. We met with the Town Meeting Procedures Committee and incorporated its feedback into our recommendations. We incorporated feedback from Town Counsel into the wording of our proposed bylaw amendments.

Electronic Voting Study Committee

Arlington Town Meeting created the Electronic Voting Study Committee at the 2012 Annual Town Meeting, to study and make recommendations on the use of this technology for Town Meeting.

The committee comprises both Town Meeting members and community members who are technology professionals: Town Moderator John Leone, Eric Helmuth (Chair), Adam Auster (Secretary), Ray Charbonneau, Liz Patton, Steve Storch, and Wes Beal. Alan Jones is a non-voting member.

Recommendations

As a result of our study, the Committee voted to submit warrant articles for bylaw amendments and appropriations that would enable electronic voting. The Board of Selectmen, Finance Committee and Town Meeting Procedures Committee have voted favorable action on these articles; please see their respective reports to Town Meeting for details.

How Electronic Voting Works

Overview

The electronic-voting systems on the market for small legislative bodies are secure, upgraded versions of audience-response systems common in educational and professional-meeting settings. These systems use wireless, TV-remote style handsets to transmit each person's vote to a central computer for tabulation and display. Versions sold for legislative use have additional features.

Voting

Each town Meeting member is issued a wireless handset with a unique ID number. When the Moderator announces that voting is open, each member votes by pressing buttons on his or her handset during the timed voting period, and the signals are securely transmitted via radio frequency to a receiver connected to a voting computer. The voting computer transmits a confirmation of the vote received back to the handset for visual confirmation of the vote. (See "Benefits and Concerns" for a discussion of security.)

Tabulation, Display, and Publishing

The voting computer contains a database of town meeting members and the unique ID of each member's handset, and software to prepare and record the votes. The computer is connected to the projection system in the hall and the cable TV video feed, to display the text of the vote at hand and the subsequent voting results. The total time to prepare, launch and tabulate an electronic vote can be as little as one minute, with additional results display time (one to two minutes) if the votes of each Member votes are displayed. If a handset device fails, it can quickly and securely be replaced with a new device. Required vote margins for a simple or $\frac{2}{3}$ majority are automatically tabulated. The computer exports voting results to a standard document format that may easily be published on the town's website.

Procedural Options

Depending on which voting system is selected and which system options are selected, various ways to use electronic voting may be chosen to suit the preference of Town Meeting. For example, voting results may be displayed onscreen as a simple counted tabulation, or as a full report of the individual votes for each Member. It is also possible to choose whether these voting results (in either format) are displayed as they come in during the open voting period, or only after the voting period expires.

See electronic voting in use in other Town Meetings:

<http://votevideos.wordpress.com>

Each of these variations is used across different Massachusetts town meetings that have adopted electronic voting, as can be seen at <http://votevideos.wordpress.com>. This website features excerpted cable access TV video, with explanatory notes.

Management of Handsets

In the practice of other towns now using these systems, voting handsets are distributed to Town Meeting Members immediately after they check in with the Town Clerk's staff. In our observations at Brookline and Framingham Town Meetings, handset check-in was rapid and did not cause backups at the door. Handsets are collected each night when members leave; most towns provide bins for rapid mass return and the remotes are later checked in, tested, and re-filed before the next session. Some towns use volunteers to distribute handsets at the beginning and check them back in at the end. All towns use paid personnel, either a town employee or a contractor, to operate the voting computer.

Benefits and Concerns of Electronic Voting

As with the adoption of any new technology, the implementation of electronic voting in Arlington Town Meeting would offer benefits relative to current practice, while introducing some new concerns.

Benefits

A properly implemented electronic voting system can deliver tangible benefits to Town Meeting, primarily in increasing public information about Town Meeting proceedings, but also in the efficiency and accuracy of voting. These benefits would increase the accountability of Town Meeting members to the citizens they represent, and may enhance the public's confidence and interest in Town Meeting.

Increased Accountability to the Public

The greatest 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 voice roll call, which is very uncommon. 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 substantially increase transparency and accountability in the Town's democratic process, further elevating Town Meeting as a representative legislative body. This change may also encourage Member attendance at Town Meeting, since the presence (or absence) of a Member will be evidenced by the presence (or absence) of a vote from that Member.

Additionally, public access to town-meeting-member voting records for all 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. To the Committee's knowledge, all Massachusetts 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.

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 at least as quick as a standing vote and can be faster, depending on how it is implemented. Additionally, Town Meeting could use electronic voting to take more counted votes in place of voice voting without sacrificing significant meeting time.

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:

- *Wireless transmission mechanisms* that are designed to continue to provide robust communication in the presence of inadvertent or intended (malicious) radio frequency (RF) interference.
- *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.
- *Public onscreen display* of voting results, enabling each Town Meeting Member to further confirm the accuracy of his/her own vote.
- *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. The bylaw we recommend provides for the automatic display of individual Member voting data for all close electronic votes.

It may also be apparent to others in the hall when an individual is using more than one TV-remote style device to vote in such an unauthorized manner. Any 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, other towns have conducted training sessions for town-meeting members, created an instructional video on system use, and run test votes prior to a meeting's actual votes. The Committee anticipates employing similar strategies for Arlington Town Meeting should electronic voting be adopted. Each of the other town meetings currently using electronic voting reported rapid, widespread acceptance of the systems by their members. At both Framingham and Brookline Town Meetings, our committee members observed uncomplicated 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 or review of voting result screens. 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 when it is displayed in the hall. If Town Meeting votes to adopt electronic voting, the Committee will consult the Town of Arlington Commission on Disability 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 fully permit use of the same non-electronic voting methods in use today, in the event of a technical problem.

Vendor and Technology Investigation

Our inquiry into specific electronic voting systems on the market was limited to establishing the feasibility and cost of these products. The Committee determined that recommending a specific vendor at this stage would be premature; should Town Meeting vote to authorize and fund electronic voting, the Town IT Department and Town Manager's office, in consultation with the Clerk, Moderator, and this committee, will perform a robust vendor evaluation and procurement process.

Our investigation focused on security, desired operating features, reliability, technical compatibilities, cost, and the general parameters for purchasing or leasing a system. To determine that adequate systems are available, we took the following steps:

- Observed electronic voting in action in other local communities having representative town meetings, and spoke with Town Meeting or town officials about their experience with the systems.
- Studied reports from electronic voting study and vendor selection committees from other town meetings in Massachusetts, most of whom spent several years evaluating the technology.
- Issued a detailed Request for Information (RFI) to ascertain operating features, security measures, and costs for currently available technologies. We received RFI responses from the two vendors who have sold or leased electronic voting systems to other town meetings in Massachusetts. The RFI document and detailed vendor responses are available on the Electronic Voting Study Committee web page found at www.arlingtonma.gov/boards.

Based on this investigation, the Committee concludes that the available technologies are secure, reliable, and have the necessary features for effective use in Town Meeting voting.

Financial Costs

Procuring and operating an electronic voting system will require a financial investment by the town, with both up-front and recurring costs. Electronic voting systems currently on the market are available for purchase or rental.

Purchase

Buying the most expensive system, which has the most robust voting confirmation and display options, would cost approximately \$29,000 at current pricing. Town IT personnel would operate and maintain the equipment. Projected annual operating cost is about \$2,500, primarily for personnel time, handset batteries, and software support/upgrades.

Rental

Rental of the same system would cost about \$1,300 per night. The agreement includes vendor-supplied personnel to operate and maintain the equipment. Annual operating costs would be less than \$1,000.

Under either scenario, it is likely that we would use a small group of volunteers to distribute and collect the handsets, as is done in most of the other towns now using electronic voting.

Committee Recommendations

The Committee unanimously supports adopting electronic voting in Arlington's representative Town Meeting. Based on our study, we believe the benefit of greater accountability and transparency to constituents is well worth the modest costs, and that the risks are manageable.

Amend the Bylaws to Permit Electronic Voting

The Committee's recommended bylaw amendment (Appendix B) has been adopted in total by the Board of Selectmen as the main motion for Article 12. The recommended changes would permit but not require the use of electronic voting equipment in Town Meeting. *The abiding intent is to fit electronic voting into current procedures, preserving as much as possible how Town Meeting now votes.*

The proposed bylaw amendment:

- Permits the use of electronic voting equipment for all votes.
- Allows all current, non-electronic voting procedures (voice vote, standing count, and voice roll call) to be used at the Moderator's discretion or if electronic voting equipment fails. This allows the Moderator, for example, to continue using a quick voice vote for routine procedural motions.
- Continues to provide that 30 town meeting members who rise may require a roll call (which may be taken electronically) on any motion.
- Permits a prior electronic vote on the question, if taken, to be officially recorded as the roll call using the individual votes previously recorded.
- Requires that all votes taken electronically record the individual vote of each Town Meeting Member, and that these results are made available to the public, whether or not the individual votes are displayed in the meeting or are part of an official roll call vote.
- Otherwise leaves discretion to the Moderator to set and adjust operating procedures for votes taken with electronic equipment.

Appropriate Funds for Electronic Voting Equipment

Article 42 would appropriate funds for electronic voting equipment. At this time, the Committee believes that purchasing an electronic voting system is likely the best long-term solution for Arlington, because it would probably cost less overall with town IT personnel managing and operating the equipment. Should Town Meeting vote to authorize and fund electronic voting, the Town will rigorously re-evaluate the total cost of ownership and other considerations in evaluating purchase and rental alternatives.

However, the Committee supports the recommendation of the Finance Committee to initially appropriate funds for renting a system, contingent on Town Meeting's authorization of electronic voting under Article 12. This would permit the soonest possible adoption of electronic voting, since purchasing a system must fall under the town's multiyear capital budget planning process. It would also permit Town Meeting to try out electronic voting before making the larger investment of a purchase.

Finance Committee has recommended a FY2014 appropriation of \$10,000 (contingent on positive action on Article 12) to rent electronic voting equipment for as many nights of Annual Town Meeting 2014 as the amount will fund—probably about seven sessions.

Appendices

A. Questions and Answers

B. Proposed Bylaw Amendments

Questions & Answers About Electronic Voting at Town Meeting

Why does the Town Meeting Electronic Voting Study Committee 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 Arlington residents in the form of a record of votes at Town Meeting. That, rather than time savings, is the principal benefit. 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.

Wouldn't electronic voting also save time?

It might, depending on how it is used. However, the operation of the system is not instantaneous. Except for roll-call votes, which take up to 40 minutes under the current system, voting will probably take roughly the same amount of time.

How would Town Meeting members vote electronically?

Members would be issued a voting handset, like a TV remote, which they check in and return each night. They would vote by pressing "yes," "no," or a third button corresponding to "abstain" or "present."

Each handset would be numbered and assigned to the member who checked it out. Members would return the handsets as they leave the meeting for the night.

What forms would electronic voting take?

The proposed bylaw provides for an *electronic tally*, which produces a yes-no count and is analogous to the standing vote, and an *electronic roll-call*, which produces a member-by-member list of yes, no, and abstain votes analogous to the traditional roll call.

The proposal would preserve the current rules that give five members the right to rise and doubt the result of a voice vote, and thirty members the right to rise and request a roll-call vote. The proposal also creates a new option, which is to allow (but not require) an electronic tally in the first instance, in lieu of a voice vote.

Who would decide when to use electronic voting?

The Town Moderator.

Why wouldn't the Moderator always use the system?

The Moderator might use a voice vote for routine procedural motions to save time, or because of problems operating the system on any particular night.

What are the differences, as proposed, between the electronic tally and the electronic roll call?

The tally produces an aggregate count of yes and no votes, which may become part of the official record of the meeting. The roll call produces a member-by-member roll call, which will always become part of the official record.

Roll-call votes are also subject to review and correction by members before the vote is final. This would probably take the form of displaying voting results on screen for members to check accuracy.

All votes, however, would produce a member-by-member voting record, like a roll call, that the Town would make available to the public even if not 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 leasing or owning 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 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. The bylaw changes recommended by the Committee also provide for review and correction of all formal roll-call votes (invoked by 30 members) and of all close votes that are conducted electronically.

Why is this year's proposal to rent a system next year, rather than to buy one?

The Finance Committee has recommended an appropriation of up to \$10,000 for electronic voting next year. This would probably cover about 7 nights.

Purchase might be an option for 2015, after review by the Capital Planning Committee and a further appropriation by the 2014 Annual Town Meeting. The capital-planning process spans several years so it was not possible to include such an appropriation in this year's capital budget.

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

The Town will bid the rental or purchase through its standard procurement process. The Town Manager will award the contract. The Committee has already developed a Request for Information describing many anticipated requirements for a system, which may form the basis for a Request for Proposals.

How much will it cost?

As detailed in our report, a staffed rental would cost about \$1,300 per night; purchasing a likely system would cost about \$29,000; and annual operating costs would range from \$1,000 to \$2,500

Is this worth the expense?

That's the question for Town Meeting. It's hard to put a price tag on democracy.

Town of Arlington, Massachusetts

Arlington Town Meeting — Recommended Vote Of the Electronic Voting Study Committee

ARTICLE NO.12

BYLAW AMENDMENT/ TOWN MEETNG ELECTRONIC VOTING

VOTED: That Title I- General Government, Article 1: Town Meetings, Section 10. Procedural Rules, C. Votes: (Art. 13, Atm – 04/29/92), (Art. 22, Atm – 05/11/11), be and hereby is amended:

By deleting the current Title I, Article 1, Section 10. Procedural Rules, C. Votes: in its entirety and substituting the following:

All votes, unless otherwise provided by law, shall be taken in the first instance by a "yes" and "no" voice vote or by an electronic tally at the option of the Moderator. If the Moderator is in doubt as to the voice vote, or if five voters immediately question a voice vote, the Moderator shall call for a standing vote or an electronic tally, at the option of the Moderator. In an instance where the difference between the yes and no votes according to an electronic tally is less than 6 votes, then the individual votes shall be displayed.

On all questions submitted for the consideration of the Town Meeting, when requested by thirty or more Town Meeting Members present at the meeting, there shall be a roll call vote, either by voice or by an electronic vote, at the option of the Moderator. If an electronic tally was previously taken on the question, the vote of each Town Meeting Member who voted electronically in the first instance shall be displayed and recorded. All roll call votes, oral or electronic, shall be recorded so as to indicate the individual vote of each Town Meeting Member who shall have voted. Said record of roll call votes, oral or electronic, shall be available as recorded at the Town Clerk's Office.

Whenever a vote of two-thirds of the Town Meeting Members present and voting is required on any matter, the Moderator may declare a motion passed by a voice vote or electronic tally of at least two-thirds in favor. A standing vote or further electronic tally need not be taken unless required by law or these Bylaws. The Town Clerk shall record the Moderator's declaration that the motion passed by a two-thirds vote in favor.

All electronic tallies and votes shall be recorded so as to indicate the individual vote of each Town Meeting Member. These results shall be electronically available to the public for a minimum of three years, or such longer time as required by law.

COMMENT:

The Current Title 1, Article 1, Section 10. Procedural Rules, C. Votes: reads as follows with the new proposed language inserted or deleted *in italics* for reference:

Title I- General Government, ARTICLE 1: TOWN MEETINGS, Section 10. Procedural Rules, C. Votes: (ART. 13, ATM – 04/29/92), (ART. 22, ATM – 05/11/11)

All votes, unless otherwise provided by law, shall be taken in the first instance by a "yes" and "no" voice vote *or by an electronic tally at the election of the Moderator*. If the Moderator is in doubt as to the ~~vote he may call for a show of hands or for a standing~~ voice vote, or if five voters immediately question ~~the~~ a voice vote, the Moderator shall call for a standing vote *or an electronic tally, at the option of the Moderator*. *In an instance where the difference between the yes and no votes according to an electronic tally is less than 6 votes, then the individual votes shall be displayed.*

On all questions submitted for the consideration of the Town Meeting, ~~there shall be a roll call vote~~ when requested by thirty or more Town Meeting Members present at the meeting, *there shall be a roll call vote, either by voice or by an electronic vote, at the option of the Moderator*. *If an electronic tally was previously taken on the question, the vote of each Town Meeting Member who voted electronically in the first instance shall be displayed and recorded*. All roll call votes, *oral or electronic*, shall be recorded so as to indicate the individual vote of each Town Meeting Member who shall have voted. Said *record of roll call votes, oral or electronic*, shall be available as recorded at the Town Clerk's Office.

Whenever a vote of two-thirds of the Town Meeting Members present and voting is required on any matter, the Moderator may declare a motion passed by a voice vote *or electronic tally* of at least two-thirds in favor ~~and~~. A standing vote *or further electronic tally* need not be taken unless required by law or these Bylaws. The Town Clerk shall record the Moderator's declaration that the motion passed by a two-thirds vote in favor.

All electronic tallies and votes shall be recorded so as to indicate the individual vote of each Town Meeting Member. These results shall be electronically available to the public for a minimum of three years, or such longer time as required by law.

E-voting Summary

Brookline

- OTI system
- **First vote** by raised hands
- **E-vote** upon TMM motion prior to vote, provided 35 members rise in support
- **Individual votes** displayed DURING voting and in (very) brief rotation after
- **Running tally** displayed during voting
- Voting procedures determined by moderator, not bylaws

Chelmsford

- OTI system
- **First vote** is e-vote
- **Individual votes** displayed DURING voting and in brief rotation after
- **Running tally** displayed during voting

Framingham

- OTI system
- **First vote** usually by raised hands
- **E-vote** at moderator's discretion
- **Individual votes** displayed AFTER voting ends
- **Tally** is suppressed until individual vote display cycle completes

Billerica

- Qwizdom system
- **First vote** is e-vote
- **Individual votes** rarely displayed
- **Tally** displayed after voting period ends

ASSISTANT'S GUIDE FOR USING ELECTRONIC VOTING

Thank you for volunteering to work with the Electronic Voting Committee and assisting Town Meeting Members (TMM) as they learn to use electronic voting (E/V). Here are the assignments you may be asked to complete:

- 1. Plan to arrive at Town Hall about 7:00 PM so you can be given instructions and assignments. Make sure to check in and have the appropriate paperwork so Mr. Leone can sign off on your volunteer hours. Put your phones on vibrate and in your pocket, don't use your phone when you are interacting with the TMMs.**
- 2. Meet at the E/V table in the back of the Town Hall Auditorium.**
- 3. Read the "hand-out" material to familiarize yourself with the E/V process.**
- 4. Assist in passing out the E/V handsets by confirming that each TMM has been given their own individualized unit with their specific number, ensure that the units are turned ON.**
- 5. Ask the TMM if they have read the Q & A sheet they received in their pre-Town Meeting package and answer any questions if they don't understand the process. If they are still in doubt, refer them to Mr. Helmuth, or other E/V staff members for further clarification.**
- 6. Confirm that every TMM has received a handset. Some TMMs may arrive late so remain with the Ms. Weber, the Assistant Town Clerk who will be checking attendance until she has confirmed that all TMMs have arrived.**
- 7. During the meeting, feel free to do homework, but please remain quiet when inside the Hall. If a TMM raises their hand with a Handset problem escort that TMM to the back of the Hall to address the issue, if you can. At no time should any TMM interact with the Voting Administrator. They should only interact with EV Staff.**
- 8. At the end of the evenings meeting place yourselves at the various doors of the Hall and remind the TMMs to place their handsets in the provided baskets near the exit doors and NOT take them home. Gather the baskets back to the EV table**
- 9. Sort the handsets back into their individual slots in the cases and take the cases to the storage area.**

All votes, unless otherwise provided by law, shall be taken in the first instance by a "yes" and "no" voice vote or by an electronic tally at the election of the Moderator. If the Moderator is in doubt as to the voice vote, or if five voters immediately question a voice vote, the Moderator shall call for a standing vote or an electronic tally, at the option of the Moderator. In an instance where the difference between the yes and no votes according to an electronic tally is less than 6 votes, then the individual votes shall be displayed.

On all questions submitted for the consideration of the Town Meeting, when requested by thirty or more Town Meeting Members present at the meeting, there shall be a roll call vote, either by voice or by an electronic vote, at the option of the Moderator. If an electronic tally was previously taken on the question, the vote of each Town Meeting Member who voted electronically in the first instance shall be displayed and recorded. All roll call votes, oral or electronic, shall be recorded so as to indicate the individual vote of each Town Meeting Member who shall have voted. Said record of roll call votes, oral or electronic, shall be available as recorded at the Town Clerk's Office.

Whenever a vote of two-thirds of the Town Meeting Members present and voting is required on any matter, the Moderator may declare a motion passed by a voice vote or electronic tally of at least two-thirds in favor. A standing vote or further electronic tally need not be taken unless required by law or these Bylaws. The Town Clerk shall record the Moderator's declaration that the motion passed by a two-thirds vote in favor.

All electronic tallies and votes shall be recorded so as to indicate the individual vote of each Town Meeting Member. These results shall be electronically available to the public for a minimum of three years, or such longer time as required by law.

If an electronic tally and display system is available, all votes, unless otherwise provided by law, may at the discretion of the Moderator, or by rules adopted by Town Meeting, be taken by an electronic tally. Absent the use of an electronic tally and display system, and unless otherwise provided by law, all votes shall be taken in the first instance by a "yes" and "no" voice vote.
(Intention is to open up electronic voting to anytime the moderator desires, or by Town Meeting adopting rules at the beginning of Town Meeting.)

The results of any vote taken by electronic tally may be made available in a manner that will indicate the individual vote of each Town Meeting Member.
(Allows, but does not require, the town to make available the results of any electronic vote to the public).

If the Moderator is in doubt as to the vote he may call for a standing vote, or if an electronic tally and display system is available, an electronic tally. If five voters immediately question the vote, the Moderator shall call for a standing vote, or if an electronic tally and display system is available, an electronic tally.

If an electronic tally is taken then only the vote totals, "yes" "no" or "abstain", shall be displayed during that session of Town Meeting.
(Strikes the line saying what the Town Clerk will record. Maybe it could still be here, since recordings made by the Town Clerk are not the only data ever recorded, and possibly made available to the public later. "During that session" is meant to allow data to be shared with the public later. The intent is to restrict how much is displayed, on screen, during a session of Town Meeting.)

On all questions submitted for the consideration of the Town Meeting, there shall be a roll call vote either by voice, or if an electronic tally and display system is available, an electronic vote, when requested by thirty or more Town Meeting Members present at the meeting.

If an electronic tally has already been taken on the question, then, in lieu of a second electronic vote, the vote of each Town Meeting Member who shall have voted electronically in the first instance shall then be displayed and recorded.

All roll call votes, oral or electronic, shall be recorded so as to indicate the individual vote of each Town Meeting Member who shall have voted.

Said roll call votes, oral or electronic, shall be available as recorded at the Town Clerk's Office.

Whenever a vote of two-thirds of the Town Meeting Members present and voting is required on any matter, the Moderator may declare a motion passed by a voice vote of at least two-thirds in favor and a standing vote, or electronic tally, need not be taken unless required by law or these Bylaws, or by rules adopted by Town Meeting.
(Added "rules" to keep consistency with earlier use of rules.)

The Town Clerk shall record the Moderator's declaration that the motion passed by a two-thirds vote in favor.

Chelmsford § 154-12. Voting.

- A. Voting process. Voice votes shall not be used. The Moderator shall take all votes by a raising of hands or use of an electronic tally and display system, except as may otherwise be voted by Town Meeting under § **154-16**.
- B. Electronic tally and display system. Votes taken by an electronic tally and display system shall be visible to the Town Meeting members and any members of the public present at the meeting. The display shall show each Town Meeting member's name; precinct; "yes," "no" or "abstain" vote; and a tally of all votes.
- C. Matters requiring a two-thirds vote by statute. In matters requiring a two-thirds vote by statute, the Moderator may declare the vote based upon the raising of hands. If seven or more members of Town Meeting question the vote, the Moderator shall count the vote. If an electronic tally and display system is used, the tally shall constitute a counted vote; if such a vote is questioned by seven or more members of Town Meeting, the Moderator shall manually tally the electronically recorded votes.
- D. Record of votes taken by electronic tally. The Town Clerk shall make available in the Town Clerk's office and on the Town's website within a reasonable time after a session in which a vote(s) was taken by the use of an electronic tally and display system a list, organized by precinct, which shall disclose how each Town Meeting member voted.
- E. Regulations. After a public hearing, the Moderator, in consultation with the Board of Selectmen and Town Clerk, shall be authorized to adopt regulations for the purpose of facilitating implementation of this bylaw and ensuring the security and integrity of the voting process.

Framingham 1.7 Voting

Voting in Town Meeting shall be by a show of hands except for a ballot vote or a roll call vote, or by use of an electronic tally and display system.

The results of a vote shall be announced following the vote in terms of the numbers of "yes" and "no" votes cast.

Before voting at Town Meeting, use of an electronic tally and display system may be authorized by a majority vote of Town Meeting to facilitate voting. Votes taken using an electronic display system shall be visible to Town Meeting Members and the public after a vote. The display shall show each Town Meeting Member's name, his/her precinct, his/her "yes", "no" or "abstain" vote and the final tally of the votes.

The electronic tally and display system shall embody reasonable means to ensure secure collection and accurate display of each Town Meeting Member's vote.

1.7.1 If the result from a show of raised hands is in doubt or if the result is questioned by seven or more Town Meeting Members, the Moderator shall count or cause to be counted the uplifted hands by appointing tellers who shall verify the vote, or shall make use of an electronic tally and display system to obtain a count of the vote.

1.7.2 If immediately after a vote is taken by a show of hands or by electronic tally and display system, a request is made for a roll call vote on that question, the Moderator shall ask how many members support that request. If supported by 40 members, a roll call vote shall immediately be taken by the Town Clerk or his/her designee, and the count from such recorded roll call vote shall be the official count of the vote on that question.

1.7.3 Upon a motion supported by not less than 20 members made prior to a vote on any question (whether required by law to be a counted vote or not) a ballot vote shall be taken using paper ballots or by use of an electronic tally and display system to obtain a record of the vote, which shall be published, in such form as will in the opinion of the Town Clerk indicate how individual Town Meeting Members have voted on a question. Town Meeting Members must be present and shall cast only his/her ballot. All paper ballots must be signed to be valid.

1.7.4 The Town Clerk shall post within a reasonable time after the session in which a ballot vote was taken on a question a list which shall disclose how each member voted. Said list shall become a permanent record of the Town and be included in the Town Meeting Journal for the year in which it was voted.

1.7.5 Original paper ballots or electronic files shall be open to public inspection so that the public shall be able to determine the way in which each Town Meeting Member votes on a question and shall be preserved for at least 3 years.

- 1. Roles and Responsibilities**
- 2. Pre-Meeting and Pre-Session Tasks**
- 3. In-Session Activities**
- 4. Post-Session and Post-Meeting Tasks**
- 5. Contingencies**
- 6. Electronic Voting Help Desk**
- 7. Responsibilities by Role**

1. Roles and Responsibilities

- a. Moderator
- b. Assistant to the Moderator
- c. Town Clerk
- d. Check-in staff (Wayland citizens recruited by Town Clerk)
- e. Tellers (Wayland citizens appointed by Assistant to the Moderator)
- f. Handset Issuance Lead (OTI)
- g. Handset Issuance Staff (Election officials appointed by Town Clerk)
- h. Handset Recovery Staff (Election officials appointed by Town Clerk): posted at building exits
- i. Electronic Voting System Installation staff (OTI)
- j. Handset Return Station staff (Election officials appointed by Town Clerk)
- k. Tech Lead (OTI): operates the Electronic Voting System
- l. Town Meeting Lead (OTI): coordinates all tasks for which OTI is responsible
- m. ELVIS staff
- n. WayCAM staff
- o. Responsible Facilities Manager
- p. Town Administrator

2. Pre-Meeting and Pre-Session Tasks

a. Town Meeting Schedule (Board of Selectmen)

1. OTI requires access to the venue two days prior to Town Meeting as well as the day of Town Meeting
 - a. Day 1: physical setup
 - b. Day 2: system test
2. Avoid starting Town Meeting within 2 days after a holiday weekend

b. Pre-Meeting Training Tasks

1. Develop and record 5-minute "How to Vote Electronically" video if previous version is not usable (ELVIS, WayCAM)
2. Develop "How to Vote Electronically" article for Town Crier, Town Web Site, Town Meeting Warrant (ELVIS)
 - add "Press power button briefly only if the Handset display is blank"
 - add "Please configure your mobile phone to vibrate instead of ring, and disable Wi-Fi; the latter will enhance performance of the electronic voting system"
3. Post videos on Town Web Site and YouTube (ELVIS)
4. Submit "How to Vote Electronically" to Town Crier, Town Web Site, Town Meeting Warrant (ELVIS)
5. Update Voter Handout (ELVIS)
 - add "Press power button briefly only if the Handset display is blank"
 - reflect layout of the venue
 - use consistent terminology (e.g. "yes" vs. "aye")
6. Develop a training script for Check-in Staff and Help Desk personnel (OTI)

c. Pre-meeting Provisioning Tasks

1. Forecast Attendance (ELVIS)
2. Choose venue (Town Administrator)
3. Order Handsets and Welcome Stations from Town Meeting Lead (Town Administrator)
4. If multiple rooms will be used, define who decides when Voters should be routed to the "next" room (Town Administrator)
5. Recruit Check-in staff (Town Clerk)
6. Recruit Handset Recovery staff willing to collect Handsets and stay after each Session to sort and store Handsets (Town Clerk)
7. Construct secure Handset return boxes with narrow slots in top (ELVIS)
8. 20 days prior to the first Session, send the final Voter Extract to the Town Meeting Lead (Town Clerk)

d. Pre-Meeting Setup and Testing Tasks

1. Configure Check-in Area (Responsible Facilities Manager)
2. Setup tables
 - a. Two 6' tables for electronic voting system near Moderator
 - b. One 6' table for electronic voting servers
 - c. One 8' table for every two Check-in stations, ideally away from entry doors to prevent backups
 - d. One 6' table in each room for Handset return
 - e. One 8' table for Handset sorting
 - f. One 8' table in each room for Help Desk
3. Install and test Electronic Voting System, including backup components (OTI)
 - a. AC Power (extension cords, multi-outlet sockets, UPS)
 - b. Transceivers
 - c. Voting PC
 - d. Roster Server

- e. Check-in laptops and scanners
- f. Handsets (batteries, connectivity, configuration)
- g. Handset containers (Check-in, Recovery)
- 4. Install and test cables and VPN boxes linking rooms (OTI, responsible Facilities Manager)
- 5. Disable Wi-Fi in all rooms (ELVIS)
- e. **Pre-Session Setup and Testing Tasks**
 - 1. Restore and test any Electronic Voting System components removed between Sessions (OTI)
 - 2. Initialize Handset roster (OTI)
 - 3. Initialize Electronic Voting System (OTI)
 - 4. Place Handsets into containers by room (OTI)
 - 5. Show Checkers how to work with Handset Issuers (OTI)
 - 6. Deploy Handset Recovery Staff and Handset Recovery Containers (OTI)
 - 7. Setup a "Manual Counting Section" and assign a 2-person Teller team to convey its Ballots (Assistant to the Moderator)
 - 8. Prepare Identification Cards and Seating Maps for distribution by the Electronic Voting Help Desk for distribution to Manually Counted voters (Assistant to the Moderator)
 - 9. Prepare paper Ballots and pens for the "Manual Counting Section" and for handset failures, and distribute them to 2-person Teller teams (Assistant to the Moderator)
 - a. Ballots should provide separate sections that capture a missing vote (3.c.7.b) and a changed vote (3.c.7.c)
 - 10. Setup for Teller Audits (OTI Town Meeting Lead, Assistant to the Moderator)
 - a. Set aside Teller handsets (gym, auditorium) and scan them
 - b. Issue each Teller a Teller handset as they check in.
 - c. Conduct a test vote
 - d. Print and verify Teller votes
 - 11. Prepare a sheet with 10 barcodes for activated voters (OTI Town Meeting Lead) and give to Help Desk
 - 12. Place a spectrum analyzer in each room to check for Wi-Fi hot spots (OTI)
 - 13. Prepare for Handset Failures (OTI Town Meeting Lead, ELVIS)
 - a. Use Welcome System to pre-issue two handsets to each Help Desk Handset Replacement Team for use as replacements, using special voter names Help-1 .. Help-4 (OTI)
 - b. Provide a Replacement Handset List for each Help Desk Handset Replacement Team (OTI)
 - c. Power-down all replacement handsets so they don't inadvertently generate votes (OTI)
 - d. Distribute pre-issued Replacement Handsets and Replacement Handset Lists to Help Desk Handset Replacement Teams (OTI)
 - 14. Setup and staff Electronic Voting Help Desk (ELVIS)
 - a. Print copies of "How to Vote Electronically" and "Electronic Voting Handout" (Town Clerk)
 - 15. Identify necessary signage and print signs (ELVIS)

3. In-Session Activities

a. Check-in and Handset Issuance, Return from Permanent Departure

1. Guide incoming Voters to appropriate Checker based on Voter's last name (ELVIS)
2. Checker locates Voter in "Book" and notes whether Voter has previously checked in to this Session
3. If Voter is inactive
 - a. Route voter to Town Clerk for validation
 - b. Route activated voter to the Electronic Voting Help Desk, which records voter's name on next slot in the activated voter barcode list, and accompanies voter to correct Check-in status for Check-in and handset issue
4. If Voter cannot use a handset, Checker directs voter to the Electronic Voting Help Desk
5. If Voter is joining this Session for the first time, Handset Issuer
 - a. removes Handset from current room container
 - b. optically scans Barcode on back of Handset into Welcome System
 - c. optically scans Voter's Barcode in "Book" into Welcome System, overriding "handset already assigned"
 - d. Handset Issuer gives Handset to Voter, and directs Voter to appropriate room
 - e. Welcome System adds Handset to Roster and deactivates Voter's previously-issued Handset (if any)
 - f. Route Voters claiming to be physically incapable of using a Handset to Electronic Voting Help Desk
6. If Voter has previously checked in to this Session, Handset Issuer
 - a. optically scans Voter's Barcode in "Book" into Welcome System
 - b. if Welcome Station indicates Voter's previously-assigned handset has not been Returned, route Voter to Electronic Voting Help Desk; otherwise issue a Handset as described in 3.a.2
7. The Check-in process is suspended from the point where the Moderator announces "Prepare to Vote" until the Moderator announces "We will now tally the vote" so that the Checkers and Election Officials can vote.

b. Introduction

1. Moderator explains rules governing Electronic Voting
 - a. No proxy voting
2. Moderator points out that
 - a. Handsets with red dots at top only work in the primary room
 - b. Handsets with green dots at top only work in the secondary room (if in use)
 - c. Handsets must be returned at end of session; handsets not returned won't work in future sessions
3. Moderator explains how to vote: which buttons to push, 30 second voting window, Voting Lamp, and announcements
 - a. "Prepare to vote"
 - b. "Please vote"
 - c. "We will now tally the vote"
4. Moderator explains what to do if Handset fails
5. Moderator conducts a test vote prior to the formal start of the Session

c. Vote

1. Moderator cues Voters, Town Meeting Lead, and Tech Lead that vote is imminent (announce "Prepare to Vote")
2. Town Meeting Lead cues Tech Lead to transfer Voting Roster (unless re-vote), open voting window, and illuminate the Voting Lamp
3. Moderator announces that the voting window is open (announce "Please Vote")
4. Tech Lead extinguishes the Voting Lamp after 30 seconds, and then closes the voting window
5. Town Meeting Lead indicates to the Moderator that the voting window has closed
6. Moderator announces that the voting window is closed (announce "We'll now tally the vote")
7. Town Meeting Lead either reports an Electronic Voting System irregularity (malfunction, attack) to the Moderator, or cues the Tech Lead to display Electronic Voting results on the Moderator's Monitor
8. Tech Lead displays Electronic Voting results on the Moderator's Monitor
9. Each Help Desk Handset Replacement Team scans for Voters claiming Handset Failure, and renders assistance to each
 - a. The Handset Replacement Team checks the Voter's Handset
 - b. if the Voter's Handset's Display does not indicate a confirmed vote, the Handset Replacement Team provides the Voter with a paper Ballot and pen, and then conveys the Ballot to the Moderator with instructions to increase the count
 - c. if the Voter's Handset's Display indicates a confirmed vote, the Handset Replacement Team provides the Voter with a paper Ballot and pen, and then conveys the Ballot to the Moderator with instructions to increase one count and decrease the other count
 - d. the Handset Replacement Team takes possession of failed Handset, powers on Replacement Handset, and issues it to Voter, recording Voter's name and Handset ID (e.g. Red 15) on Replacement Handset list
 - e. the Handset Replacement Team gives the failed Handset and Voter name to Handset Return Station staff
 - f. Quarantine failed Handset (Handset Return Station staff)
10. the Teller team responsible for the "Manual Counting Section" conveys Ballots from Voters in this section to the Moderator
11. The Moderator announces the vote
12. The Moderator either initiates an Audit, or declares the vote to be final
13. Town Meeting Lead cues Tech Lead to print vote results
14. Tech Lead prints vote results
15. Town Meeting Lead conveys printed vote results to the Moderator
16. Town Meeting Lead cues Tech Lead to clear the Voting database
17. Tech Lead clears Voting database

d. Audit (optional spot check or triggered by seven voters)

1. The Moderator announces an Audit
2. The Town Meeting Lead cues the Tech Lead to print Teller votes
3. Tech Lead prints Teller votes
4. The Town Meeting Lead conveys printed Teller votes to the Assistant Moderator
5. The Assistant to the Moderator distributes printed Teller votes to the Tellers, and reports any discrepancies between votes shown on Teller handsets and the printed votes to the Moderator

e. Permanent Departure

1. 45 minutes before scheduled end of session, convert two Check-in stations to Check-out stations
2. At close of session, remind voters to return their handsets (Moderator)
3. Handset Recovery Staff collects Handsets from exiting Voters
4. Handset Recovery Staff collects returned Handsets from exits every 10 minutes, and conveys them to the Return Station, which removes them from the Voting Roster

4. Post-Session and Post-Meeting Tasks

a. End-of-Session

1. Handset Return Station Staff scans returned Handsets to remove them from Roster
2. Failed Handsets are segregated (OTI)
3. Tech Lead prints list of Voters who failed to return Handsets or Replacement Handsets
4. Electronic Voting Help Desk staff contacts Voters who failed to return Handsets

b. End-of-Meeting

1. Remove Electronic Voting System (OTI)
2. Remove cables linking rooms (OTI, responsible Facilities Manager)

c. Submit Final Report (ELVIS)

5. Contingencies

- a. Power Failure
- b. Electronic Voting System failure, reported by OTI Town Meeting Lead
 - Revert to voice votes and standing counts
 - Completed votes are not revisited unless Reconsideration is proposed and succeeds
- c. Electronic Voting System reports it's under attack, reported by OTI Town Meeting Lead
 - Alert a Police officer
 - Revert to voice votes and standing counts
 - Completed votes are not revisited unless Reconsideration is proposed and succeeds
- d. Teller Audit yields one or more discrepancies
 - Alert a Police officer
 - Revert to voice votes and standing counts
 - Completed votes are not revisited unless Reconsideration is proposed and succeeds
- e. Loss of connectivity between rooms, as reported by OTI Town Meeting Lead
 - If possible, move voters into one room
 - Employ voice votes in disconnected rooms
- f. A Voter reports that his or her handset has failed
 - Handset Replacement Teller team verifies that voter is seated in the correct room; if not, no action is taken other than sending the Voter to the correct room
 - Teller team checks handset display
 - Teller team collects vote on Ballot
 - Teller team collects defective Handset, powers on and issues Replacement Handset, and records Voter's name on Replacement Handset List
 - Teller team conveys Ballot to Moderator, noting whether to increase one count, or increase one count and decrease the other count
 - the Teller Team gives the failed Handset and Voter name to OTI personnel manning Return Station
- g. A *significant* number of voters claim that the confirmed vote on their handset does not match their vote
 - Moderator initiates a Teller Audit
- h. A voter arrives mid-meeting and asks for instructions on how to vote: send to the Electronic Voting Help Desk
- i. A voter who is leaving the building permanently refuses to return his or her handset: alert a Police Officer
- j. Insufficient Handsets: if the underage is small, voters will be seated in the "Manual Counting Section"
- k. On check-in, the Welcome Station indicates that the Voter has already been issued a handset that has not been removed from the Roster
 - If Voter is joining the Session for the first time, do not remove the previously-issued Handset from the Voting Roster, and issue a new Handset per 3.a.2
 - If Voter is re-joining the Session, route the Voter to the Electronic Voting Help Desk

6. Electronic Voting Help Desk

1. Provide copies of "How to Vote Electronically" and the "Electronic Voting Handout"
2. Staff Help Desk Handset Replacement Teams
3. Provide disinfectant wipes (Town Clerk)
4. Accept returns of Handsets inadvertently taken from previous sessions
5. Issues an Identification Card and Seating Map to voters who will be Manually Counted, and directs such voters to the Manually Counted Seating Area
6. Assist returning Voters whose originally assigned Handset has not been removed from the Voting Roster by determining where the Voter deposited his or her handset on exiting, expediting the removal of Handsets in that return location from Voting Roster, and escorting the Voter to the Check-In station to obtain a new Handset

7. Responsibilities by Role

a. Moderator

- i. Introduce Electronic Voting
 1. Summarize why Electronic voting is being used
 2. Explain rules governing Electronic Voting
 3. Points out that
 - a. Handsets with red dots at top only work in the primary room
 - b. Handsets with green dots at top only work in secondary room (if in use)
 - c. Handsets must be returned at end of session; handsets not returned won't work in future sessions
 4. Explain how to vote: which buttons to push, 30 second voting window, Voting Lamp, and announcements:
 - a. "Prepare to vote"
 - b. "Please vote"
 - c. "We will now tally the vote"
 5. Explain what to do if Handset fails
 6. Conduct a test vote prior to the formal start of the Session
- ii. Cue Tech Lead that vote is imminent
- iii. Announce that the voting window is open
- iv. Announce that the voting window is closed
- v. Declare the vote on the motion before the town meeting
- vi. Accepts printed vote results
- vii. Announces a Teller Audit
 1. For no particular reason
 2. If a *significant* number of voters claim that the confirmed vote on their handset does not match their vote
- viii. Alert a police officer if an attack on the Electronic Voting System is reported by the Town Meeting Lead or if a Teller Audit yields discrepancies
- ix. At close of session, reminds voters to return their handsets

- b. Assistant to the Moderator
 - i. Setup a "Manual Counting Section" and assign a 2-person Teller team to convey its Ballots
 - ii. Prepare paper Ballots and pens for the "Manual Counting Section" and for handset failures, and distribute them to 2-person Teller teams
 - iii. Prepare Identification Cards and Seating Maps for distribution by the Electronic Voting Help Desk for distribution to Manually Counted voters
 - iv. Setup for Teller Audits
 - v. In an Audit, distributes printed Teller votes to the Tellers, and reports any discrepancies between votes shown on Teller handsets and the printed votes to the Moderator
- c. Town Clerk
 - i. 20 days prior to the first Session, send the final Voter Extract to the Town Meeting Lead
 - ii. Print copies of "How to Vote Electronically" and "Electronic Voting Handout"
 - iii. Validate inactive voters and route them to the Help Desk
- d. Town Administrator
 - i. Choose venue
 - ii. Order Handsets and Welcome Stations from Town Meeting Lead
 - iii. If multiple rooms will be used, specify who decides when Voters should be routed to the "next" room
- e. Check-in staff (Election workers appointed by Town Clerk)
 - i. Check-in each voter
 - ii. If Voter is inactive, route to Town Clerk for validation
 - iii. If Voter cannot use a handset, direct voter to the Electronic Voting Help Desk
 - iv. Point to each voter's barcode
 - v. Confirm last 4 digits of voter's barcode with Handset Issuer
 - vi. Suspends the Check-in process from the point where the Moderator announces "Prepare to Vote" until the Moderator announces "We will now tally the vote" so they can vote.
- f. Tellers (Wayland citizens appointed by Assistant to the Moderator)
 - i. Teller team responsible for the "Manual Counting Section" conveys ballots from Voters in this section to the Moderator during each vote
- g. Handset Issuance Lead (OTI)
 - i. Place Handsets into containers by room
 - ii. Show Checkers how to work with Handset Issuers
- h. Handset Issuance Staff (Election workers appointed by Town Clerk)
 - i. Scan handset to be issued
 - ii. Scan voter's barcode
 - iii. Confirm last 4 digits of voter's barcode with Checker
 - iv. If voter not already checked in or previous handset returned, issue handset to voter
 - v. If voter already checked in and previous handset not returned, route voter to Electronic Voting Help Desk

- i. Handset Recovery Staff (Election workers appointed by Town Clerk): posted at building exits
 - i. Deploy Handset Recovery Staff and Handset Recovery Containers
 - ii. Collect handsets from exiting Voters
 - iii. Convey collected handsets to Return Station every 10 minutes
- j. Handset Return Station Staff (Election workers appointed by Town Clerk)
 - i. Accept and quarantine failed handsets
 - ii. Removed returned handsets from Voting Roster
- k. Electronic Voting System Installation staff (OTI)
 - i. Install and test Electronic Voting System, including backup components
 - ii. Install and test cables and VPN boxes linking Gym, and Auditorium
 - iii. Restore and test any Electronic Voting System components removed between Sessions
 - iv. Remove Electronic Voting System
 - v. Remove cables linking Gym, Cafeteria, and Auditorium
- l. Tech Lead (OTI): operates the Electronic Voting System
 - i. Initialize Handset roster
 - ii. Initialize Electronic Voting System
 - iii. Open the voting window
 - iv. Illuminate Voting Lamp for 30 seconds
 - v. Close voting window
 - vi. Display Electronic Voting results on the Moderator's monitor
 - vii. Prints vote results
 - viii. Clears Voting database
 - ix. Prints Teller votes
 - x. Prints list of voters who failed to return Handsets
- m. Town Meeting Lead (OTI): coordinates all tasks for which OTI is responsible
 - i. Develop a training script for Check-in Staff and Help Desk personnel
 - ii. Place a spectrum analyzer in each room to check for Wi-Fi hotspots
 - iii. Setup for Teller Audits
 - iv. Prepare a sheet with 10 barcodes for activated voters and give to Help Desk
 - v. Prepare for handset failures
 - 1. Use Welcome System to pre-issue two handsets to each Help Desk Handset Replacement Team for use as replacements, using special voter names Help-1 .. Help-4 (OTI)
 - 2. Provide a Replacement Handset List for each Help Desk Handset Replacement Team (OTI)
 - 3. Power-down all replacement handsets so they don't inadvertently generate votes (OTI)
 - 4. Distribute pre-issued Replacement Handsets and Replacement Handset Lists to Help Desk Handset Replacement Teams (OTI)
 - vi. Cue Tech Lead to transfer Voting Roster (unless re-vote), and when complete indicate readiness to Moderator
 - vii. Cue Tech Lead to open the voting window, illuminate Voting Lamp for 30 seconds, and close voting window
 - viii. Indicate to the Moderator that the voting window has closed
 - ix. Report an Electronic Voting System irregularity to the Moderator or cue the Tech Lead to display Electronic Voting results on the Moderator's monitor
 - x. Cues Tech Lead to print vote results
 - xi. Conveys printed vote results to the Moderator
 - xii. Cues Tech Lead to clear the Voting database

- xiii. Cues Tech Lead to print Teller votes
- xiv. Conveys printed Teller votes to the Assistant Moderator

- n. ELVIS staff
 - i. Develop and record 5-minute "How to Vote Electronically" video
 - ii. Develop "How to Vote Electronically" article for Town Crier, Town Web Site, Town Meeting Warrant
 - iii. Post videos on Town Web Site and YouTube
 - iv. Submit "How to Vote Electronically" to Town Crier, Town Web Site, Town Meeting Warrant
 - v. Forecast attendance
 - vi. Disable Wi-Fi in all rooms
 - vii. Setup and staff Electronic Voting Help Desk
 - 1. Provide copies of "How to Vote Electronically" and the "Electronic Voting Handout"
 - 2. Guide incoming Voters to appropriate Checker based on Voter's last name
 - 3. Aid Voters requesting assistance, both before and during the meeting
 - 4. Provide disinfectant wipes (Town Clerk)
 - 5. Record the name of an activated voter on the activated voter barcode sheet, and accompany the voter to the appropriate Check-in station for check-in and handset issuance
 - 6. Issue an Identification Card and Seating Map to voters who will be Manually Counted, and direct such voters to the Manually Counted Seating Area
 - 7. Assist returning Voters whose originally assigned Handset has not been removed from the Voting Roster by determining where the Voter deposited his or her handset on exiting, expediting the removal of Handsets in that return location from Voting Roster, and escorting the Voter to the Check-In station to obtain a new Handset
 - viii. Staff Help Desk Handset Replacement Teams
 - 1. scan for voters claiming handset failure
 - 2. verify that voter is in correct room
 - 3. determine whether no vote was submitted, or incorrect vote was submitted
 - 4. provide voter with ballot
 - 5. record voter's name on Replacement Handset list
 - 6. provide voter with replacement handset and takes possession of failed handset
 - 7. convey Ballot to Moderator
 - 8. give failed handset to Handset Return Station staff
 - ix. Identify necessary signage and print signs
 - x. Submit final report
- o. WayCAM staff
 - i. Develop and record 5-minute "How to Vote Electronically" video
- p. Relevant Facilities Manager
 - i. Configure Check-in Area
 - ii. Setup tables required for the Electronic Voting System, Handset return, Handset sorting, and Help Desk(s)
- q. Town Administrator
 - i. Order Handsets and Welcome Stations from Town Meeting Lead

FY2012 Report of the 2.0 Electronic Voting Implementation Subcommittee

In August of 2011, version 2.0 of the Electronic Voting Implementation Subcommittee (ELVIS) was chartered to

- Support the selection of a provider of an electronic voting service for Wayland Town Meeting by
 - preparing electronic voting system requirements and specifications for inclusion in a Request for Proposal to be issued by the Town Administrator
 - identifying potential bidders and soliciting proposals
 - interviewing bidders and analyzing submitted proposals
 - providing a recommendation

- Oversee the implementation and deployment of Electronic voting at the April 2012 Town Meeting.

Alan Reiss, Dave Bernstein, Jon Sieber, and Lois Toombs from ELVIS 1.0 joined ELVIS 2.0. Don Schuler, Kim Cook, Larry Krakauer, and Lynne Dunbrack were appointed to ELVIS 2.0. Dave Bernstein served as Chair.

In the fall of 2011, ELVIS develop a set of requirements for an electronic voting service – comprehensive support for wireless electronic voting. We sent our requirements to 23 candidate suppliers, discussed these requirements with the 9 of those suppliers who expressed interest, and received 4 responses to the formal Request for Proposal issued by the Town Administrator in early January 2012. We evaluated the technical component of these responses, and made our recommendation to Moderator Dennis Berry and Town Administrator Fred Turkington. In late February 2012, Wayland selected Options Technologies Interactive (OTI) – the same company that provided both the proof-of-concept demonstration and the free Electronic Voting Pilot at Wayland's April 2011 Annual Town Meeting. The Board of Selectmen and Finance Committee provided the funding needed for electronic voting at Wayland's 2012 Annual Town Meeting.

With an electronic voting system provider selected, the subcommittee shifted its focus to the deployment of electronic voting at the April 2012 Town Meeting. The Electronic Voting Procedures Handbook was updated to include the voting lamp and a more robust procedure for the Moderator's use when initiating votes.

With 31 Articles in the Warrant, Town Administrator Fred Turkington contracted with OTI to provide electronic voting for four consecutive sessions in the Middle School Gymnasium and Auditorium, with 7 Welcome Stations, 1000 Handsets for the first session, and 500 Handsets for subsequent sessions.

To calibrate sampling as a way to forecast Town Meeting attendance, members of ELVIS spoke by telephone in late March with 210 randomly-selected Wayland Voters. Each Voter was asked whether they were planning to attend the first session of Wayland's Annual Town meeting. 38% expressed an intention to attend.

Attendance at the opening session of this year's Annual Town Meeting was far greater than last year's. More than 700 voters filled the Middle School Gymnasium and overflowed into the Auditorium. While several hundred voters arrived early, the 400 or so voters who arrived between 7:15 pm and 7:45 pm did experience check-in delays. The arrangement with WayCAM for the voting lamp to be on-screen in the Auditorium during votes proved effective. Seven Articles were disposed of in this session with 14 electronic votes.

During the second session, attendance peaked above 400 voters. The session focused exclusively on the FY2013 Omnibus Budget, which required 16 electronic votes for passage. During this session the Moderator invoked a *Teller Audit*, in which prior to a vote being declared final, the votes shown on the handsets of ten Tellers were compared with a printout from the electronic voting system showing the votes received from those ten handsets. This sample-based approach provided an independent assessment of the system's operation. The Teller Audit was successful, but took longer than expected because the report generated by the Electronic Voting System was not in the expected sort order, a defect that will be corrected.

FY2012 Report of the 2.0 Electronic Voting Implementation Subcommittee

The third session was attended by more than 250 voters, and disposed of eleven Articles. A total of 15 electronic votes were taken during this session. The fourth session was also attended by more than 250 voters, but before completing all remaining articles was adjourned out of respect for Steve Allen's passing. 16 electronic votes were held during this sadly-ended session.

All told, Wayland Voters participated in 61 electronic votes during the first four sessions of this year's Annual Town Meeting. Of these votes, 15 were closer than 60%-40%, and 6 of those fifteen were closer than 55%-45%. Two votes were closer than 51%-49%. Without electronic voting, those 15 votes closer than 60%-40% could have taken many hours to resolve via standing counted votes.

Wayland's perfect record for handset management remained intact. At the end of each session, every handset was returned.

A public hearing held after the last session of Town Meeting yielded one suggestion regarding electronic voting: reduce the voting window from 30 seconds to 20 seconds.

ELVIS 2.0 completed its FY2012 responsibilities by updating the Electronic Voting Procedures Handbook to reflect lessons learned from this year's Annual Town Meeting, by preparing a list of recommended improvements to the electronic voting system for consideration by OTI, and by preparing this report.

All members of ELVIS 2.0 have expressed their willingness to continue serving, an offer accepted by the Moderator. The subcommittee will continue to meet every 4-6 weeks until the next Town Meeting is scheduled, after which activity will intensify as required.

Respectfully submitted,

Alan Reiss

Dave Bernstein

Don Schuler

Jon Sieber

Kim Cook

Larry Krakauer

Lois Toombs

Lynne Dunbrack
