

**TOWN OF WAYLAND - TOWN CLERK'S OFFICE
NOTICE OF MEETINGS OF TOWN BOARDS/COMMITTEES/COMMISSIONS**

Posted in accordance with the provisions of the Open Meeting Law

NAME OF BOARD/COMM: **Electronic Voting Implementation Subcommittee**

FILED BY: Dave Bernstein

DATE OF MEETING: September 7, 2017

TIME OF MEETING: 7:30 PM

PLACE OF MEETING: Wayland Town Building

AGENDA

- Call to order
- Appoint Secretary pro tem
- Invite public comment
- Approve Minutes from our 2017-04-02 meeting
- Review, Edit, Print, and Approve the “Annual Report of the Electronic Voting Implementation Committee”, to include a brief synopsis of our work to date
- Update the Electronic Voting Service Requirements in preparation for Wayland’s RFP
- Voatz: a new “Town Meeting Electronic Voting from Home” option?
- Invite public comment
- Adjourn

FY-2012 to FY2017 Report of the 2.0 Electronic Voting Implementation Subcommittee

FY2012

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

FY-2012 to FY2017 Report of the 2.0 Electronic Voting Implementation Subcommittee

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.

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.

FY2013

Two improvements to Electronic voting were discussed at public ELVIS meetings: *Electronic Check-in* and *Random Audits*. Electronic check-in would enable arriving voters to check-in at any Welcome Station, rather than queuing up at the one Welcome Station whose roster contains their last name; it would also automate post-meeting reporting for the Town Clerk. Random Audits would enable the Moderator to conduct an audit of the electronic voting system by choosing any number of voters from the floor, rather than being limited to auditing the votes of Tellers given pre-assigned handsets prior to the meeting. Both improvements were discussed with Mark Fite, President of OTI.

A Special Town Meeting session was held on 2012-10-03. Seven articles were disposed of in one hour and 38 minutes. There were 10 electronic votes; the largest vote total was 270. One of these votes was closer than 60%-40%; had a standing count been required, the meeting could have been extended by an estimated 14 minutes.

Annual Town Meeting sessions were held on 2013-04-04, 7, 9, and 10 in the High School Field House. An online attendance survey conducted beforehand predicted 700 attendees; 800 handsets were ordered. Before the meeting, OTI installed permanent wiring in High School Field House, reducing electronic voting costs by \$2000 for each subsequent Town Meeting held there. Twenty-four articles were disposed of in 10 hours and 14 minutes. There were 50 electronic votes and 6 voice votes; 3 of these voice votes were necessitated by an electronic voting system malfunction that delayed the proceedings by 3 minutes. The largest electronic vote total was 369.

FY-2012 to FY2017 Report of the 2.0 Electronic Voting Implementation Subcommittee

Fourteen of the electronic votes were closer than 60%-40%; had standing counts been required, the meeting could have been extended by an estimated 4 hours.

FY2014

Moderator Dennis Berry asked ELVIS members to investigate making information about the current motion visible to voters on electronic displays.

OTI resolved the defect responsible for the electronic voting system malfunction that occurred during the FY2013 Annual Town Meeting. OTI also implemented the proposed *Random Audit* procedure. Discussion of *Electronic Check-in* continued, considering information gained from the Town of Hingham, which uses a similar approach.

An improved approach to the online attendance survey was developed.

Lois Toombs retired as Town Clerk at the end of the fiscal year, and was replaced as Town Clerk and in ELVIS by Beth Klein.

A Special Town Meeting session was held on 2013-11-20 in the High School Field House. The online attendance survey conducted beforehand predicted 469 attendees; given the lack of past experience in forecasting STM attendance, 700 handsets were ordered. Four articles were disposed of in one hour and 44 minutes. There were 5 electronic votes; the largest vote total was 630. One of these votes was closer than 60%-40%; had a standing count been required, the meeting could have been extended by an estimated 39 minutes.

Annual Town Meeting sessions were held on 2014-04-03, 7, 8, and 10 in the High School Field House. An online attendance survey conducted beforehand predicted 699 attendees; 800 handsets were ordered. Thirty-eight articles were disposed of in 12 hours and 34 minutes. There were 78 electronic votes and 5 voice votes. The largest electronic vote total was 535. Eleven of the electronic votes were closer than 60%-40%; had standing counts been required, the meeting could have been extended by an estimated 4 hours.

Slides containing large-font text with information about each Article were displayed on the large screen projector used to display diagrams and pictures; feedback from attendees was positive.

FY2015

Kim Cook resigned from ELVIS. She was replaced by Dave Watkins, who later resigned to join Fincom.

In support of Wayland's Electronic Voting Service RFP, ELVIS members updated the Electronic Voting Service Requirements document, and conducted technical evaluations of the responses received from Meridia, DSI, and OTI; Wayland's Town Administrator chose OTI. ELVIS members subsequently met with DSI to help them become a viable candidate supplier in the future.

ELVIS members investigated technical means of enabling "Town Meeting Voting from Home", which is currently prohibited by state law. No significant progress was made.

OTI was asked to implement *Electronic Check-in*, and did so in time for use during the Annual Town Meeting.

Annual Town Meeting sessions were held on 2015-04-06, 7, 8, and 13 in the High School Field House. An online attendance survey conducted beforehand predicted 770 attendees; 800 handsets were ordered. Thirty-nine

FY-2012 to FY2017 Report of the 2.0 Electronic Voting Implementation Subcommittee

articles were disposed of in 12 hours and 56 minutes. There were 87 electronic votes and 8 voice votes. The largest electronic vote total was 408. Fifteen of the electronic votes were closer than 60%-40%; had standing counts been required, the meeting could have been extended by an estimated 4.25 hours.

Town Clerk Beth Klein reported that Electronic Check-in worked well. Besides reducing waiting times for attendees, it reduced the number of check-in staff required, lowering the cost of Town Meeting.

Slides containing 20pt font text with information about each Motion (where available) or Article in an agreed-upon standard format were displayed on the large screen projector used to display diagrams and pictures. Voters sitting in the Field House bleachers confirmed the readability of these slides.

During a vote to “call the question” during the debate on Article 27, one of the electronic voting system’s three primary radio base stations failed, which caused the primary control computer to crash, and caused ~20 handsets to display a failure indication. The electronic voting system operator switched to the back-up system; as a precaution, the users of handsets displaying failure indications were issued new handsets. After the next electronic vote, the Moderator called for an audit, selecting 10 voters at random to verify that the votes shown on each of their handsets were correctly received by the electronic voting system; the Town Clerk confirmed that all 10 votes were correctly received. Switching from the primary to the backup system consumed 7 minutes; conducting the audit consumed 5 minutes.

During the debate on Article 27, a voter reported to the Moderator that someone had been spotted with multiple handsets. An ELVIS meeting was held on 2015-04-30 to discuss the prevention of proxy voting; many members of the public participated, as did members of the Board of Selectmen. This meeting and several follow-up ELVIS meetings resulted in a Moderator-approved “Preventing Proxy Voting” document issued on 2015-08-24 that

- prescribes the use of “Visitor Cards” and “staffed Exit Desks” to ensure that anyone leaving the building surrenders either a handset or a Visitor Card
- defines procedures to be followed when the possession of multiple handsets or proxy voting is observed
- prescribes changes to the “How to Vote Electronically” article, the Electronic Voting Procedures Handbook, the Warrant, and the Moderators Rules to effect the above changes

FY2016

Moderator Dennis Berry updated the “Electronic Voting Video” to reflect the use of Electronic Check-in and to remind voters to “vote with your handset only”. WAYCAM plays this video as a public service announcement during the week before each Town Meeting.

The responsibility for assembling and displaying “Motion Slides” at Town Meetings was transferred to the Town Administrator.

A Special Town Meeting session was held on 2015-11-09 in the High School Field House. The online attendance survey conducted beforehand predicted 572 attendees; 600 handsets were ordered. Thirteen articles were disposed of in 4 hours and 32 minutes. There were 27 electronic votes; the largest vote total was 559. Four of these votes were closer than 60%-40%; had standing counts been required, the meeting could have been extended by an estimated 2 hours.

FY-2012 to FY2017 Report of the 2.0 Electronic Voting Implementation Subcommittee

A Special Town Meeting session was held on 2016-02-11 in the Middle School Auditorium. The online attendance survey conducted beforehand predicted 218 attendees; 200 handsets were ordered. Three articles were disposed of in one hour and 30 minutes. There were 7 electronic votes; the largest vote total was 164. One of the electronic votes was closer than 60%-40%; had a standing count been required, the meeting could have been extended by an estimated 8 minutes.

Annual Town Meeting sessions were held on 2016-04-07, 10, and 11 in the High School Field House. An online attendance survey conducted beforehand predicted 500 attendees; 700 handsets were ordered. Thirty-seven articles were disposed of in 8 hours and 10 minutes. There were 53 electronic votes. The largest electronic vote total was 403. Four of the electronic votes were closer than 60%-40%; had standing counts been required, the meeting could have been extended by an estimated 65 minutes.

During the Annual Town Meeting, a voter who was just issued a handset attempted to vote from within the check-in area, but received a “can’t vote yet” message on their handset and was not offered a paper ballot. After discussion at an ELVIS meeting, the “How to Vote Electronically” document was updated to inform citizens that they must check-in at least 5 minutes before a vote to be certain that their handset can be used in that vote, and should quickly seek assistance from the Help Desk if the “can’t vote yet” message appears on their handset.

FY2017

A Special Town Meeting session was held on 2016-11-15 in the High School Field House. The online attendance survey conducted beforehand predicted 300 attendees; 500 handsets were ordered. Thirteen articles were disposed of in 2 hours and 44 minutes. There were 18 electronic votes; the largest vote total was 197. Three of these votes were closer than 60%-40%; had standing counts been required, the meeting could have been extended by an estimated 33 minutes.

Annual Town Meeting sessions were held on 2017-04-02 and 3 in the High School Field House. An online attendance survey conducted beforehand predicted 559 attendees; 600 handsets were ordered. Twenty-eight articles were disposed of in 6 hours and 19 minutes. There were 50 electronic votes. The largest electronic vote total was 319. Five of the electronic votes were closer than 60%-40%; had standing counts been required, the meeting could have been extended by an estimated 69 minutes.

Summary

ELVIS has supported Wayland Electronic Voting in 7 Annual Town Meetings and 5 Special Town Meetings. Prior to each meeting, an updated “How to Vote Electronically” article was included in each Warrant, posted on the Wayland web site, and appeared in the “Wayland Town Crier”. During the week before each meeting, WAYCAM ran the “Electronic Voting Public Service Announcement” video.

Two notable improvements – electronic check-in and the random audit -- have been implemented, along with a significant strengthening of procedures to prevent proxy voting. The “How to Vote Electronically” and “Electronic Voting Procedures Handbook” documents have been continuously updated to reflect these improvements, along with several smaller optimizations suggested by public comments and in-meeting experience.

Only one electronic voting handset has been lost.

FY-2012 to FY2017 Report of the 2.0 Electronic Voting Implementation Subcommittee

Electronic Voting has clearly fulfilled its original promise of speed, accuracy, and privacy. More importantly, it has facilitated a more relaxed, deliberate, and methodical Town Meeting; decisions made in this environment are better, to the benefit of every Wayland citizen – whether they attend Town Meeting or not.

Respectfully submitted,

Alan Reiss

Beth Klein

Dave Bernstein

Don Schuler

Jon Sieber

Larry Krakauer

Lynne Dunbrack

1. Proposal
 - a. Propose full-service "cost-per-session" pricing parameterized by the maximum number of voters that must be accommodated and the number of Check-in Stations required
 - b. Survive any single-point failure
 - c. Support multi-venue meetings (within a quarter-mile radius)
 - d. Utilize handsets that can
 - Display votes and error messages
 - Operate for at least 6 hours on a fully charged battery
 - Communicate with a transceiver within a 300 foot radius using low power
2. Security
 - a. Deploy without connection to the internet
 - b. Employ VPN to encrypt messages carried over inter-room cables
 - c. While the voting window is open, display each voter's most recent choice on the voter's handset; when the voting window closes, continue to display each voter's most recent choice until the Moderator declares the vote to be final
 - d. Provide a demonstrable means of verifying the integrity of the vote
3. Installation
 - a. Install and test all required electronic voting equipment, including each handset's batteries
 - b. Conduct a **full-dress rehearsal** the **no later than six hours** before the first session
 - c. Provision ready-to-issue replacement handsets
 - d. Enable the Moderator to specify the duration of the voting window to be 30 seconds or less
4. Check-In
 - a. Maintain a **voting roster** and **voter-handset list** by scanning each voter's Massachusetts state barcode and assigned handset code - in parallel with the Town Meeting voter check-in procedure, and without creating a backup in the check-in process
 - b. Permit voters to check-in after the meeting has started, and to check-in after having checked-out
5. Voting
 - a. In preparation for a vote, be able to update the **voting roster** in 10 seconds or less
 - b. Provide each voter with a **voting handset** having buttons for voting **Yes**, **No**, and **Clear**
 - c. While the voting window is open, display **acknowledgement of the receipt** of each voter's most recent choice on the voting handset; **specify and explain the worst-case response times for populations of 400, 800, and 1200 voters**
 - d. When the voting window closes, continue to display each voter's most recent choice until the Moderator declares the vote to be final
 - e. If during the voting window a voter presses buttons on the voting handset other than **Yes**, **No**, and **Clear**, display "invalid entry" in the voting handset display
 - f. If a voter whose voting handset is not in the **voting roster** attempts to vote, display "can't vote yet" in the voting handset display
 - g. If an error occurs when a voter attempts to vote, display "get Help N" in the voting handset display, where N is an error code; provide a list of all valid error codes and an explanation and recommended corrective action for each
 - h. Accept manually-counted votes
 - i. Generate video output that shows the final vote, including manually-counted votes (**Yes**, **No**, **Clear**) and percentages (**Yes/(Yes+No)**, **No/(Yes+No)**)
 - j. Expunge handset voting records after each vote
6. Check-out
 - a. Recover handsets from voters leaving during a session and remove them from the **voting roster** within 10 minutes
 - b. Recover handsets from voters leaving at the end of a session without creating a backup in voter departure
 - c. Provide a list of all voters that did not return their assigned handset
7. De-installation
 - a. Remove all electronic voting equipment