Promoting Access to Voting - comments and suggestions from John L. McCarthy

July 16, 2021

National Institute of Standards and Technology (NIST)
100 Bureau Drive
Gaithersburg, MD 20899
Via email to pva-eo@list.nist.gov

RE: NIST-2021-003 Request for Information Regarding Promoting Access to Voting

First, I want to strongly endorse the comments and suggestions from Verified Voting.

I also want to add three sets of suggestions of my own (appended below) for

- research about different kinds of barriers voters with disabilities encounter;
- specific research and development that could be helpful for voters with disabilities; and
- development of a set of Principles for Accessible Participation in Elections

Thank you for your consideration,

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Investigation of Accessible Participation in Elections

As others have suggested, the voting process is like a journey along a highway with many different barriers along the way. At each barrier, a certain percentage of drivers are unable to continue due to a particular barrier, so they exit the highway.

In the case of voting, barriers may include…
inaccessible information on candidates,
inability to register,
lack of transportation to a polling place,
inability to fill out an online form,
inability to handle a paper ballot,
lack of ramps at a polling place
... just to name a few examples of many.

Only a portion of the original potentially eligible voters get to their final destination - - the successful casting of their ballot.

I hope NIST will recommend modeling this whole journey in detail for all voters (with and without disabilities), specifying all the types of barriers voters may encounter, and estimating how many voters exit because of each one.

Furthermore, I hope NIST will recommend studying possible solutions to address each barrier, including estimates of how many voters each solution would help, whether it would help some voters more than others depending on such factors as their wealth, access to technology, or skill with technology. Such studies should also evaluate security risks for each solution and whether each solution in fact ensures all voters' privacy, independence and ballot secrecy,

Research and Development to Make Voting More Accessible

Another type of recommendation NIST ought to consider is making grants for specific types of research and development to assist voters with disabilities, including

- To study, test and develop accessible, vote-secrecy-preserving, and secure remote voting systems and voting, and voter verification (including adding recognition of mark-sense targets to optical character recognition apps used by voters with visual impairments),

- To study and estimate costs for jurisdictions that are already transporting HAVA-compliant equipment and ballot boxes to voters with disabilities where they live.

- To independently study and test existing and proposed remote voting systems, particularly in terms of
    - Usability by voters with disabilities;
    - Easy-to-use and effective voter authentication
    - Strengths, flaws, limitations, and weaknesses in transparency and security.
    - Protection of the secrecy of voter choices - including from vendors, contractors, and election officials;
    - Protection against malware and man-in-the-middle attacks, including on the client, on the server, and in between
    - Compliance with Software Independence as defined in VVSG 2.0: "a previously undetected change or fault in software cannot cause an undetectable change or error in election outcome."
    - Ability for all voters to verify their vote selections were correctly received by the election office.

Principles for Accessible Participation in Elections

Finally, I hope NIST will recommend developing strong Principles for Accessible Participation in Elections. Appended below, for example, is an initial draft set of such Principles that the State Audit Working Group began working on a couple of years ago but was unable to complete.

Principles for accessible, verifiable ballot marking and casting.

As the U.S. grapples with rising cyber threat to our election infrastructure, there is a growing demand for voting systems that provide a voter-verified paper ballot to enable effective and reliable auditing of the election results. Department of Homeland Security Secretary Kirstjen Nielsen has identified voting systems that do not provide a voter-verified paper ballot as a national security concern.

As states move to upgrade their voting systems to provide voter-verified paper ballots it is absolutely essential that these systems include full accessibility for all voters. Hitherto, voting system vendors have developed accessible voting devices with little to no input from the accessibility and security community. Consequently, the accessible devices available to state and local election officials for procurement often failed to meet requisite principles of accessibility and security.

As state and local election officials contemplate purchasing new voting systems, experts in the accessibility and security communities have joined together to develop a set of principles for election systems to provide full accessibility for all voters to mark auditable paper ballots. Advancements in engineering and technology indicate that all voters should be able to mark, verify and cast a paper ballot privately and independently. These principles are intended to guide voting system vendors to develop systems that will provide the security and auditability of paper ballots while also ensuring *all* voters have an opportunity to vote privately and independently. These principles are also intended to provide election officials with recommendations for requirements for accessibility and auditability features that may be included in purchasing contracts. We hope these principles will drive the development and adoption of better technology that will allow all voters to vote privately and independently and that all elections will be trustworthy and fully audited.

1. <u>All voters should be able to mark a paper ballot privately and independently</u>. The voting system should provide devices that allow voters of all capabilities to mark a paper ballot with their selections privately and independently. This means the device should offer accessibility features including but not limited to, audio ballot selections, sip and puff…..that allow the voter full access to the ballot. The device features should allow the voter to indicate his/her selections by facilitating an indelible mark on the ballot. The device should prevent overvotes, indicate to the voter if there are undervotes and allow the voter the opportunity to change her/his vote if desired.

2. <u>All voters should be able to verify the vote selections made on the paper ballot privately and independently</u>. The voting system should provide devices that allow voters of all capabilities to verify that her/his vote selections have been recorded correctly privately and independently, independent of the marking device. This means that the voting device should mark vote choices in a way that can be verified either directly by the voter or with assistive technology, privately and independently. If the verification process requires assistive technology, the assistive verification device should be independent of the marking device.

3. All voters should be able to cast their ballots privately and independently. The voting systems should provide accommodations or devices that allow all voters to cast her/his ballot for counting privately and independently. This means the assistive technology should allow the voter to mark, verify and cast the ballot without handling the paper ballot as needed.

4. All voters should vote the same ballots. To protect voter privacy the voting system should provide that all voters mark, verify and cast the same style of ballot.

5. The selections marked on the ballot and verified by the voter should constitute the legal ballot of record. The legal ballot of record, used for counting auditing and recounting, should be the same recorded marks that the voter verifies as correct interpretations of the voter's selections.

6. Assistive ballot marking devices should be easily set up and deployed. At all times, assistive technology should be available to any voter.