



Voter-Verified Paper Trails: Examining Maryland's Options

Maryland voters overwhelmingly favor a paper record of each vote, which the voter can examine for accuracy, to serve as the official ballot used in recounts and routine audits of the voting equipment.* So which kind of paper record would be best for Maryland?

OPTION 1: Add a printer to our current touch-screen machines

Our current voting machines (Diebold Accuvote TS) were not designed with printers, so there is no easy, inexpensive way to add printers to them. Diebold has developed a prototype, but the machines would have to be extensively fitted with equipment that has not yet been certified or manufactured. There would not be enough time to do this before the primary election in March 2008. Adding a printer to each voting machine we now use would double the amount of equipment that would have to be maintained, repaired, replaced, transported to and from polling sites, and stored between elections, which would be costly and labor-intensive.

OPTION 2: Replace our current machines with a newer model that has a paper trail

Diebold has a newer model touch-screen machine (Accuvote TSX), but the printers have proven to be riddled with problems. The printers print on continuous rolls of thermal paper. Many voters have difficulty reading the printouts, which are printed in very small type and are kept behind a plastic shield. In its 2006 primary election, Cuyahoga County, OH discovered a 10% difference between the paper print-outs and the electronic records of the votes due to the paper jamming, tearing, misprinting, or being incorrectly loaded in the printers. Federal regulations are likely to limit or curtail the use of this type of voting equipment in the near future.

In addition to its unreliability, this option is by far the most expensive way to vote. Because of the extra time needed for each voter to print and check the paper print-out—and if necessary, to cancel and correct it—thousands of additional machines would be needed to prevent long wait times at peak voting hours, which would cost several million dollars. The purchase and operating costs of this system would be significantly higher than replacing our current system with precinct-based optical scanners.

OPTION 3: Replace our touch-screen machines with precinct-based optical scanners

In replacing our current equipment, we should consider carefully which voting system would be the most reliable and cost-effective in the long term. Most experts recommend paper ballots marked by the voter, either by hand or with the aid of a ballot-marking device for disabled voters, and then counted by optical scanners in each polling place. The original ballot is retained for audits and recounts. Upcoming changes in federal regulations are not likely to affect this type of voting equipment.

Purchase and operating costs are far lower for a precinct-based optical scan voting system than for touch-screen voting machines with printers because only one optical-scanner and one ballot-marking device for voters with disabilities are needed in each precinct, as compared to about ten touch-screen machines per precinct. Almost half of Americans currently vote this way, and a growing number of elections administrators are choosing to change over to this highly reliable, fiscally responsible solution. Last March, 56% of Maryland voters surveyed by Gonzales Research favored switching to an optical scan voting system, while only 41% preferred voting on touch-screen machines.

*A survey of Maryland voters conducted by the Maryland Institute for Policy Analysis and Research at UMBC (Norris et al, 2006) found that "69% said that voters should be able to confirm their votes through paper records or receipts."

Touch-screens with Printers or Optical Scanners— Which is better for Maryland?

| <p style="text-align: center;">Touch-Screen Machines with Paper Trail Printers</p> | <p style="text-align: center;">Precinct-Based Optical Scanners</p> |
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| <p style="text-align: center;">Pluses</p> <p>Some voters like the touch-screen interface and feel they are a modern, “high-tech” way to vote.</p> <p>Some voters may be able to see how their votes were recorded (<i>if they are able to read the print-out and remember to check it</i>).</p> <p>There may be a paper trail to use for audits and recounts (<i>if the equipment is operating correctly</i>).</p> <p style="text-align: center;">Minuses</p> <p>Adding printers to our current voting machines would not be possible in time for the 2008 elections.</p> <p>Replacing our current machines with a newer model that has a paper trail would be expensive, and the printers have major problems (<i>see below</i>).</p> <p>Touch-screen voting machines require about 10 times more equipment than optical scanners, so annual operating costs are significantly higher.</p> <p>Machine shortages at peak voting hours create long wait times, increasing the likelihood of voters leaving without voting.</p> <p>Continuous-roll printers are highly susceptible to paper jams and may violate the secrecy of the ballot because they make it possible to see the order in which the votes were cast on the machine.</p> <p>Thermal print-outs are not durable enough to serve as the legal record of a vote. They smear, fade, discolor or disappear quickly. They are also fragile, easily torn, and cannot withstand the repeated handling necessary for audits and recounts.</p> <p>The paper record is difficult to read. Type is small and visible only through a glass shield susceptible to glare. Many voters do not take the time to proofread carefully, especially when voting lines are long.</p> <p>Long, continuous-roll records are extremely difficult to audit or recount.</p> | <p style="text-align: center;">Pluses</p> <p>Optical scanning systems are significantly less expensive to operate than touch-screens.</p> <p>The electronic machine is used only to count the votes, so usually only one machine is needed per precinct.</p> <p>The voter marks the ballot directly, whether by hand or with an assistive device, so the original record of the voter’s intent is available for audits and recounts.</p> <p>Disabled voters can use a ballot-marking device or telephone-based interface that enables them to mark a ballot compatible with an optical-scan system.</p> <p>During peak voting hours, the number of voters who can vote simultaneously is limited only by the amount of space available in the polling place to mark a ballot privately. Cardboard privacy screens are inexpensive and easy to store and transport.</p> <p>Equipment failure does not prevent voters from casting ballots, because they can be stored for counting later if necessary.</p> <p>Absentee, provisional, and regular voters all use the same ballots.</p> <p>Audits and recounts are easier to perform than with continuous-roll thermal printers.</p> <p>The greater durability and legibility of paper ballots makes them more suitable as legal evidence of voters’ intent for audits and recounts and better qualifies them to meet the federal law requiring that voting records be stored for 22 months after a federal election.</p> <p>56% of MD voters polled would prefer to use an optical scan system, compared to 41% who favor our current touch-screen machines.</p> <p style="text-align: center;">Minuses</p> <p>More paper ballots need to be printed than are already required for absentee, provisional, and emergency ballots.</p> |