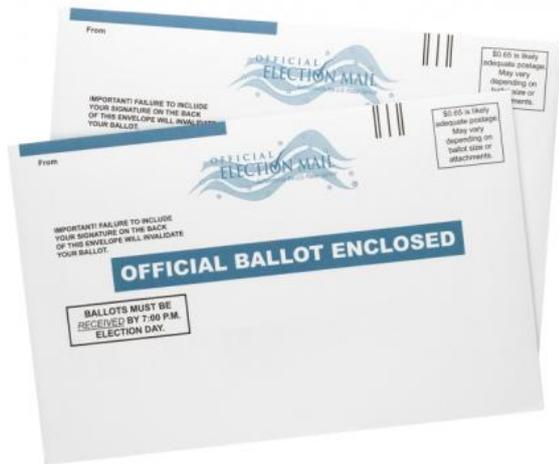# Gains in voting-machine technologies could be cancelled out by errors introduced through mail and Internet voting

18 October 2012, by Peter Dizikes

When it comes to the integrity and accuracy of voting systems in the United States, the good news is that widespread technological upgrades have largely eliminated the voting-machine problems that were so evident when Florida's disputed recount determined the 2000 presidential election.

The bad news is that some of those improvements in accuracy could be undermined by increases in early voting through the mail, which is turning out to be a relatively low-accuracy method of voting, according to a new research report released by MIT and the California Institute of Technology.

"A lot of changes over the last decade have made voting in America better," says Charles Stewart III, the Kenan Sahin Distinguished Professor of Political Science at MIT, who co-authored the new report with five colleagues at four universities. "The

possibility of a [situation like Florida's 2000 election] is much lower now than it was 12 years ago."

However, Stewart adds, "We have possibly gotten way ahead of ourselves in encouraging people to vote by mail. It's pretty clear that the improvement we've gotten by having better voting machines in the precincts may be given back by having more and more people voting at home."

Mailing it in

The new report was released today by the Caltech/MIT Voting Technology Project. It is the latest in a series of reports by the group, which formed in the aftermath of the 2000 election.

A major change since 2000 has been the replacement of outdated voting systems—principally punch cards and lever machines—with more reliable optical-scan or electronic voting machines. Today roughly 60 percent of counties across the United States use optical-scan machines, and 40 percent use other forms of electronic equipment. (A small set of counties still hand-count paper ballots.)

The upshot of this change is that the overall residual vote rate—the difference between the number of ballots cast and counted—dropped from 2 percent of ballots cast in 2000 to 1 percent in 2006 and 2008, as the report notes.

On the other hand, the report states, "absentee voting is more prone than in-person voting to residual vote rates." That presents new problems, since the percentage of Americans voting by mail or at early election centers has doubled, the report notes, from 14 percent in 2000 to 28 percent in 2008. One study by Voter Technology Project researchers, based on two decades of data from California, has shown that the residual vote rate for

absentee voters was larger than that for votes cast at polling places—by 2.2 percentage points in presidential races, 3.3 percent in gubernatorial races, 4.9 percent in U.S. Senate races, and 3.0 percent for ballot propositions.

Still, when it comes to voting by mail, Stewart observes, "The genie may be out of the bottle. We've settled for convenience at the cost of accuracy and making sure that every vote counts." In all, 36 states now conduct some kind of early voting.

To further evaluate the effectiveness of all these systems, a central recommendation of the report is legislation mandating post-election audits of all voting technologies.

Resolving voter identification issues

Stewart also suggests that technology can help mediate one of the hottest disputes in party politics today, the struggle over voter identification laws.

Broadly, Republicans have claimed that cases of voter fraud mean it is necessary to enact stricter controls over who can vote on Election Day—usually by requiring voters to present photo ID. Democrats have argued that claims of voter fraud are overblown and assert that the issue is a pretext for limiting the participation of Democratic-leaning voters. New voter ID laws have been passed in many states; in some places, judges have struck down or limited, temporarily or permanently, the application of those laws.

As the report states, "ensuring the strictest security for our entire electoral process is paramount." On the other hand, it notes, "there simply is not a strong record demonstrating the prevalence of voter impersonation fraud or voting by ineligible individuals." Still, Stewart notes, the common-sense use of existing technologies could, in theory, help resolve these concerns.

"Assuming that states are going to be adopting more laws requiring voter ID at the polls, through the application of technology we can shift the burden of acquiring the ID from the voter to the state," Stewart says.

The report suggests that the computerized statewide voter-registration databases required by federal law should be used in polling places, and coordinated with driver's license photos or other identification databases. Rather than forcing all voters to first acquire ID cards, poll workers could quickly confirm voters' identities through the use of connected databases in the polling place.

"That really could be a kind of win-win, and certainly no diminution of the right to vote, which is what people who are opposed to voter IDs are worried about," Stewart adds.

While other political scientists and voting experts have not yet seen the latest report, they say the project's past work has had a significant impact.

"The Caltech/MIT Voting Technology Project has been the most important source for information about problems with the technology used in … our elections," says Rick Hasen, a law professor at the University of California at Irvine, and author of the influential Election Law Blog. "Its fair metrics for measuring voting technology issues helped this country move from the era of 'hanging chads' to more accurate and better voting systems."

As some scholars note, the project's impact has gone beyond the academy and reached officials in charge of election-technology decisions. "I think practitioners are listening," says Barry Burden, a political scientist at the University of Wisconsin at Madison. "That's the gratifying part." By contrast, Burden notes, before the project began, in 2000, "there was very little interchange" between researchers and election officials.

More information: vote.caltech.edu/content/votin … at-needs-improvement

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