

FACING MICHIGAN'S ELECTION CLIFF

Addressing the Steep Costs of Failing Vote Tabulators



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Executive Summary

The **November 2012, general election** saw “**widespread machine breakdowns**” in Michigan, according to the Director of the Bureau of Elections, Chris Thomas, in testimony before the US Election Assistance Commission. To date there has been no public discussion of the need to address the coming “Election Cliff”—the widespread breakdown of about eight thousand aging vote tabulators used throughout the state.

MERA has found **tabulation error rates of up to 2%**. In at least one Michigan election the **machine-count winner was discovered to be the loser in a hand count recount**. It is impossible to know how many races these error-prone tabulators have decided incorrectly. Without knowing that their votes count, many voters feel they might as well deposit their ballots into the trash. The proven technique of hand counting by trained independent counters is the only reliable check on the tallies reported by the electronic tabulators.

This report details the costs and consequences of failing to plan for replacing the current vote tabulation machines in Michigan, and failing to consider requirements for a more reliable system.

Considerable costs – monetary, human and political -- are already being incurred by relying on outdated, deteriorating vote tabulators. For example, vendors received at least 200 tabulator service calls on election day, November 6, 2012. These glitches contributed to voter and precinct worker frustration, long wait times to vote, distrust of the electoral system and questionable election results.

Conclusions: **Michigan’s tabulators are inaccurate** and far below the federal Help America Vote Act (HAVA) standards, **prone to malfunction, easily compromised, beyond their recommended service life, and need to be retired as soon as possible**. Hand counts have been shown to be more reliable and hand count audits are an important tool to verify the results produced by electronic tabulators.

MERA recommends that the Legislature establish a Blue Ribbon Commission to 1) hold public hearings and receive testimony, 2) develop a comprehensive plan for a transition to a more transparent, accurate, and verifiable vote counting system, and 3) prepare legislation for implementation.

In the interim, MERA urges implementation of a program of random hand count audits to verify the accuracy of machine-produced results. The costs of doing nothing are high, while the costs of addressing the problem are small in comparison. Investing in a dependable, efficient voting system will result in savings of real dollars enhanced public perception that Michigan’s elections are fairly and equitably administered, and certainty that election outcomes are accurate.



FACING MICHIGAN'S ELECTION CLIFF

Addressing the Steep Costs of Failing Vote Tabulators

Introduction

Michigan's Director of the Bureau of Elections, Chris Thomas, admitted to the US Election Assistance Commission [<http://www.eac.gov/> -- archived video] that the November 2012 election saw "*widespread machine breakdowns*" in Michigan. To date, however, there has been no public discussion of the need to develop a plan to address the coming "election cliff" — the certain breakdown of the estimated eight thousand aging tabulators in the state.

In 2008 Michiganders reported thousands of problems at the polls due to "*faulty machines, poll workers who are not equipped to fix them and voters who are concerned with whether or not their ballots will be counted.*" Problems resulted in some poll goers having to walk away without voting. (Detroit Free Press "Michiganders Report Polling Problems" November 4, 2008, <http://www.freep.com/article/20081104/NEWS15/81104049/1005>).

In the same general election, "*...the NAACP reports malfunctioning voter machines in 10 Michigan precincts statewide have caused long waits and in some cases, people gave up waiting and left without voting. The NAACP said it had received more than 12,000 reports of voting irregularities nationwide before noon, mostly due to faulty or inadequate voting equipment.*" (The Detroit News. November 4, 2008).

Four years later, the same problems occurred. According to the 2012 November General Election report on Michigan, by the Lawyers' Committee for Civil Rights under Law, "*Voting machine failures around the state, and poll workers' inadequate responses to those failures, contributed to the long lines.*" At one polling site in East Lansing, a paper jam in the ballot counter forced poll workers to unlock the auxiliary ballot compartment to place the ballots there for safekeeping until the machine was fixed and the ballots could actually be fed in. One "*voter, not trusting that process, waited until the machine was fixed to watch her ballot be fed to the vote machine; however, the voter reported that most people around her were just putting their ballots in the ballot box but uncounted.*"

At another location in Calhoun County, a voter reported a machine that "*would accept a ballot and then displayed an error message after the ballot had been accepted.*" The pattern was allowed to continue for seven consecutive voters before a technician arrived to fix the scanner. The voter was concerned that those ballots would not be counted. Another voter from Oakland County reported that "*a voting machine rejected the ballot of a voter in front of her, and she also observed that the machine's vote counter did not go up when she entered her ballot, but the counter did go up when the voter behind her entered his.*" Again, the voter was concerned that her vote would not count. Machine



problems were reported in Detroit, Taylor, Macomb County, Lake Charter, Belleville, Ypsilanti, Van Buren, Livonia, and other areas around the state.¹

This report explores the failures of aging tabulators, addresses the costs, both direct and indirect, of ignoring them, and considers what our alternatives may be. At every point, we have kept in mind the need to refrain from any further additions to the workload or budgetary burdens of local Clerks. Election legislation enacted since 2010 has created far too many unfunded mandates and unnecessary administrative headaches. While the monetary costs of dealing with this vote-counting crisis may be significant for state taxpayers, maintaining or restoring public trust in fair elections is an investment in democracy that should not be shortchanged.

Why Tabulators Err and How Much

Machine Error

Optical scan tabulators resemble school multiple-choice test scanners. Unlike test sheets, however, ballots must be printed with both the question and the space for the “answer,” often running to both sides. For the scanner beam to read properly, the ballot paper must be denser and thicker than normal paper. The weight and thickness create numerous problems with jamming in the paper path, such as hang ups where the ballot is too heavy to roll back out after a read failure, chads blocking the paper path, and tangled ballots in the ballot box below which prevent subsequent ballots from completing the paper path.

Folded absentee ballots can easily jam tabulators. The device simply was not engineered well enough for the rollers to consistently move a heavy ballot past a fold. Desperate election workers have resorted to creative solutions, such as running the fold ridges over table edges to smooth them out, and even using a hot iron to flatten folded ballots.

Once a tabulator jams, other consequences may ensue, even if the machine is successfully restarted. Under Michigan rules, if the total number of ballots tabulated at the end of the voting day does not match the poll book total of ballots issued to voters, and there are no specific explanations documented in the poll book remarks, then all the voted ballots must be re-tabulated. Hand feeding ballots into a tabulator is painfully slow—especially folded absentee ballots which jam and have to be resubmitted multiple times in different orientations until read. Ballots which cannot be scanned must be “duplicated” (hand copied by two poll workers onto a blank ballot) for tabulation. In one precinct on Nov. 6, 2012, the election manager reported that it took over four hours for 1200 ballots to be re-tabulated. The precinct did not finish until 2:30 am. This kind of delay, repeated all

¹OUR BROKEN VOTING SYSTEM AND HOW TO REPAIR IT, www.866ourvote.org/newsroom/publications/the-2012-election-protection-report



around the state, does not comport with the public belief that tabulators are fast, reliable, and efficient.

Poor election administration practices in the voting precinct or mandated in law, can also lead to tabulator errors. Voting instructions, under a new law, are no longer printed on the ballot where absentee voters are most likely to see them. To allow voting with pencil is illegal in Michigan, yet still done, resulting in faint marks that a scanner may not pick up. Erasures of vote marks on the ballot leave smudges that the tabulator scanner eye will typically read, perhaps recording a false over vote. This is why it is urgent that voters mark their ballots with black or blue ink and request a fresh ballot if they need to change a vote. Their first ballot will be marked “spoiled.”

Tabulator Error Rates

MERA conducted a simple audit in one jurisdiction, to look at discrepancies between the tabulator’s count of physical ballots, a hand count of physical ballots, and the poll book list of ballots issued to voters. We audited three precincts in the November, 2012, General Election. (The complete results may be seen in the Appendix.) Discrepancies ranged from 0.33% to 0.86%, with the average being 0.51%. The Michigan First Congressional District race was decided by 0.47% in the November, 2012 election. Over a dozen races at the state and county level were decided by a 1% or smaller margin. Given the observed error rate of precinct counting machines, it is easy to conclude that the outcome of those elections could have been determined by tabulator errors. Without a manual recount, the reliability of the machine-tabulated results will never be known.

The accuracy of current tabulators is of great importance to the integrity of our elections. Nevertheless, the federal certification process for the current tabulators is not able to determine machine error rates. *“The system we have for testing and certifying voting equipment in this country is not only broken, but is virtually nonexistent,”* stated computer scientist Michael Shamos to the U.S. House Science subcommittee on June 24, 2004. Mathematician Ellen Thiesen studied the process, and concluded that the vote-counting accuracy test used for federal certification “cannot determine the error rate of the equipment.”²

The State of Michigan purchased the state’s tabulators under master contracts, yet at no time has the State published data on error rates or made such information available to election administrators in any of the many training manuals on the Secretary of State web site.

In elections since 2006, while monitoring election administration or providing voter protection, MERA volunteers have observed tabulator breakdowns in individual precincts in Allegan, Berrien, Wayne, Genesee, Oakland, Ingham, Kalamazoo, Calhoun, and

² “Federal Certification Test for Vote-Counting Accuracy Cannot Determine the Error Rate of the Equipment.” By Ellen Theisen, VotersUnite.Org March 21, 2009, revised March 30, 2009.



Washtenaw Counties. In some instances, the local Clerks involved have had backup machines that could be brought in to replace the failed tabulators. The necessity of re-tabulating all ballots, however, has imposed many hours of additional work on poll workers after the polls have closed.

A citizen vote count audit³ of an election in Allegan County provided an opportunity to gauge tabulator error rates with a larger sample. One goal of the audit was to hand count several races in the 2008 general election. However, the Bureau of Elections interprets Michigan law to prohibit citizens or even qualified challengers from viewing ballots during the canvass of votes on election night, so one cannot simply show up at a jurisdiction on election night and start conducting hand count audits. Instead, the citizen audit began after the election was certified, and the ballots released into the federal retention period.

The plan was to have volunteers photograph thousands of ballots with the assistance of local Clerks. With only one exception, however, the Allegan local Clerks refused to comply with the initial Freedom of Information Act request to view and photograph the ballots. One of the resistant jurisdictions requested an Attorney General opinion through their state senator. In May, 2010, the Michigan Attorney General's Office rendered an opinion⁴ that the Michigan FOIA law mandates public access to the ballots for viewing and photographing after an election has been certified. *"Voted ballots, which are not traceable to the individual voter, are public records subject to disclosure under the Freedom of Information Act, MCL 15.231 et seq."* A subsequent letter from a law firm, citing the AG opinion, was then sufficient to convince Clerks to cooperate with the audit volunteers.

MERA volunteers photographed ballot sets from 31 precincts in Allegan Co. Four State Board of Education races were counted by examining each ballot photo and recording the votes in those four races on spreadsheets (Excel ".xls" computer files) where each ballot was identified by its photo number. This method of recording the initial hand count provided an opportunity to cumulatively correct any errors made in the initial count.⁵ Ultimately, 17 precincts were counted and fully corrected to the point where the audit results were virtually free from audit side error. Nearly all of the remaining discrepancies are attributable to tabulator error.⁶

For the seventeen completed precincts, error rates⁷ were computed for each of four State Board races. The average precinct error rate for those races ranged from 0.09% to

³ The audit was initiated by the West Michigan News Co. and brought to completion by MERA.

⁴ Michigan Attorney General Opinion #7247. <http://www.ag.state.mi.us/opinion/datafiles/2010s/op10324.htm>

⁵ If one assumes as a search procedure that the official totals were correct, then one can infer from discrepancies between the initial hand count and the official total where to look for hand count errors. When errors are found, they are then corrected on the spreadsheet. For more detail, see "Are Michigan's Elections Trustworthy? A Citizen Audit of Two Elections in Allegan County," MERA Forthcoming: Winter, 2014.

⁶ Some discrepancies that remained were due to discrepancies between the total number of ballots photographed by the audit and the official total of ballots cast. Nearly all of these were due to errors at the precinct level.

⁷ The error rate for a race is calculated as the sum of the absolute values of differences in the two totals for each candidate divided by the total official number of votes cast in the race other than write-ins.



0.48%.⁸ The overall average error rate of the seventeen precincts was 0.26%. Some of this error is attributable to discrepancies between the audit and the poll book on the total number of ballots voted. So an average error rate was computed for only the seven precincts with no discrepancy in total ballots. That rate, 0.21%, represents the best and most conservative estimate of the error rate solely attributable to the tabulators. This means that on average, the tabulators miscounted about one out of every 500 votes cast for the state board candidates in the seven precincts.⁹ The tabulator error rate shows cause for concern that tabulator accuracy in an actual election in Michigan is not good enough to decide races with a margin of victory no larger than 0.20%.

Requests for Tabulator Service in 2012

Seeking more comprehensive data, MERA requested data on error rates from the two tabulator service vendors that operate in Michigan. One, ES&S, provided a service log from November 6, 2012, which recorded Michigan calls about “M-100” and “Accuvote OS” models. Fifty-five of the requests for service concerned failed tabulators. One concerned four failed tabulators. Thus, a total of 58 tabulator failures were reported to this vendor during election day.

There were at least 783 requests for service of election equipment from the two main suppliers of tabulators to Michigan election authorities from the August 7 primary through the general election on November 6, 2012. Election Systems & Software (ES&S) logged 649 problems, and Dominion Voting Systems (DVS) fielded 135 requests for assistance. (See Appendix.)

Requests to selected County Clerks for a record of tabulator service call requests were inconclusive. Some responded that no information was available. In Ingham County, the Clerk queried the County’s 20 municipalities and received 16 responses. Of those 16 responses, 5 (almost a third) reported tabulator problems on election day. Cross referencing the tabulator supplier reports in Ingham County showed 14 documented incidents from 8 municipalities on election day.

This clearly indicates that County Clerks may not be fully aware of the extent of tabulator problems within their own jurisdictions. This lack of feedback is significant because County Clerks sit on three-member County Election Commissions¹⁰ that by law

⁸ The full data summary from the audit of the 2008 general election may be downloaded here:

<http://www.michiganelectionreformalliance.org/AlleganAudit08Sum.xls>

⁹ The figures reported here are consistent with the residual (lost) vote rate of zero to 1% calculated by the Pew Center on the States for 2008. “Election Administration by the Numbers,” Pew Center on the States, February 9, 2012,

<http://www.pewstates.org/research/reports/election-administration-by-the-numbers-85899377331>

¹⁰“Sec. 23. (1) The chief or only judge of probate of the county or probate court district, the county clerk, and the county treasurer shall constitute a board of county election commissioners for each county,...” 168.23 (page 7) <http://www.legislature.mi.gov/documents/mcl/pdf/mcl-act-116-of-1954.pdf>



are responsible for providing the electronic voting system and necessary equipment and supplies.¹¹

Political Costs

Faulty Election Outcomes

Local and county races are often decided by a slim majority. In the August, 2004, election, ES&S optical scanners in Muskegon failed to detect 2% of the votes for Township Clerk because the voters' marks were too light. On election night, the official totals showed challenger Kris Tabler losing to incumbent Jim Nielsen, 791-786.

The ensuing canvass process, which compared the results from the precinct reports to the results produced by the vote aggregation software, found the same result. Candidate Tabler petitioned for a recount in all seven township precincts, and the Muskegon County Board of Canvassers spent three days inspecting the ballots and counting by hand. When they finished, the result was startlingly different. Tabler won the election over Nielsen by two votes, 804-802.

The recount revealed the existence of 39 more votes cast in the Clerk's race than the original machine count. *“Obviously the Canvassers, counting by hand, were able to read some ballots that the optical scan machines didn't pick up,”* said Tom Higgins, chairman of the County Board of Canvassers. *“It's also possible that the machines simply read some ballots wrong.”*¹²

Unfortunately, a hand recount is not a guaranteed option for candidates or ballot question advocates. Michigan's County Boards of Canvassers are not required by law to conduct manual recounts.¹³ When a County Board of Canvassers receives a recount petition, the ballots may simply be run through the same machine that originally tabulated them. Sometimes different results are produced each time they are processed.

Tabulators used in Michigan are not designed for recounts. Even the recently introduced high-speed central count tabulators (which to our knowledge Michigan has not used) require additional hand work after separating ballots into 3 categories: (1) counted, (2) requires further review, and (3) write-ins). Doing a recount by running all the ballots through the same aging tabulators again puts the machines through a rugged workout for which they are unsuited.

¹¹<http://www.legislature.mi.gov/%28S%282kacrw3t5yvxa2pt221bun3%29%29/mileg.aspx?page=getObject&objectName=mcl-168-796a>

¹² “Election turns around when inspectors 'see the light,’” Muskegon Chronicle, September 04, 2004. See also: ES&S in the News, *ibid*.

¹³ Promulgated rules do mandate hand recounts by the State Board of Canvassers, who conduct recounts for state-level offices, including nonpartisan judicial races.



Voter mistrust of the electoral system

While voter registration has grown by 26% since 1974 (largely due to changes in federal and state law) voter turnout declined by 6% in the same period. One in three non-voters are under age 30¹⁴. A study of non-voters in 2012 revealed that 43% of non-voters are pessimistic or “tuned out.” They had lost faith in government or believed their votes did not count.¹⁵

In national surveys, fewer than 70% of respondents expressed confidence that their own vote was counted accurately. Confidence that the votes of others across the country were counted accurately was below 35%. Even when their candidate wins, large numbers of Americans do not think the election system is producing accurate results.¹⁶

Human Costs

Precinct worker frustration

Adding to the burden on the dwindling supply of poll workers is the frustration of dealing with tabulator breakdowns and constantly changing protocols. In 2012, there were at least 783 documented service requests for tabulators and numerous communications from the Secretary of State regarding election procedure changes in the “News You Can Use” notifications – including last minute instructions on the afternoon of the election!

MERA election monitors in Allegan County during the November 2012 election reported several minor tabulator jams. The most dramatic failure happened in the Absentee Ballot Counting Board in Gun Plain Township where a brand-new tabulator failed completely. When the tabulator could not be resuscitated, the poll workers had to wait until late in the evening when a tabulator used in another Gun Plain precinct was finished and tabulation of the 738 absentee ballots could be restarted.

Since the Help America Vote Act (HAVA) of 2002, which mandated numerous changes in state election law, there have been annual (sometime twice yearly) updates and adjustments to procedures at the precinct level. Starting in 2010, even more changes were initiated, due to state legislative activity. These continual changes have created a climate of frustration among poll workers, who are being retrained for nearly every election.

¹⁴ The Pew Charitable Trusts; Pettigrew, Stephen; Stewart, Charles, 2013, "Cleaned 2012 Election Administration and Voting Survey Data", <http://hdl.handle.net/1902.1/21794> UNF:5:YSHJUa+bD5d75pv06ictw== Harvard

¹⁵ www.nonvotersinamerica.com, Professor Ellen Shearer, Northwestern University

¹⁶ “Election Administration by the Numbers,” Pew Center on the States, February 9, 2012, <http://www.pewstates.org/research/reports/election-administration-by-the-numbers-85899377331>



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Election worker blues

An examination of election preparedness by Common Cause rated the recruitment of Michigan's poll workers as "unsatisfactory." "State law requires a minimum of three poll workers per precinct.... Counties are responsible for poll worker recruitment, and, to our knowledge, there are no statewide recruitment efforts."¹⁷

Working for little more than minimum wage while performing a public service, precinct workers are often called upon to work 15-20 hours on election day, beginning at 6 a.m. setup, to well past the 8 p.m. closing of the polls, usually to 10 or 11 p.m. Any wrinkles in the procedure can cause further delays, with poll workers sometimes working even later. It is not uncommon in presidential elections for some to be employed into the wee hours of the morning.

While these extended hours are not technically a violation of federal or state labor laws regarding payment of time-and-a-half overtime wages, the ability to perform efficiently is certainly diminished after working twelve or fifteen hours. And the most difficult problem-solving demands often occur during the last of these hours.

While the demands of the poll worker's job can be high, the pay is generally very low. Pay rates are determined by each jurisdiction, but they are usually quite insufficient to attract and retain well-qualified workers. For example, election workers in Grand Rapids are paid according to the following schedule:

Training-\$7.50 per hour; Election Day Precinct Worker-\$125 per day;
Election Day Precinct Chairperson-\$150 per day

Electronic poll books (EPBs) have been introduced to simplify poll work; however, their use produces additional problems. Electronic poll books preclude compliance with the master signature comparison required by Michigan law. The notebook computers write data onto unstable flash memory, are highly insecure, and they render important election records non-transparent. The 2012 voter hotline reports included numerous complaints about delays caused by failed EPBs. All of these features are cause for serious concern.

Anecdotal evidence from interviews with precinct workers reveals their satisfaction with the traditional methods used until 1998. The straightforward process of looking up a name in a precinct master card binder, to compare to the address, birth date, and signature on the voter's application, was recalled with pleasure by long-serving poll workers. Combined with the minimal training required at the time, it was regarded as a more competent, efficient and controlled electoral process with fewer headaches.

This year, a Mayoral Task Force in Grand Rapids reported, "There are some election workers and Precinct Chairpersons who are not capable of handling the pressures of a

¹⁷ (http://www.sourcewatch.org/index.php/Common_Cause)



major election. Those individuals should be identified and replaced.” Furthermore, “Data on precinct efficiency should be considered in determining whether a Precinct Chairperson should be allowed to work in future elections”.¹⁸ The Task Force also recommended improving recruiting efforts and increasing the number and pay of election workers.

A separate Grand Rapids task force led by two former U.S. Attorneys found that some polling places had too few election workers and that too many poll workers were inadequately trained for the job.¹⁹ Those were just two of the problems the task force identified as contributing to unacceptably long wait times to cast a ballot.

Long lines on election day

The Lawyers’ Committee for Civil Rights under Law reported that in Michigan on election day, November 6, 2012, “long lines were the problem of the day. In Wayne and Oakland Counties voters experienced widespread machine breakdowns and malfunctions, long lines, and poor polling place management. Many Detroit precincts had wait times that lasted several hours.”²⁰



Lansing 2012, photo credit Osteng, MLive

For many years, voters in some Michigan precincts have had to wait for hours to vote. One study showed an average wait time in Michigan was 18 minutes (2008 & 2012).²¹ The Pew 2012 Election Snapshot for Michigan²² put the average wait time at 22 minutes. This ranks Michigan as the state with the fifth longest wait time, five minutes longer than the national average of thirteen minutes. However, average wait times can be

¹⁸ Report and Recommendations on Improving Elections in the City of Grand Rapids, 2013 Mayoral Task Force on Elections, <http://grcity.us/Documents/Election%20Report%20-%20FINAL%20DRAFT%209-20-13.pdf>

¹⁹ “Task force: 6 ways to fix long voting lines,” Grand Rapids Press, 10-13-13, by Matt Vande Bunte

²⁰ OUR BROKEN VOTING SYSTEM AND HOW TO REPAIR IT, www.866ourvote.org/newsroom/publications/the-2012-election-protection-report

²¹ Survey of the Performance of American Elections (SPA), supplemented by responses to the Cooperative Congressional Election Study (CCES), <https://sites.google.com/site/electoralintegrityproject4/announcements/newdata2012pewsurveyoftheperformanceofamericanelections>

²² <http://www.pewstates.org/research/analysis/2012-election-snapshotmichigan-85899501208>



misleading. While several factors affect this figure, the failure of a single tabulator can effectively shut down a precinct for hours. Research further shows that when voters have to wait over an hour, the wait is usually two or more hours.

According to Professor Charles Stewart III,²³ lines that are sufficiently long, impose a burden on voters (a “*time tax*”) and can point to problems with the voting process: “... *long waits can be an indicator of problems with the mechanisms of voting. If an in-precinct scanner is jammed, a queue may form waiting for the jam to be cleared. With a line forming in the (often-crowded) precinct around the scanner, the polling place manager may put a hold on new voters checking in to vote, for fear of chaos breaking out in the secure area of the polling place.*” While nationwide average wait times dropped between 2008 and 2012 -- from 17 minutes to 13 minutes -- respondents who said they waited for over an hour to vote experienced average wait-times of 110 minutes in 2012. Dr. Stewart explains that “*These problems not only lead to lost votes, but they also result in a decline in confidence among voters that their votes will be counted as cast.*”

Monetary Costs

History of optical scan tabulators currently in use

Michigan’s optical scan tabulators were purchased from Help America Vote Act (HAVA) funds between 4-30-2003 and 9-30-2006 (ranging from \$4,500 to \$6,000 for each tabulator). A total of 7,353 tabulators were purchased in this period for a basic cost of over \$43 million. Other HAVA funds were spent on federally required machine upgrades, programming, training election officials, voter education, service contracts, and other Title III requirements such as updating the Qualified Voter File (QVF). As of 2-22-2007, Michigan’s EAC report showed there was a remaining balance of some \$8 million.

MERA’s request to the Bureau of Elections for a more current balance returned no firm data. A December 16, 2013, email from the Bureau indicated that Michigan had received additional HAVA funds, for a new total of \$96M, and that their estimate six months ago, of remaining funds, was \$20M-30M. According to the Bureau, not all of that money would be available for future purchases. “*We...still have some ongoing obligations that will tap into the funds (for example, we are using HAVA to pay extended service & warranty costs for the current equipment).*”

The machines that were acquired had 1970s-era designs. They were never engineered for the purpose of scanning heavy card stock in large quantities over many hours at one time. Nor did the design incorporate security precautions that would protect the firmware or memory from unauthorized access. The Michigan Office of Management

²³ “Waiting to Vote 2012“, Charles Stewart, III. Professor of Political Science, Massachusetts Institute of Technology, April 1, 2013, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2243630



and Budget, the purchasing agent for all of the state's tabulators, included no security specifications in the 2003 bid request or the master purchasing contracts.

The enabling law for acquiring the tabulators, MCL 168.795, listed requirements for "an electronic voting system," that was to be "suitably designed for the purpose used; durably constructed . . . for safety, accuracy, and efficiency." Section I adds that the machines should "Record correctly and count accurately each vote properly cast." However, no specific error rate is guaranteed in any of the 2004 tabulator contracts between the vendors and the state of Michigan. Oddly enough, Section J also states that the machines "Require an audit trail". None of the machines purchased in 2003-4 provides such a trail.

The State's bidding procedure in 2003 was delayed and poorly managed, with the result that two vendors (ES&S and Diebold) got over 75% of the tabulator purchases by Counties. A third vendor, Miller Elections, was finally qualified late in the process. They had been forced to respond to capricious criticism of their central count software, an issue having nothing to do with the Sequoia (now Dominion) tabulators they were selling. The company's owner stated to MERA that he could not get anyone to explain why his company was singled out for delay. His own hypothesis: "I'm a lifelong Republican. I guess I did not donate enough money to the Republican campaigns."

Cost estimate for new tabulators

Based on tabulator and maintenance contract pricing obtained informally from the two current vendors, MERA estimates that Michigan would have to spend at least \$65 million to replace old equipment with new machines and extended warranties. However, there is no new federal money in sight to subsidize purchasing new tabulators. Local governments, some of which are verging on bankruptcy, do not have replacement funds to solve this problem. There is also the issue of ongoing support and overhead costs. The Bureau of Elections, in the December 16 email, appears to concur:

"We also don't yet have clear direction on the type of voting system that will be pursued, and no clear estimate on what the future system's cost will be at a statewide level. . . . In the end, it is our belief that the remaining HAVA funds will be able to cover a portion of the costs for the next system, but it is likely that additional funding will be required - either through a State appropriation or through funding from the counties and local jurisdictions. We will also be working to outline the final cost coverage strategy over the next few months."

In 2012 the Bureau negotiated eight-year extended warranty/maintenance contracts for the estimated 8,000 tabulators currently deployed. Counties selected the appropriate contracts for two year terms and remitted payment annually. The cost (\$59 to \$85 per machine per year) is split between the state and Michigan's 83 counties. Software support is the sole responsibility of the counties. Annual license fees range from a flat \$2950 to \$6284 per election management system or, optionally, \$175 to \$225 per support hour. If a county has both ES&S and Dominion machines, both vendor's fees would apply.



Clearly, replacing tabulators will be an expensive option for Michigan even if vote-counting technologies become available that can meet the high standards required to protect democratic elections from error and election rigging.

Moreover, current tabulators are not equipped to handle alternative voting systems. For example, instant runoff voting (IRV) was approved by the voters of Ferndale, Michigan in 2004 by a 70% majority. IRV allows voters to indicate their second and third choices in a race in case their most favored candidate does not receive a majority on the first tally. With IRV, if no candidate obtains a majority of voters' first choices, an "instant runoff" is tallied from first and second choices, and so on, until one candidate receives a majority. Not surprisingly, nine years after Ferndale "adopted" IRV, the system has yet to be implemented.²⁴ The software and small memory of the current tabulators simply can't handle the more complex, multistage tally required by IRV.

Another popular system favored by election reform advocates is "approval voting," which allows voters to select as many candidates as they feel are qualified for the office. The candidate receiving the most votes wins. Current software can't handle approval voting either.

Ironically, either of these systems could have been implemented simply by allowing for hand counting of ballots in municipalities so inclined.

What should we do?

According to the December 16 email from the Bureau of Elections, there is no public process currently underway to assess statewide needs for election integrity and improvements to the vote counting process. *"We are working now to outline the possible requirements for a new system, which will lead us to clearer direction; but that effort will take a few months."*

MERA has learned that private meetings on replacing election equipment have been taking place among the Bureau of Elections staff and a small group of hand-picked Clerks. These meetings have included visits to "warehouses" where participants are given sales demonstrations. Such meetings do not pass the smell test for an equal opportunity procurement procedure, and can hardly be considered a public and transparent decision making process.

Secrecy in purchasing is particularly dangerous since the two remaining vendors in Michigan, Dominion and ES&S (Electron Systems and Software) have combined into one foreign-based company. Dominion now also owns a perpetual license for AutoMark, the ballot marking machines designed for voters with disabilities. In 2010, Dominion acquired Premier Election Solutions (formerly Diebold Election Systems) and Sequoia Voting

²⁴ Daily Tribune (9-30-13) <http://www.dailytribune.com/government-and-politics/20130930/irv-whats-missing-from-ferndales-election>



Systems, effectively becoming a monopoly.²⁵ Its proprietary election software counts votes in secrecy, exempt by election law from disclosure.

Michigan should employ an open, public process to consider new vote counting approaches, and should include individuals and organizations having knowledge and experience in the voting process along with device expertise. One recent model is Colorado's ongoing study headed by a specially appointed state commission. That body has appointed a Public Participation Panel to hold statewide hearings. There is also an advisory committee of experts and election officials, who are developing a list of evaluation criteria. Their work can be seen at:

<http://www.sos.state.co.us/pubs/elections/VotingSystems/UniformVotingSystem.html>

Without an open and public process, voters cannot benefit from increased understanding of alternatives and costs. Voter mistrust of the electoral system has prompted citizens across the nation to take things into their own hands. The Humboldt County Election Transparency Project (ETP) exemplifies the trend. In the 2008 Presidential election, election workers discovered that the Diebold/Premier software used to tally the vote deleted the results from 197 scanned ballots. The deletions were traced to a programming flaw known to Diebold for years but still not corrected in most machines. Working with the County Clerk, volunteers figured out a way to do a "citizens' audit" to verify results.

ETP enlisted the help of programmer Mitch Trachtenberg, who developed a system using off-the-shelf hardware to replicate the tabulator counting process in a manner open to public scrutiny. Ballots are scanned and counted with open source software that captures images of each ballot for review and produces a secure audit trail.²⁶

Accuracy testing should allow for confirmation with open source programs such as the Trachtenberg Election Verification System (TEVS) used by the Humboldt County ETP. Tabulator systems currently are without this important redundancy, a concept familiar to any engineer working on mission-critical projects. That is why airplanes have several engines—if one fails, the other engines keep the plane flying. Airplanes have duplicate systems for every critical component. Nothing is more critical to the electoral system than being able to know that the machines are counting votes accurately. For this verification, redundancy is essential.

It should be noted that as recently as 2004, there were 98 precincts in Michigan still hand counting paper ballots.²⁷ Every precinct in Michigan must, by law, hand count write-in votes. Even if there are no valid write-in candidates filed by the deadline, ballots with write-in marks must be individually examined by election workers.

²⁵ http://en.wikipedia.org/wiki/Dominion_Voting_Systems and

<http://investing.businessweek.com/research/stocks/private/snapshot.asp?privcapId=46054856>

²⁶See "The Transparency Project in 18 Minutes" <http://democracymatters.blogspot.com/>

²⁷Summary of State HAVA Plans, Dan Tokaji, Assistant Professor of Law & Matt Bailey, Student, Moritz College of Law.



A Program for Hand Counting Votes

Computer-based vote tabulation systems cannot be made transparent unless fully audited by a parallel open-source system, of which some prototypes are currently in development. The most fully transparent process occurs when votes are counted by hand where everything can be observed by the public. The feasibility of hand counting votes on election night must be considered.

Most of Europe, Canada, and some U.S. states (e.g. New Hampshire) now hand count votes. Some California cities are considering hand count systems rather than replacing expensive equipment. Germany's high court has banned all use of computerized vote counting. They use proven, efficient and transparent, manual procedures conducted in full public view.

MERA volunteers have participated in hand count training and pilot studies of hand counting methods. We have estimated that a general election precinct will count a maximum of about 1,200 ballots, given the 2,999 legal limit of registered voters per precinct, the observed 25% who are "inactive" due to having moved or died, and a realistic turnout estimate of 55%. A trained count team of four persons, working in pairs, can count all the races and ballot question on these ballots in 2-3 hours. Some count teams could be smaller due to the precinct being undersized. In state primary and city elections, count teams would also be smaller due to the much lower turnout and consequent reduction of the number of ballots to count.

We project that the cost of training and deploying independent count teams of 4 persons to 5,000 precincts, would be based on payment of \$25 per counter, or \$100 per precinct, for a maximum of \$500,000 per statewide Michigan election. If the pay were raised to \$50 per counter, the maximum investment would be \$1 million per election. At the lower rate Michigan could pay for at least 130 hand-counted elections, or more than 30 years' worth of elections (4 elections per year), for the \$65M we estimate it would cost to buy new tabulators. At the higher rate, Michigan could pay for 15 years' worth of hand-counted elections, which would still pay for election tabulation well beyond the 10 year life of new tabulators.

No voting system is fully transparent except hand counting in full public view. The United Nations considers public hand-counting the "Gold Standard" of democracy. Further information on hand-counting can be found at the web site of the National Election Integrity Coalition.
(http://www.electionintegritycoalition.org/hand_counted_paper_ballots)



Cost Comparison of New Tabulators vs. Hand Counts

	TABULATORS	HAND COUNTS	Best system
Political Costs	Negative	Positive	Hand Counts
Human Costs	Extensive	Manageable	Hand Counts
Monetary Costs	\$65 Million for 10 years	\$0.5 Million per election/ \$20 Million for 10 years	Hand Counts
Service Life (per warrantee/cost)	8 years	Unlimited	Hand Counts
Transparency	0%	100%	Hand Counts
Verifiability	Only by hand audit	Intrinsic	Hand Counts
Vulnerability	Insecure	Secure	Hand Counts
Adaptability	Poor	Excellent	Hand Counts
Track record of accuracy	Poor	Excellent	Hand Counts
Economic impact	90% of expenditures go to firms outside Michigan	100% of expenditures go to employ 20,000 Michigan citizens	Hand Counts

CONCLUSIONS AND RECOMMENDATIONS

Legislation Needed

Current election law is woefully inadequate in addressing the shortcomings of the existing electoral process that uses commercially designed tabulators controlled by secret, proprietary software. Oversight and strict procedures for chain of custody to secure the ballots is lacking. The checks and balances in current election procedures are often neglected. Better enforcement of existing election administration standards would be a good start.

The optical scan vote counting systems now used in Michigan have known error rates and security vulnerabilities that warrant a serious effort to check the accuracy of the vote count. It is particularly important to compare the reported, election night results with a manual, hand-to-eye count of paper ballots, because this is the only way to make an audit independent of the software used by the tabulators. Post-election audits that conduct hand counts can detect errors that pre-election testing cannot.

Currently the State of Michigan is quietly ignoring both the design flaws and the performance failures of the systems in use. Among the measures needed to address these shortcomings are risk limiting, post-election audits of the vote count. They can be performed according to the principles developed by ElectionAudits.Org.

<http://electionaudits.org/auditprinciples> .



The legislation proposed by MERA would institute post-election audits by trained teams that use hand counts both on election night and more systematically thereafter. On election night, a simple check of one contest can detect significant errors in the performance of the optical scanner used in the precinct. A systematic, statistically based audit (or risk limiting audit) that begins soon after election night can determine if the outcome of an election contest is incorrect and should not be accepted. These audits can assure voters that contests are decided correctly, find counting errors and correct them, deter fraud, provide for continuous improvement in the conduct of elections, and generally promote public confidence in elections.

MERA's proposed bill requires audits that hand count voted paper ballots to identify and correct counting errors, identify appropriate steps to avoid future recurrence of those errors, and achieve specified levels of statistical confidence that the outcomes of election contests are accurate. For example, a statistical confidence of 99% probability means that 99 times out of 100 when a contest has an incorrect outcome the audit will detect the error.

Issues addressed in the proposed legislation include:

- Vote counting and tabulation
- Chain of custody of election materials
- Audit authority, administration, standards and procedures
- Challenger election auditors
- Vote count audits on and after election night
- Reporting of election night results
- Audit transparency
- Reporting audit results to the public
- Escalation criteria for wider audits and recounts
- Assignment of audit costs
- Standard of acceptable performance by an electronic voting system
- Vendor penalties for electronic voting systems failure
- Incorporation of audit results into certified results
- No abridgment of right of recount

The legislation MERA has proposed to establish such audits can be found at: http://michiganelectionreformalliance.org/MI_Post-Election_Audit_Bill_081508.pdf

Appoint a Blue Ribbon Commission

A fundamental obstacle to the ability to acquire a quality electoral system is the absence of a clear consensus on what the priorities for our election system are. Components of any new voting system should meet specifications intentionally set forth by a public process.



MERA recommends the appointment of a nonpartisan Blue Ribbon Commission to develop a comprehensive plan to retire the present tabulators. Legislation should be introduced to establish the Commission and provide opportunities for extensive public comment. The process must first openly decide upon goals and quantifiable metrics for success.

One measure of the quality of Michigan's election administration is Pew's Elections Performance Index Initiative, which rates Michigan sixth overall of the fifty states based on seventeen factors. While rated highly for voter registration rates (90.4%), Michigan scored poorly on the number of military and overseas ballots rejected (9.1%) or not returned (27.3%). The index lists Michigan as one of only 21 states that do not require post-election audits.

Although rated well for voting technology accuracy, the methodology is based on residual counts (defined as the sum of over and under-votes, divided by the total number of voters who turned out) rather than the accuracy of tabulating ballot mark results. Michigan also rated poorly on disability-related voting problems (15.8%) and wait times (one of only 12 states averaging over 20 minutes), both likely exacerbated by poorly functioning tabulators.²⁸

Requirements for New Tabulators

The Commission's plan should require that any replacement tabulators to be considered must perform at levels of accuracy that ensure that tabulated election outcomes match hand counts of voted ballots. Accuracy testing should allow for confirmation with open source programs such as the TEV system used in the Humboldt County Election Transparency Project.

Security vulnerabilities should be eliminated by design wherever feasible. The complete vote counting system must be guaranteed by the manufacturer to perform up to explicit, high standards and be certified by an independent panel of nonpartisan experts before purchase. Performance-based maintenance contracts which require the vendor to deliver high performance results must be included in the purchase agreement, with penalties to the vendor for nonperformance during any election. These requirements are unlikely to be met by current vendors of vote tabulation systems, so issuing an RFP (request for proposal) may be necessary to stimulate market development of better voting technologies by nonpartisan companies.

Current standards of testing must be updated. Currently a "preliminary accuracy test" only measures whether the tabulator count matches to a spreadsheet of predetermined counts for a test deck of "voted" ballots. Typically this test is only performed once per machine. A higher standard of testing must include a measure of the

²⁸ <http://www.pewstates.org/research/data-visualizations/measuring-state-elections-performance-85899446194>



“error rate” over several runs of multiple test decks. The error rate must be smaller than the smallest margin of victory that determines the outcome of an election, or else a mandatory hand recount must be conducted. For instance, if a candidate wins by a margin of 5 votes out of a 1000 and the tabulation error rate is 0.5%, then the tabulator count cannot be trusted in determining the outcome of the election.

Replacing tabulators will be an expensive option for Michigan even if vote-counting technologies become available that can meet the high standards required to protect election results from error and clandestine manipulation.

Moreover, the purchase of new tabulators would provide only a short term solution. In MERA’s research on previous tabulator warrantees, we identified one vendor (Dominion) that gave a written warrantee for eight years. ES&S (which now owns Diebold/Premier) warranted only for two even-year elections, essentially a two-year warrantee. Maintenance contracts did not change the basic warrantee. Although extended service agreements have been secured for most tabulators in service now, *all original warrantees on Michigan’s tabulators expired by the end of 2012.*

Michigan should begin the transition soon, with a well-developed plan to begin retiring aging tabulators. Otherwise, the increasing frequency of tabulator breakdowns will create a very predictable crisis in future election years.



Appendices

Ballot count audit, November 6, 2012

A Township in Washtenaw County, Michigan											
In Person Ballots			Absentee Ballots		Combined In Person and Absentee Ballots						
	Poll	Audited		Audited		Poll	Tabulator	Audited	Discrepancy between		
Precinct	Book	QVF	Precinct	QVF	Precinct	Book	Tape	QVF	Audit Count and Tabulator Count		
1	846	860	1	344	1		1200	1204	4	0.33%	
2	653	658	2	272	2		922	930	8	0.86%	
3	955	959	3	450	3		1403	1409	6	0.43%	
Total	2454	2477	Total	1066	Total	0	3525	3543	18	0.51%	

The "Audited QVF" number is determined by a set of steps. The basic record of who voted is the original "Application to Vote" which was signed before and witnessed by a sworn Election Inspector on Election Day. These Applications to Vote were alphabetized and then compared to the precinct list (the list of eligible voters printed from the Qualified Voter File maintained by the local clerk, using software required by the Michigan Secretary of State).

On Election Day the Election Inspectors use a yellow highlighter to mark each voter on the precinct list. Following the election, highlighted voters are entered in the QVF history. For this project, voter histories were corrected based on verification by the Applications to Vote.

This audit is limited to information contained on the applications to vote, the tabulator tapes and the Qualified Voter File. These numbers show that more than a half percent of the ballots cast were not counted by the Tabulator. Based on the tabulator's inability to count the physical ballots, by logic, the inaccuracy of the vote count has to be more than half a percent because the tabulator did not count a half percent of the ballots.

Nonvoter Analysis

Looking at political knowledge, engagement, and beliefs, as well as reasons for not showing up to the polls on Election Day, six nonvoter typologies or clusters emerge:

1. "Pessimists," representing 27% of nonvoters
2. "Too Busys," representing 20% of nonvoters
3. "Strugglers," representing 19% of nonvoters
4. "Tuned Outs," representing 16% of nonvoters
5. "Active Faithfuls," representing 11% of nonvoters
6. "Doers," representing 8% of nonvoters

(Ipsos poll of voters and nonvoters, conducted on behalf of Professor Ellen Shearer of the Medill School of Journalism)



Michigan Primary Voter Registration/Turnout Statistics (Michigan Secretary of State on line data)

Year	Number Voting	Number Registered	Voting Age Population (VAP)	Turnout (% of VAP)
PRESIDENTIAL ELECTION YEARS				
1980	1,175,292	5,429,071	6,510,000	18.1
1984	1,140,634	5,668,050	6,551,000	17.4
1988	1,118,006	5,768,080	6,774,000	16.5
1992	1,461,562	5,956,403	6,947,000	21.0
1996	1,310,293	6,502,772	7,177,000	18.3
2000	1,226,096	6,743,128	7,358,000	16.7
2004	1,384,243	6,916,340	7,541,000	18.4
2008	1,434,734	7,243,261	7,613,000	18.8
GUBERNATORIAL ELECTION YEARS				
1978	1,239,464	5,097,852	6,405,000	19.4
1982	1,601,890	5,506,794	6,554,000	24.4
1986	1,168,617	5,675,196	6,675,000	17.5
1990	1,032,939	5,817,360	6,851,000	15.1
1994	1,420,135	6,068,536	6,983,000	20.3
1998	1,375,593	6,889,429	7,227,000	19.0
2002	1,722,869	6,807,837	7,400,000	23.3
2006	1,282,203	7,113,246	7,597,000	16.9
2010	1,668,805	7,244,356	7,620,000	21.9



**Michigan General Election Voter Registration/Turnout Statistics
(Michigan Secretary of State on line data)**

Year	Number Voting^[1]	Number Registered^[2]	Voting Age Population (VAP)	Turnout (% of VAP)
PRESIDENTIAL ELECTION YEARS				
1948	2,109,609	Not Available	4,041,000	52.2
1952	2,798,592	Not Available	4,193,000	66.7
1956	3,080,468	3,128,573	4,538,000	67.9
1960	3,318,097	3,454,804	4,564,000	72.7
1964	3,203,102	3,351,730	4,658,000	68.8
1968	3,306,250	4,022,378	4,953,000	66.8
1972	3,490,325	4,762,764 ^[3]	5,874,000 ^[4]	59.4
1976	3,722,384	5,202,379 ^[5]	6,268,000	59.4
1980	3,978,647	5,725,713	6,510,000	61.1
1984	3,884,854	5,888,808	6,551,000	59.3
1988	3,745,751	5,952,513	6,774,000	55.3
1992	4,341,909	6,147,083	6,947,000	62.5
1996	3,912,261	6,677,079 ^[6]	7,177,000	54.5
2000	4,279,299	6,859,332	7,358,000	58.2
2004	4,875,692	7,164,047	7,541,000	64.7
2008	5,039,080	7,470,764	7,613,000	66.2
2012	4,780,701	7,454,553	7,616,490	63



Allegan County 2008 General Election Count Summary

The error rate for a race is here calculated as the sum of the absolute values of differences in the two tallies divided by the official number of total votes cast in the race. The average of the four state board races has been added in the right column for each precinct. The average of those averages is at the bottom of the chart.

Allegan County 2008 General Election Count Summary and Error Rates:
www.michiganelectionreformalliance.org/AlleganAudit08Sum.xls

Suggestions for Reducing Lines on Election Day

In a report titled “**Waiting to Vote 2012**” (Draft of April 1, 2013) by Charles Stewart III, a professor of political science at the Massachusetts Institute of Technology, the following suggestions are made for reducing lines on election day:

1. The number of in-person voters is reduced, through absentee voting. (As a corollary, Election Day lines should be reduced as early voting options are expanded.)
2. The number of poll books is increased.
3. The number of voters per polling place is decreased.
4. The number of physical polling sites is increased.
5. The number of poll workers is increased.
6. The number of voting machines is increased. [Where the voting machines record votes directly such as digital voting machines (DVMs) using touch-screens.]
7. The length of ballots is decreased.
8. The amount of information provided to voters ahead of the election is increased (so as to reduce the amount of time spent reading the ballot in the voting booth).



Frequency distribution of wait times to vote, 2008 and 2012 (national average)

	2008	2012
Not at all	36.8%	37.3%
Less than 10 minutes	27.6%	31.8%
10 - 30 minutes	19.0%	18.4%
31 minutes – 1 hour	10.3%	8.6%
More than 1 hour	6.3%	3.9%
Average	16.7	13.3
Standard deviation	31.4	27.3
Standard error	0.2	0.2
N	18,836	30,124

Source: CCES, 2008 and 2012.

The vote-counting process represents a critical part of electoral operations where extensive efforts are necessary to ensure accuracy and minimize opportunities for fraud. The electoral management body should work to keep the general public updated and informed to help enhance the integrity of the electoral process and guarantee the free expression of the will of the voters.¹³² Carter Center, Final Report on Tunisia Election.

The security of ballot boxes must be guaranteed and votes should be counted in the presence of the candidates or their agents. There should be independent scrutiny of the voting and counting process and access to judicial review or other equivalent process so that electors have confidence in the security of the ballot and the counting of the votes. Assistance provided to the disabled, blind or illiterate should be independent. Electors should be fully informed of these guarantees. International Standards for Elections, 2nd Edition.

States using paper ballots in 2002:

- Alaska 163 precincts
- Arkansas - 8 precincts
- Idaho - 16 counties
- Iowa - 1 County
- Kansas - 21 Counties
- Maine - 394 Municipalities
- Massachusetts - 90 precincts
- Michigan - 98 precincts
- Minnesota - 7 counties
- Missouri - 9 counties
- Montana - 5 counties
- Nebraska - many (no breakdown)
- New Hampshire - 147 precincts
- North Dakota - 8 counties



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Pennsylvania - 5 counties
South Dakota - many (no breakdown)
Texas - 90 counties
Utah - 4 counties
Vermont - 184 municipalities
Virginia - 28 precincts
West Virginia - 10 counties
Wisconsin - 10% of voters
Puerto Rico - all

TOTALS:

534 Precincts
176 Counties
578 Municipalities

From: "Williams, Sally (MDOS)" <WilliamsS1@michigan.gov>

Date: December 16, 2013 at 5:23:27 PM EST

To: Nancy Bedell

Subject: RE: Up-to-date Michigan HAVA funds status

Nancy,

I am sorry but I have not been able to obtain a new estimate. Part of the issue is that the amount of HAVA funds possibly available for the replacement of voting systems touches multiple sections of HAVA; it is also a constantly moving target in that we continually earn interest, but are also spending some portion of the funds on various efforts related to our HAVA State Plan. Given the work it takes to come up with a definitive estimate, our plan is to assemble that information once we are closer to the point of pursuing a purchase.

What I can tell you is that we last looked at this about six months ago. At that time, we estimated that between \$20 and \$30 million may be available for the purchase of the next voting system. We are attempting to save as much of our remaining HAVA funds as possible for this purpose, but still have some ongoing obligations that will tap into the funds (for example, we are using HAVA to pay extended service & warranty costs for the current equipment). We also don't yet have clear direction on the type of voting system that will be pursued, and no clear estimate on what the future system's cost will be at a statewide level. We are working now to outline the possible requirements for a new system, which will lead us to clearer direction; but that effort will take a few months. In the end, it is our belief that the remaining HAVA funds will be able to cover a portion of the costs for the next system, but it is likely that additional funding will be required - either through a State appropriation or through funding from the counties and local jurisdictions. We will also be working to outline the final cost coverage strategy over the next few months.

Again, sorry we don't have an exact answer at this time. I hope this information helps you in finalizing your report.

Sincerely,

Sally Williams,

Director Election Liaison Division

Michigan Bureau of Elections [517-241-2747](tel:517-241-2747)



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Excerpts from the U.S. Election Assistance Commission (EAC) final report issued September 2010:

REPORT OVERVIEW

Since the passage of the Help America Vote Act in 2002 (HAVA), Congress has appropriated almost \$3.3 billion to support States in improving the administration of Federal elections, primarily by upgrading systems for casting votes and for registering voters in statewide voter registration systems. States have also used HAVA funds to: (1) implement provisional voting; (2) facilitate the training and education of election officials, poll workers, and voters; (3) improve polling place accessibility; (4) provide voter information at the polling places; (5) provide language assistance; (6) use toll-free telephone lines; and (7) establish identification requirements for first-time voters who register to vote by mail. This report presents financial and programmatic information on the six grant programs currently administered by the U.S. Election Assistance Commission (EAC):

- Section 101 Payments to States for Activities to Improve Administration of Elections
- Section 102 Payments to States for Election Administration Improvements and Replacement of Punch Card and Lever Voting Machines
- Section 251 Requirements Payments
- Election Data Collection Grants
- College Poll Worker Grants
- Mock Election Grants

Section 101, 102, and 251 funds are non-discretionary and awarded to States based on a predetermined formula. The three discretionary grant programs - Election Data Collection, College Poll Workers, and Mock Elections are awarded through a competitive process.

**Total Section 101/102/251 Funds
as of Sept 30, 2010**

	Received	Interest Earned	Total available	Total expenditures	Balance of Funds and interest	Percent of Funds and Interest Expended
Michigan	94,699,081	8,619,678	103,318,759	72,702,015	30,616,744	70.37%



FINANCIAL STATUS REPORT
(Long Form)

(Follow instructions on the back)

1. Federal Agency and Organizational Element to Which Report is Submitted U.S. Election Assistance Commission		2. Federal Grant or Other Identifying Number Assigned By Federal Agency Title II, 251		CMB Approval No. 0348-0039	Page of 1 1 pages
3. Recipient Organization (Name and complete address, including ZIP code) State of Michigan, Michigan Department of State, Austin Building, 4th Floor, 430 West Allegan St., Lansing, MI 48918					
4. Employer identification Number [REDACTED]		5. Recipient Account Number or Identifying Number CFDA # 90.401		6. Final Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
7. Basis <input checked="" type="checkbox"/> Cash <input type="checkbox"/> Accrual					
8. Funding/Grant Period (See instructions) From: (Month, Day, Year) 8/19/2004		To: (Month, Day, Year) Until Spent		9. Period Covered by this Report From: (Month, Day, Year) 10/1/2005 To: (Month, Day, Year) 9/30/2006	
10. Transactions:					
		I Previously Reported		I This Period	
				II Cumulative	
a. Total outlays		12,246,037.57		28,088,558.12	
b. Refunds, rebates, etc.		0.00		0.00	
c. Program income used in accordance with the deduction alternative		0.00		0.00	
d. Net outlays (Line a, less the sum of lines b and c)		12,246,037.57		28,088,558.12	
e. Total recipient share of net outlays, consisting of:					
e. Third party (in-kind) contributions		0.00		0.00	
f. Other Federal awards authorized to be used to match this award		0.00		0.00	
g. Program income used in accordance with the matching or cost sharing alternative		0.00		0.00	
h. All other recipient outlays not shown on lines e, f or g		612,301.94		1,404,428.43	
i. Total recipient share of net outlays (Sum of lines e, f, g and h)		612,301.94		1,404,428.43	
j. Federal share of net outlays (line d less line i)		11,633,735.63		26,684,129.69	
k. Total unliquidated obligations				21,114,749.12	
l. Recipient's share of unliquidated obligations				1,055,737.35	
m. Federal share of unliquidated obligations				20,059,011.77	
n. Total Federal share (sum of lines j and m)				58,376,877.09	
o. Total Federal funds authorized for this funding period				82,699,800.90	
p. Unobligated balance of Federal funds (Line o minus line n)				24,322,923.81	
Program income, consisting of:					
q. Disbursed program income shown on lines c and/or g above				0.00	
r. Disbursed program income using the addition alternative				0.00	
s. Undisbursed program income				0.00	
t. Total program income realized (Sum of lines q, r and s)				0.00	
11. Indirect Expense					
a. Type of Rate (Place "X" in appropriate box)					
<input type="checkbox"/> Provisional <input checked="" type="checkbox"/> Predetermined <input type="checkbox"/> Final <input checked="" type="checkbox"/> Fixed					
b. Rate		c. Base		d. Total Amount	
17.02%		2852134.58		451,393.31	
				e. Federal Share	
				428,823.64	
12. Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation. Interest earned during this report period totaled \$2,713,256.22. Line o includes total interest income of \$3,739,326.90. MOE for the fiscal year ending September 30, 2006 was \$1,775,268.26. \$1,833,900 was appropriated for MOE in FY07.					
13. Certification: I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.					
Typed or Printed Name and Title JOSEPH P. PAVONA, CFO				Telephone (Area code, number and extension) (517) 241-4500	
Signature of Authorized Certifying Official 				Date Report Submitted March 28, 2007	

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259-104

Standard Form 289 (Rev. 7-97)

Prescribed by OMB Circulars A-102 and A-110

200-498 P.O. 139 (Face)

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