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## A Uniform Voting System for Michigan

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**Terri Lynn Land**  
**Secretary of State**

August 4, 2003



STATE OF MICHIGAN  
TERRI LYNN LAND, SECRETARY OF STATE  
DEPARTMENT OF STATE  
LANSING

August 4, 2003

Dear Michigan Citizens,

This report outlines my selection of a uniform voting system in Michigan pursuant to Public Act 91 of 2002. It also provides background on how the choice for the voting system was determined. After an extensive review of the current trends in voting equipment usage in Michigan; the relative advantages and disadvantages of optical scan and direct recording electronic voting equipment; and information on the performance of the voting systems currently used in Michigan in terms of voter "falloff," I have determined that an optical scan voting system that uses "precinct-based" tabulation technology best serves the needs of the state.

It is important to acknowledge the efforts of the Department of State's Bureau of Elections, the Secretary of State's Help America Vote Act Advisory Committee that also served as the Advisory Committee on the selection of the uniform voting system, and members of the public that provided testimony during the public hearings. Their input was central to this selection process.

I also must note that this is the beginning of a multiphase process. Every jurisdiction will eventually see new equipment, but my first priority is to replace the most archaic voting systems (punch cards, lever machines and paper ballots). For your review, I have included the minutes from the July 20, 2003 Advisory Committee meeting on the selection of the uniform system and other comments from committee members.

Implementing a uniform voting system will reduce election costs, reduce ballot-printing errors, simplify voter education programs and eliminate the need for Michigan residents who move to become acquainted with different voting systems. I am looking forward to putting these changes into place. Thank you for your interest in improving elections in Michigan.

Sincerely,

Terri Lynn Land  
Secretary of State

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### *The requirements of Public Act 91 of 2002 include:*

- The purchase of a uniform voting system upon federal funding becoming available and appropriated by the Michigan Legislature. (A uniform system refers to the type of system, as opposed to any particular brand name.)  
*Federal funding has been made available under the Help America Vote Act (HAVA); and Congress and the Michigan Legislature have made the required appropriations.*
- The appointment of a committee to advise the Secretary of State on the selection of a uniform system. *The Secretary of State's HAVA State Plan Advisory Committee meets that requirement. The HAVA State Plan Advisory Committee also served as the Advisory Committee on a uniform voting system.*
- Granting the Secretary of State the authority to direct local communities to stop purchasing voting systems pending the announcement of the selection of a uniform voting system and qualification of vendors to sell systems. *County, city and township clerks received notification to stop purchasing voting systems in a letter mailed July 24, 2003.*

### *Choosing a Uniform Voting System*

After considering the voting systems that are currently available, in conjunction with the various considerations outlined in this summary, I am selecting an optical scan voting system that uses "precinct-based" tabulation technology for use statewide in Michigan.

There are significant reasons why an optical scan voting system that employs precinct-based tabulation technology is the best choice for Michigan's uniform voting system:

- The majority of Michigan voters and Election Day workers are already familiar with optical scan voting. Two-thirds, or 3,476 of the state's 5,305 precincts, already use these systems. By choosing optical scan as the state election standard, there will be fewer Election Day workers and voters challenged with learning how to vote on a new voting system.
- Optical scan voting technology can be used to administer "on-site" voting at the polls *and* absentee voting. With the goal of increasing voter participation, I have publicly expressed my support for "no reason absentee voting." Voting needs to be easier for our citizens. Direct recording electronic (DRE) voting technology can only be used for on-site voting in the polls; it will not support "no reason absentee voting."

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- Optical scan voting systems use physical ballots that can be inspected to verify election results. Regardless of the questions or concerns that may arise over the programming of an optical scan voting system used to administer an election, the ballots are always available for inspection in instances where a recount is needed. As direct recording electronic (DRE) voting systems do not use physical ballots, questions raised over the programming of the equipment cannot be resolved as easily or as persuasively.
- As 65 percent of jurisdictions already use optical scan voting technology, it will be less costly to adopt a statewide, uniform optical scan system than a statewide, uniform DRE voting system. Not only are optical scan voting systems less expensive than DRE voting systems, but fewer are needed to achieve a statewide standard. Other savings will be gained through large-scale purchases of voting equipment, service contracts and ballots.
- Precinct-based tabulation technology is effective in protecting against ballot spoilage as it provides voters with an opportunity to correct their ballots. All voters will enjoy equal protection against ballot spoilage. As a result, “voter falloff” will be reduced throughout the state.
- The education of voters – and future voters – on how to cast a ballot will be simplified, as only one voting process will be involved. At the present time such programs are difficult to coordinate because of the multiple voting systems used in Michigan.
- The training of precinct inspectors (a county responsibility) will be greatly facilitated. As an added benefit, skilled and experienced precinct inspectors who move to different jurisdictions within the state will be still be able to assist in the elections process.
- The availability of uniformly compiled and presented precinct-level vote data immediately after the election will aid candidates and political parties in identifying the precincts where vote recounts are warranted.
- Election results can be compiled and released with greater speed and efficiency. Greater efficiency and accuracy will also be gained at the certification step as the Boards of County Canvassers will no longer have to review a variety of different Statement of Vote forms and Poll Book formats.
- Michigan’s city and township clerks will have an expanded opportunity to support one another through their association activities.

### *History of Voting Methods in Michigan*

- (1) **Advancements in voting technology lead to unprecedented diversification in Michigan's election processes and procedures:** Diversification in the processes and procedures used by Michigan's local units of government to administer elections markedly increased during the 1990s due to the steady introduction of new voting technologies. After punch card voting was introduced in the early 1970s, no new voting systems were marketed in the state until 1991 when the Board of State Canvassers approved the state's first optical scan voting apparatus. Since 1991, nine *additional* systems have been approved for use in the state.
- (2) **Diversification in Michigan's election processes and procedures leads to a "technology gap":** Despite the fact that many cities and townships in the state were quick to embrace the new voting equipment technology marketed in Michigan, a sizable number of jurisdictions continue to employ outdated equipment to administer elections.

As recently as the November 5, 2002 general election, lever style voting machines were used in 445 of Michigan's 5,305 precincts (8.4%); paper ballots were used in 98 precincts (1.8%); and "central count" punch card systems were used in 866 precincts (16%).

The resulting "technology gap" has created significant disparities in the ways local jurisdictions can protect voters from spoiling their ballots and losing votes.

The proliferation of different voting systems in the state has produced other concerns as well:

- **The more balloting methods in operation in a county, the greater the administrative burden and cost** at the county level as the county clerks are responsible for training the election workers appointed to serve throughout the county and the County Election Commissions are responsible for producing the ballots needed to conduct state and federal elections. In addition, the Boards of County Canvassers, responsible for certifying elections in the county, must review a variety of different Statement of Vote forms and Poll Book formats.

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- **The skills and experience of seasoned precinct inspectors are lost** when they move to another location within the state. Often, the voting equipment used to conduct elections in their former jurisdiction differs from the voting equipment used to conduct elections in their new jurisdiction of residence.
  - **Voters are placed at a disadvantage**, as there is an increased likelihood that an elector who moves will be confronted with an unfamiliar voting procedure the next time he/she attends the polls. At the same time, the coordination of **voter education programs becomes increasingly difficult** due to the multiplicity of voting systems in use.
  - **The ability of Michigan’s county, city and township clerks to share information and offer peer support is diminished.**
- (3) **Secretary of State’s Special Advisory Committee on Elections recommends uniform voting system:** In 1995, former Secretary of State Candice S. Miller appointed a special committee to study Michigan’s electoral process and offer reform recommendations. One of the committee’s principal recommendations was a call for state funding of a uniform voting system to reduce election costs, reduce ballot printing errors, facilitate voter instruction programs and eliminate the need for voters who move to become acquainted with different voting systems.
- (4) **2000 Presidential Election opens an era of “new expectations”:** As is now widely recognized, the November 7, 2000 presidential election marked a watershed event for election administrators throughout the country. Perhaps most significantly, the national news media’s detailed coverage of the Florida vote recount engendered new levels of public awareness over the *mechanics* of the elections process. This, in turn, has increased the public demand for improvements in the elections system and driven new and heightened performance expectations for those who administer the system.
- (5) **Former Secretary of State addresses State Legislature to recommend uniform voting in Michigan:** In reaction to the widespread call for election reform after the 2000 presidential election, former Secretary of State Miller addressed the state Legislature in May 2001 to urge the adoption of a statewide, uniform optical scan voting system which employs precinct-based tabulation technology.

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- (6) **Uniform voting required under PA 91 of 2002:** In response to the need to address the “technology gap” as well as the concerns noted above, the state Legislature adopted legislation in 2002 that mandates the implementation of a statewide, uniform voting system (PA 91 of 2002).

The legislation directs the Secretary of State to convene an advisory committee to seek input on a uniform voting system for the state when the funds are appropriated to acquire and implement the system.

The legislation further authorizes the Secretary of State to proceed with the implementation of a statewide, uniform voting system after her selection of a system that best suits the state’s long-term needs.

- (7) **Help America Vote Act of 2002 enacted:** The Help America Vote Act (HAVA) was signed into law by the president on October 29, 2002. To date, nearly \$1.5 billion has been appropriated by Congress to help state and local governments meet the requirements of HAVA. Michigan is eligible to receive approximately \$45 million this fiscal year – with an estimated \$33 million in additional grant funds coming over the next two fiscal years.

The Help America Vote Act funding has provided new and unprecedented opportunities for improvements in Michigan’s elections system.

To be eligible for the federal funding, states must file a plan outlining how they will meet the technology and election administration requirements provided under HAVA; budget and monitor the funds the state is eligible to receive; adopt voting system guidelines consistent with the new federal requirements; educate voters and poll workers; adopt performance measures; and meet other specified requirements and criteria.

HAVA stipulates that the State Plan must be developed with input from a special advisory committee appointed by the state’s chief election officer. After multiple public hearings, Michigan’s Preliminary State Plan was released for public comment on June 17, 2003.

- (8) **Voting equipment “vendor fair” conducted:** On April 17, 2003, under my direction, the Department of State hosted a voting equipment “vendor fair” in Lansing to afford the members of the State Plan Advisory Committee and other interested parties the opportunity to view the most recent voting equipment technology developed by manufacturers throughout the country.

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- (9) **PA 91 of 2002 Advisory Committee convened:** On June 20, 2003, I convened the State Plan Advisory Committee and obtained an agreement from its members to also serve as the special advisory committee that must be convened under PA 91 of 2002 to provide input on the selection of a statewide, uniform voting system. (See Appendix I for a summary of the testimony and comments offered at the advisory committee meeting.)



### *Current Voting Equipment Trends in Michigan*

There are five different ways to cast a ballot in the United States: (1) optical scan voting systems (2) direct recording electronic (DRE) voting systems (3) mechanical lever voting machines (4) punch card voting systems, and (5) paper ballots.

Michigan voters use all of the above methods. Within the optical scan, DRE and punch card balloting method categories, there are several varieties in use. The equipment involved is marketed and sold under different brand names by private-sector firms. (Mechanical lever voting machines were similarly produced and sold by a number of different manufacturers throughout the years.)

The following provides a listing of the electronic voting equipment currently employed to conduct elections in Michigan:

***Optical Scan Systems:*** Sequoia Voting Systems (Optech III-P Eagle; Optech IV-C); Diebold Elections Systems (Accu-Vote; Accu-Vote ES-2000); Election Systems & Software (M-100; AIS Optical Scan Voting System – Models 150, 550).

***Direct Recording Electronic Systems:*** MicroVote Corporation (MicroVote MV464); Unilect (Patriot).

***Punch Card Voting Systems using “Precinct-Based” Tabulation:*** Election Systems & Software (PBC-2100).

***Punch Card Voting Systems using “Central Count” Tabulation:*** Computer Election Systems (Models I, II, III, IIIP, IV); Thornber Election Systems (VOTPAC); Election Supplies Limited (Model I).

At the present time, Michigan’s cities and townships are migrating away from mechanical voting machines, paper ballots and punch card voting systems that use central count tabulation technology and are moving toward optical scan systems that employ precinct-based tabulation technology. Jurisdictions of all sizes are participating in this trend from Michigan’s largest cities (e.g., City of Detroit, Wayne County: 606,900 registered voters) to Michigan’s smallest townships (e.g., Warner Township, Antrim County: 225 registered voters).

Just since the 1998 election cycle, cities and townships containing *over 1.5 million Michigan voters* have replaced their voting machines, paper ballots and punch card voting systems with updated optical scan voting technology.

*Overview: Optical Scan Voting Systems*

**Usage in Michigan:** Optical scan voting systems are used in 3,476 of Michigan's 5,305 precincts (65.5%).

**Brand names of optical scan systems used in Michigan:** Optech; Accu-Vote; AIS; M-100.

**General description:** Voter indicates choices on a paper form by marking designated "target areas" with a pen or pencil. Depending on the manufacturer of the equipment, this either requires that the voter color in an oval or connect the head and tail of an arrow with a line. Ballots are issued with a "secrecy sleeve" to protect the secrecy of the ballot after the voter completes the voting process and leaves the voting station.

**How ballots are counted:** If the jurisdiction uses precinct-based tabulation technology, the voter removes the ballot from the secrecy sleeve and feeds it into a tabulator placed in the polls. "Read heads" engineered in the tabulator optically scan the votes cast on the ballot and electronically record them in a memory component housed in the tabulator. After passing over the read heads, the paper ballot is channeled into a storage bin where it remains until the polls close. The election workers responsible for managing the precinct then use the tabulator to generate a report that lists the voting results. The ballots are secured by the election workers and transported to the clerk's office for safekeeping.

If the jurisdiction employs central count tabulation technology, the voter deposits his or her ballot in a ballot container placed in the polls. After the polls close, the ballots are transported to a central "counting center" where they are fed into a tabulator and optically scanned as explained above. After the completion of the tabulation process, the election workers responsible for managing the counting center use the tabulator to generate a report that lists the voting results. The ballots are secured by the election workers and transported to the clerk's office for safekeeping.

**Absentee voting:** Absentee voters are issued an optical scan ballot that corresponds, in all respects, to the optical scan ballots issued in the polls. Secrecy sleeves are issued with optical scan absentee ballots to protect the secrecy of the ballots.

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**Write-in votes:** An appropriate number of blank lines and “target areas” are provided under each office for the entry of write-in votes. A voter who wishes to cast a write-in vote must write the candidate’s name under the appropriate office and mark the corresponding target area. Optical scan ballots that contain write-in votes must be visually inspected to determine if the write-in vote is valid. If valid, the write-in vote is documented in the precinct’s poll book.

**Spoiled ballots:** A voter can “overvote” an office appearing on an optical scan ballot by casting more votes for the office than there are candidates to be nominated or elected to the office. A voter participating in a partisan primary can invalidate the partisan section of his or her primary ballot by casting votes in more than a single party column.

If the jurisdiction uses precinct-based tabulation technology, the tabulator can be programmed to reject ballots that contain an “overvote” and partisan primary ballots that contain votes in more than a single party column. In such instances, the voter is extended the opportunity to vote a replacement ballot. If the voter does not accept this opportunity, the ballot is tabulated as voted. Any invalid votes appearing on the ballot are *not* counted.

If the jurisdiction employs central count tabulation technology, the ballots are counted at an off-site location. Consequently, there is no mechanism in the polls to identify ballots that contain an “overvote” or partisan primary ballots, which contain votes in more than a single party column. In such jurisdictions, all ballots are tabulated as voted; any invalid votes appearing on the ballots are *not* counted.

**Recounts:** Optical scan ballots are recounted by hand or through the retabulation of the ballots at the discretion of the canvassing board responsible for the administration of the recount.

**Cost:** See Appendix II.

### *Optical Scan Voting System--Advantages*

- Ballots cast by absentee voters correspond in all ways to the ballots issued to voters in the polls. With an increase in absentee voting, there is a transparent shift to the voter as there is no need to learn a new voting method in order to cast an absentee ballot.
- Offices and candidate names appear on the ballot; eliminates need for absentee voters to cross-reference the ballot to a separate listing of offices and candidate names.
- Provides the voter with a physical, tangible ballot that can be reviewed before it is cast.
- Less costly to purchase statewide system.
- Precinct-based tabulation technology is effective in protecting voters against ballot spoilage.
- As an optical scan voting station is extremely simple in design (secrecy screen and writing surface), additional stations can be erected with little or no notice to accommodate unanticipated voter traffic in the polls.
- Recount of optical scan ballots may be done independent of the electronic tabulating software by hand counting the actual ballots.
- The actual ballots create a tangible audit trail to resolve any disputes over the accuracy of the tabulation system.
- Development is underway to broaden the functionality of the optical scan system so it can accommodate the needs of the disabled community.

### *Optical Scan System-- Disadvantages*

- Ballots are costly to print due to the weight of the paper and the exacting production standards involved.
- Ballots are inconvenient to transport and store due to their size and bulk.
- Write-in votes can cause false “overvotes” in instances where a voter has cast an invalid write-in vote in combination with a valid vote for an office. Erasures can also cause false “overvotes.” In such instances, the duplication of the ballot or the manual correction of the results tape is necessary.
- Write-in “stickers” can jam the tabulator.
- Pre-election testing procedures are burdensome to administer.
- Tabulators must be carefully stored between elections to avoid equipment damage.
- Recounts can result in vote changes due to the reinterpretation of ballot markings.
- A DRE system may need to be employed in order to have a HAVA compliant voting system for disabled voters. (Newer systems are being developed that may provide a means for disabled voters to mark an optical scan ballot. However, such a system has not yet been certified.)

**Overview: *Direct Recording Electronic Systems (DREs)***

**Usage in Michigan:** DRE voting systems are employed in 100 of Michigan's 5,305 precincts (1.9%).

**Brand names of DRE systems used in Michigan:** Patriot (computer touch-screen); MicroVote.

**General description:** Voter indicates choices by interacting with an electronically controlled unit placed in the voting station; a physical ballot is not involved. Depending on the manufacturer of the equipment, this either requires that the voter touch a terminal screen or press buttons on the equipment.

**How ballots are counted:** After the voter indicates that he or she has completed the voting process, the votes are stored in the unit's memory component. After the polls close, the election workers responsible for managing the precinct use the system to generate a report that lists the voting results.

**Absentee voting:** As a physical ballot that can be distributed by mail is required to accommodate absentee voters, jurisdictions that employ DRE equipment to conduct elections issue optical scan, punch card or paper absent voter ballots. Generally, jurisdictions that employ DRE equipment issue optical scan ballots to absentee voters. "Companion" absentee voting systems that rely on optical scan technology are sold with DRE voting systems.

**Write-in votes:** DRE systems are programmed to permit a voter who wishes to cast a write-in vote to spell the candidate's name on the unit. The write-in votes appear on the report generated to document the vote results.

**Spoiled ballots:** DRE systems are programmed to block voters from casting spoiled ballots. Voters using such equipment are alerted if they attempt to cast more votes for an office than there are candidates to be nominated or elected to the office or if they attempt to cast votes in more than a single party column appearing on a partisan primary ballot.

**Recounts:** DRE voting systems offer two alternatives for administering vote recounts: 1) the data held in the system's memory component can be employed to regenerate a second set of vote totals for the office involved or 2) a report which shows the votes cast by each participating voter can be generated for auditing purposes. If the second recount option is used, the data is randomly ordered to protect the secrecy of the ballot.

**Cost:** See Appendix II.

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### *Direct Recording Electronic System –Advantages*

- As a physical ballot is not involved, there are no ballot markings to interpret.
- Equipment can be adapted for use by voters who are disabled.
- Spoiled ballots are eliminated.
- The need to purchase ballots for voters attending the polls is eliminated.  
(Ballots must, on the other hand, be purchased for absentee voters.)
- Due to the accuracy of the systems and the manner in which the vote data is stored, vote recounts always produce the same results.
- HAVA compliant devices for disabled voters are currently available.

### *Direct Recording Electronic System –Disadvantages*

- Systems are costly to purchase and maintain as an electronic voting device is needed for each voting station (one station for every 200 registered voters).
- While voter participation rates can vary to a wide degree, the purchase of the equipment must be based on turnout anticipated for the next upcoming presidential election when the highest voter participation rates occur. As presidential elections are held every four years, populous jurisdictions must purchase units that will receive very little usage.
- A different voting method must be used for absentee voters.
- Pre-election testing procedures are burdensome to administer.
- Systems must be carefully stored between elections to avoid equipment damage.
- Stickers that allow for write-in candidates are frequently used. The DRE cannot use this method to accommodate write-in candidates.
- As DRE systems do not use physical ballots that can be inspected to verify the result of the election, the integrity of the elections process rests on the programming of the equipment. Some industry experts caution that the absence of an independently created paper audit trail introduces an unacceptable level of risk into the elections process.
- Newer versions of DRE systems provide the ability to generate a paper verification of the ballot that could be used in recounts. However, they are more costly to purchase and maintain and increase the complexity of the voting process. Further, this type of DRE system would require that security be maintained in both environments: paper and electronic.



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### *Voter “Falloff” Considerations*

In the post-2000 era of elections administration, it has become an acceptable standard to compare the falloff rates of various voting systems to determine the relative number of lost votes under each system. While some lost votes are intentional decisions by voters not to vote for candidates at the top of the ticket, it is widely agreed that this represents a very small number of lost votes. In fact, most lost votes are caused by overvoting and voter confusion.

Since Michigan has moved away from punch card systems that use central count tabulation technology and moved toward optical scan systems that use precinct-based tabulation technology, there have been significant reductions in the number of “lost votes” in the state. For example, statistics show that the voter falloff in the 2000 presidential election was reduced by 50 percent over the voter falloff in the 1988 presidential election – the last presidential election conducted prior to the introduction of optical scan voting systems in the state (see below).

The following data compares statewide trends – followed by trends in various Michigan communities that have moved from a central count system to a precinct-based tabulation system.

<b>Voter Falloff – Presidential Elections</b> <i>-- Statewide Data --</i>			
	<i>Total Vote</i>	<i>Vote for President</i>	<i>Voter Falloff</i>
<b>1984</b>	3,884,854	3,801,658	2.1%
<b>1988</b>	3,745,751	3,669,163	2.0%
<b>1992</b>	4,341,909	4,274,673	1.5%
<b>1996</b>	3,912,261	3,848,844	1.6%
<b>2000</b>	4,279,299	4,232,501	1.0%

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***Voter “Falloff” Considerations (continued)***

A similar reduction in “lost votes” can be observed in jurisdictions that have moved from a punch card voting system employing “central count” tabulation technology to an optical scan voting system using precinct-based tabulation technology between the last two presidential elections (see below).

<b>Voter Falloff – Presidential Elections -- Selected Jurisdictions --</b>		
<b><i>Jurisdiction</i></b>	<b><i>1996 Punch Card Voting System</i></b>	<b><i>2000 Optical Scan Voting System</i></b>
<b><i>City of Detroit (Wayne County)</i></b>	3.1%	1.1%
<b><i>City of Allen Park (Wayne County)</i></b>	2.0%	0.8%
<b><i>City of Sterling Heights (Macomb County)</i></b>	2.0%	0.4%
<b><i>City of Lapeer (Lapeer County)</i></b>	1.6%	0.8%

The voter falloff reductions witnessed in Michigan as the state has moved toward optical scan voting systems which use precinct-based tabulation technology are consistent with the findings in a report issued in March 2001 by the Caltech/MIT Voting Technology Project, *Residual Votes Attributable to Technology: An Assessment of the Reliability of Existing Voting Equipment*:

*“The central finding of this investigation is that manually counted paper ballots have the lowest average incidence of spoiled, uncounted, and unmarked ballots, followed closely by lever machines and optically scanned ballots. Punchcard methods and systems using direct recording electronic devices (DREs) had significantly higher average rates of spoiled, uncounted, and unmarked ballots than any of the other systems. The difference in reliabilities between the best and worst systems is approximately 1.5 percent of all ballots cast.”*

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**Appendix I: Minutes of June 20, 2003  
Meeting of Advisory Committee  
Convened Under PA 91 of 2002**

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### **Minutes of June 20, 2003 Meeting of Advisory Committee Convened Under PA 91 of 2002**

Lansing Center – Ballroom 5  
10:00 a.m. – 12noon

Meeting began at 10:20 a.m.

Christopher M. Thomas, Bureau of Elections Director, welcomed the State Plan Advisory Committee and public, stating that the purpose of this meeting is to advise Secretary of State Terri Lynn Land on a uniform voting system pursuant to MCL 168.37. The Secretary is charged with making this decision. The State Plan Advisory Committee has been logically reconvened for this purpose. No one has resigned from the committee.

The informational packets provided today include the Preliminary State Plan and timeline. Comments are welcomed from the election community and public. The Plan is posted on the Secretary of State Web site.

The Bureau of Elections is working on submitting an application for the HHS Grant regarding polling place accessibility. Staff met with some committee members and local clerks earlier today in a pre-meeting. Michigan is eligible for approximately \$400,000.00, which is not a lot of money considering the number of polling places. Christopher Thomas stated that hopefully more funding would be available in 2004, although none has been appropriated at this time. He also indicated that the Bureau of Elections will continue to monitor polling places, and currently almost all are accessible.

#### Voting Systems

Prior to the Voting Technology Fair in April committee members were provided with a document regarding voting systems currently in use in Michigan, as well as others on the market. (That document was also provided at today's meeting.) Pursuant to PA 91, the Secretary of State will be picking a "type" of voting system, not a brand. Optical scan and Direct Recording Electronic (DRE) systems are really the only choices.

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### Voting Systems (continued)

Christopher Thomas stated that he argues for an optical scan system, other than a DRE system for disability accessibility, which is a 2006 requirement. The market is continuing to develop regarding DRE systems, and the state would like the opportunity to look at emerging technology. Funds are being held for the disability accessible voting equipment. This is a priority. Christopher Thomas also indicated that the state is looking to lease some disability accessible voting systems for 2004 to give a “real test,” as we want the best possible system for the disability community.

It was also noted that optical scan is in 65% of the precincts currently. So optical scan is a system we have experience with that meets a variety of the population. Michigan has had both optical scan and DRE systems certified for the last decade, and less than 5% currently have DRE systems. Michigan continues to move to optical scan. An example was given that Genesee and Ingham counties are currently accepting bids for the new purchase of optical scan equipment.

Christopher Thomas stated that obviously no one system is perfect. That simply does not exist to date.

Mr. Thomas noted that Secretary Land, in addition to others in the election community, is an advocate for “no reason” absentee voting, and should be. Currently approximately 18% vote absentee ballot. When no reason absentee voting goes into effect, it is expected 30-50% will be voting absentee ballot. Optical scan will place Michigan in a position to deal with that issue. Considering the cost involved with DRE, it would not seem feasible to purchase these systems when very few voters will be actually showing up at the polls to use the equipment once no reason absentee voting is in place.

Christopher Thomas stated that by – and large, have not found voters who have negative issues with optical scan. Precinct voting with optical scan has been almost flawless. In Michigan, it is appropriate to correct your vote. Disability accessible DRE equipment is compatible with an optical scan system. Optical scan is not an inferior system.

Provided in the informational packet today is an article on the “paper trail issue” for retention and recounts, which is being debated currently around the United States. In many states recounts are rare. A judicial error must be shown.

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Christopher Thomas stated: In Michigan, it is our audit trail. If someone feels aggrieved in Michigan, they can receive their recount. Any concerns regarding how the election was run can be reassured. Michigan is a recount state. No great satisfaction is received from candidates on recounts with DRE systems.

Also provided in the informational packet today was a cost comparison between optical scan and DRE systems. Christopher Thomas reviewed the cost chart figures provided. Three to four vendors provided high and low estimates. (The vendors were not identified.) Also priced out was disability accessible equipment, and Election Management Software (EMS). EMS will allow two-way interface with counties and the Secretary of State.

Christopher Thomas stated that one issue is the number of DRE systems needed. The law required 1 system per 300 voters, or enough to accommodate a good election. 150-200 machines are recommended for DREs so no one is lined up out the door. 1 per 300 DREs are not enough. There would be a major time problem on Election Day.

Christopher Thomas stated that our presidential ballot is the longest in the country. We elect township officials at the same time, as other states do not. Ballot printing prices provided on the cost comparison were provided by vendors, but may actually be less.

Christopher Thomas introduced Mr. G. William Caddell (Oakland County Clerk) who would like to provide comments regarding DRE equipment.

Mr. Caddell addressed the committee by stating that each committee member has been asked to sit on this advisory committee by Secretary of State Terri Lynn Land to aid her in her decisions on how she will address the mandates imposed upon the state by HAVA. The committee has participated in several meetings where many issues have been explored. These include pros and cons of the various voting systems. Four critical issues come to mind: First, what system shall Michigan choose to meet requirements of HAVA and be best suited for our electorate? Second, what system will best serve the needs of our disability community? Third, what system is most suitable for absentee voting; and fourth, what system will accommodate the mandates of HAVA as it related to casting provisional ballots? Mr. Caddell stated that Michigan should possess a vision of the future keeping in mind that technology is ever changing. Why settle when we, as a state, have the opportunity to commit to a statewide voting system that will not only address the needs of today, but tomorrow as well?

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Mr. Caddell stated that we need to ask ourselves: Where are we now? Where are we going? And how do we get there? He stated that where we are today is complacent, but feels that we have to admit, however, that to meet the Federal HAVA mandates some or all aspects of our present voting system will have to be changed. Where we should be going is looking to the future. As an example Mr. Caddell stated that Oakland County is using 12-year-old technology. Though it is optical scan, it is a relic compared to the new generation of optical scan and DRE systems. Mr. Caddell also stated that how we get where we are going is commitment. Commitment to our constituents, our disabled and the future. Though cost is important, it should not be the only consideration when choosing the type of system we will be adopting to meet the needs of our voting public for years to come.

Mr. Caddell commented that we must consider the long term and choose a system that not only meets the requirements of HAVA, but also will provide us with the most efficient voting and tabulating system available. Mr. Caddell stated that in examining the options presented over these past weeks of meetings and keeping in mind what HAVA requires, it appears that no one system will be able to meet our needs. Therefore, we must be prepared to adopt some type of blended technology.

Mr. Caddell further stated that on one hand, it is clear that the only system available today that will allow the disabled community to vote unassisted is some form of DRE. This type of system is also suited for precinct level voting and the casting of provisional ballots. This leaves only the issue of absentee ballots. It makes sense, therefore, that Michigan does what is necessary to adopt DRE as the system of choice for this state.

Mr. Caddell stated that by adopting DRE as the primary mode of voting, this would reduce the confusion and difficulty in duplicate work for poll workers. He also felt that after the initial purchase, elections would be less expensive for the speed in which votes are tabulated would be greatly enhanced reducing labor costs. There would be additional savings in printing costs as there would be no ballots to print other than the absentee ballot printing, which would save Oakland County approximately a half million dollars a year.

In addition, Mr. Caddell also agreed that early voting should be implemented. By allowing our citizens to vote early at their city, village or township halls we would dramatically reduce lines at the polling locations.

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Mr. Caddell reminded the committee that at an early committee meeting recount lawyers criticized DRE machines because they would not have the ability to examine ballots to determine whether there were over-votes or ballot marking errors. Mr. Caddell stated that this is because DRE systems do not allow over votes or ballot marking errors.

Mr. Caddell stated that he understood that committing to a statewide DRE system is a long-term commitment, and stated as the Clerk for Oakland County he is ready to make a case for the adoption of DRE as the state standard. He urged the committee to recommend a commitment to the future by offering their support for the selection of DRE as Michigan's statewide voting system, and thanked them for their time and attention.

### Committee Member Comments

Jackie Currie (Detroit City Clerk) stated that she wants the committee and state to adopt optical scan. Detroit has had no problems with optical scan. Also it would be efficient for early voting with optical scan. Ms. Currie also stated that you cannot over vote with optical scan. She asked the committee to consider recommending early voting and voting in public places like a mall or shopping centers, etc.

Terri Hegarty (Grand Rapids City Clerk) also commented that she would like to see early voting and no reason absentee voting also rather than only precinct voting. People should be able to vote prior to the election and by no reason absentee voting. If this is done, how can you justify the money to purchase DRE's when no one will be using them? Terri stated that approximately 50% will not go to the polls on Election Day if other options are available. The money for the voting equipment would not be used wisely.

G. William Caddell (Oakland County Clerk) stated that DRE machines can be used other places also to vote ahead of time, and this would also reduce the number of voting machines needed if people had other options.

Terri Hegarty commented that perhaps the law should be changed regarding how many actual voting machines are necessary per voter on Election Day.

Lucille Taylor (Representing the General Public) stated that we (the committee) does not lead public policy, we follow. Early voting, no reason absentee voting, etc., are all public policy and legal policy.



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Lucille Taylor further stated: Our duty is to help make a mindful judgment regarding how the money is spent. In purchasing election equipment, when the public/private businesses purchase computer or upgrade systems they include features that they will use in the future, but this sometimes inadvertently affects the use of that system or need today. I think we make a mistake judging technology in advance and the future election needs in advance. Current technology went from an 8-track tape, to a cassette tape, to a CD in very little time. There is too much money at stake when we do not know what future technology will bring.

Terri Kowal (Shelby Charter Township Clerk) commented that she is concerned about testing these machines. All voting equipment must be tested. She stated that she would have over 200 DRE machines to test if the state chose DRE. Would the vendors charge a fee to come in a test these machines prior to the election? Detroit would be in the same boat. After the voting equipment is tested, it must be sealed and stored prior to the election. Terri stated that she has nowhere to store all these machines. Testing is a big issue to her. Also, clerks would still have to send absentee ballots to precincts. Workers would still have to have two systems because of absentee voting. Terri stated that we need to look at the issues today, not to far into the future, other than disability accessible equipment for the future.

Kathy Dornan (Farmington Hills City Clerk) states she has no experience with DRE voting equipment, so it is hard to talk about these issues when you have only seen them in a demonstration. Kathy states when they switched from punch card to optical scan it was a smooth transition. She also agreed with Doc that we need to step out of the box so to speak, but optical scan does work well. You can test, program and store the optical scan equipment rather easily. Seniors like the optical scan. It is easier for them. Kathy also feels that there will be a ballot printing issue, and feels that if we move to optical scan, the state must step in regarding ballot printing. There will still be the need for paper ballots with absentee voting, so she is not sure DRE is for now. No matter what system is chosen, early voting is a must. We would have less absentee voter issues with early voting. The Secretary of State has a big decision; there are clearly pros and cons to each side.

Christopher Thomas stated that running two voting systems in a precinct seems to be an issue. There are vendors here today to answer questions. This is not a sales campaign. All vendors offer both optical scan and DRE. Chris asked the vendors to introduce themselves.

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Bill Barrett was present, representing Fiddler Election Systems/Diebold. They provide both DRE and optical scan. Mr. Barrett stated that the integration of both DRE and optical scan in a precinct would require education on the part of the worker. The proper software and education would make a seamless transition without any issues. They have worked to perfect software that gives a full range of use for both DRE and optical scan.

Dick Fox was present, representing Election Systems & Software. They have a new optical scan system, the M100, which works in conjunction with their DRE system. They have integrated the software to combine tabulation systems with absentee voter ballots. It can be done. Service and training are critical. If failure has occurred, the workers have not been properly trained.

Mike Wilkinson was present (with Barry Miller and Jeff Delongchamp), representing Sequoia and Miller Voting. They have both DRE and optical scan equipment that are fully integrated together.

Christopher Thomas asked if the products today are a final product. Is research not being done continually to upgrade? Are new systems being developed?

Mike (Sequoia) indicated that their new upgrades are always compatible with the current equipment and can be upgraded easily on site. To stay competitive in the industry, you must constantly develop new systems and software so as to not remain stagnant.

Dick (ES&S) stated that Chris is absolutely right. Evolution of voting equipment is vast. They continue to redevelop and redesign. Working currently on a large screen. Must continually move forward. New voting equipment companies develop all the time. We will not be the same as we were with 75 years of punch card. England is currently on the Internet. Would like to tell the committee they can buy voting equipment today that would be good for 40 years, but that is just not possible.

Mr. Caddell asked if the vendors could give an estimate on what lever machines would cost now as compared to the 60's.

Dick Fox stated that lever machines were approximately \$1,800 in 1967. Today they are about \$7,500 to \$10,000 build. They are still out there and still being serviced.

Barry Miller (Miller Voting) stated that in his opinion the machines of the 30's and 40's were built with the promise that they would stand for decades. Now in a multi-decade and that system is not realistic.

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Mr. Caddell stated that he feels the money is not important, the voting equipment is. We have a constitutional responsibility and right to the best voting systems.

Christopher Thomas asked Mr. Caddell what is the difference in terms of the ease of the voter to cast a vote on optical scan or DRE.

Mr. Caddell stated that in his observations the elderly liked to use the DRE touch screen because they can't over vote and workers timeliness was smooth as glass. By the time the precinct closed and he drove to the election official office, they were done tabulating. You can push a button to review and you are done. He stated that training and education is needed and important to the voter.

Christopher Thomas stated this is not unique in transmitting to the county level. This can be done electronically with optical scan and is done now. It can be transmitted from the precinct level.

Dick Fox stated that Toronto transmitted 4000 precincts in 30 minutes. It can be done.

Terri Hegarty was concerned regarding two systems in the precinct. Can they meld together? How does recording work? Can they obtain precinct totals with live results?

Bill Barrett stated that he is not aware of a jurisdiction that is using two systems currently, but HAVA will drive this. They have software that already exists that can obtain exactly what Terri wants. It would come together in one of the two units. Can be done on either system via a modem.

Terri asked for confirmation that both (either) systems can do this?

Bill confirmed yes, software does exist to do this.

Dick Fox stated their systems all work the same way as Bill described. It will do exactly the same thing. Software currently exists. It is being done in Florida currently.

Terri asked Dick to provide the name of the jurisdiction in Florida so she could contact them.

Dick will provide Terri with contact names.

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Mike Wilkinson stated that you could also use DRE for other than disability accessible systems in precincts if they are available and not being used by disability community. And, yes, both systems can be integrated and melded together.

Janice Vedder (Delta Charter Township Clerk) commented that she is essentially concerned about using two systems on election day-to-day issues. Election inspector training is needed (start up, shut down, etc.). What preparations do you have for ballot issues? Printed ballot availability is an issue now. There is the inability to meet deadlines. In Michigan we have had ballots arrive too many times late. Janice feels that the timeliness of printed ballots will only get worse.

Jeff Delongchamp (Miller Voting) stated that they are currently working with three printers and a fourth one is coming aboard. They are geographically located around the state, much more so than now.

Mike Wilkinson also stated that education and training could be focused on single poll workers to handle one system or the other. This would reduce the stress of cross training.

Dick Fox stated that many jurisdictions work with their own printers. Many states are currently looking at DRE systems, approximately 65% versus 35% looking to optical scan, so this should reduce the ballot printing issue in Michigan. He agrees that ballot printing and quality is an issue to be looked at.

Bill Barrett stated that they have had their own internal printing company since 1854. They had timely deliveries in 2000 with digital printing solutions. He believes they are equipped to print every ballot with their contract printer.

Tom Masseau (Michigan Protection & Advocacy Services) has a concern about disability accessible computers and training. If the State is looking to optical scan systems, with DRE for handicap accessibility, and if only 10 with disabilities in that precinct vote on the DRE equipment, then the poll workers would know essentially how they voted. And if others were allowed to use the DRE equipment, the long lines would be a problem.

Christopher Tomas indicated that currently 65% of the voters now use optical scan, so the majority of the voters would continue to use optical scan and there would not be a big training issue.

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Lynn Alexander (Senior Citizen advisor for Oakland County) commented that she is afraid we will get too far ahead of technology. There is not enough knowledge regarding the new systems. There is a more general need to balance new technology with what we use now.

Simone Lightfoot asked if there were going to be comments on the State Plan.

Christopher Tomas indicated that we are currently in the 30-day comment period. He would be happy to sit down and discuss and receive comments.

Simone wanted to put her comments on the record for the public. She indicated that she was disappointed that the recommendations were so general and felt the need for more specific detail.

Christopher Thomas stated there was a limited amount of time to develop the State Plan to get into program details. Once implementation starts, he feels the programs will be significant.

Simone wants the education aspect to trickle down to the urban areas. Posters, videos, training, etc., needs to be addressed to the urban areas. This should not be focused only on the disability issue.

### Public Comment

Mr. Ray Ziarno (M-FORE) asked the vendors about the cost of IRV voting? He maintains this can be done at no cost. Would like vendors to address the money aspect of IRV?

Dick Fox asked if Mr. Ziarno was referring to the entire ballot. An example is the Op-Tech Eagle in California. The firmware and hardware change would involve quite a great cost. San Francisco was looking at \$750,000.00 to \$100,000.00 to upgrade the OP-Tech Eagle. As a vendor it is extremely difficult to stay ahead. Newer products are less expensive to do firmware changes.

Christopher Thomas asked if the Legislature adopts IRV voting, would there be a large cost to retrofit new optical scan systems.

Dick Fox stated no. The cost of ballot printing would be great with the number of ballots required for IRV and the number of candidates on the ballot.

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Norma Bauer commented that she agrees with the NAACP. She feels the State Plan needs specific details. Disability accessible law needs to keep all polling places accessible, not single out some. She hopes the state will keep an open portal for the committee after the State Plan is submitted. Norma asked the committee to take a long view in planning.

Susan Fitzmaurice (ADA Coordinator for Dearborn Disability Concerns) read a public statement into the record from the Commission on Disability Concerns. They recommended involving disability groups to test equipment before purchased. The disability community wants to vote along side others. She asked the committee to please recommend one DRE system per polling place as the law recommends. She states most absentee ballots are from the disability community currently.

John La Pietra asked the committee who would buy a car without air conditioning? Wouldn't it be risky if we didn't provide the possibility to choose a lawful election process?

Rochel Jones stated that she agrees that the disability community does not all want to vote absentee ballot. She asked if the committee would follow-up with polling place accessibility in a post committee.

Christopher Thomas stated that HAVA requires the committee to meet again if needed. There will be ongoing and continued assessment of polling places.

Casey Dutmer (Disability Advocates) stated that he was at a previous meeting and states that he hopes the committee will follow-up and not just to meet the bare bone needs. He hopes the State promotes the best technology for the future. Their organization will be happy to put on a mock election to test DRE. Would encourage the disability community to go out and vote, not vote absentee ballot. Casey also invited the committee members to attend the disability community convention.

Christopher Thomas agrees that this involves everyone and will keep the community informed.

Vince Keenan (Publius) stated that if during the 30-day comment period an on-line meeting is needed, he would be happy to set this up for the committee.

Christopher Thomas asked in closing to please feel free to provide materials and comments for the Secretary of State's review. Chris thanked everyone for coming and for his or her continued interest and participation. Staff is available to meet and discuss the State Plan or any other ongoing issues.

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**Appendix II: Cost Summaries**

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The following tables include cost summaries for both Optical Scan Voting Equipment and Direct Recording Electronic (DRE) Voting Equipment. The tables list a range of potential costs for each component of the two types of voting equipment. Various vendors for each type of equipment were consulted and provided cost figures.

The prices shown in the tables below, however, do not reflect actual negotiated prices of any particular vendor. Rather, they are reflective of high and low end “off the shelf” market values of the system components taken from information provided by all the vendors consulted.

**OPTICAL SCAN COSTS SUMMARY**

**Initial Investment Costs**

Items	Unit Cost (Low)	Unit Cost (High)	Total Precincts including AVCB's	Total (Low)	Total (High)
Precinct Count Tabulator	\$4,950.00	\$6,250.00	5,806 (1 per precinct)	\$28,739,700.00	\$36,287,500.00
Disability Voting Device (DRE)	\$3,150.00	\$3,795.00	4,000 (1 per polling location)	\$12,600,000.00	\$15,180,000.00
EMS Software	\$35,000.00	\$55,000.00	X 83 Counties	\$2,905,000.00	\$4,565,000.00
Vote Accumulation Software			Statewide	\$6,100,000.00	\$7,000,000.00
Total Initial Investment				\$50,344,700.00	\$63,032,500.00

**OPTICAL SCAN COSTS SUMMARY**



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**Ballot Printing Costs  
(State and Federal Elections Only)**

Items	Unit Cost (Low)	Unit Cost (High)	Total Ballots (Primary Election)	Total Ballots (General Election)	Total (Low)	Total (High)
Ballot Printing (Primary)	35 Cents	48 Cents	2000- 2,452,192		2000- \$858,267	2000- \$1,177,052
			2002- 2,153,586		2002- \$753,755	2002- \$1,033,721
Ballot Printing (General)	35 Cents	48 Cents		2000- 5,349,123	2000- \$1,872,193	2000- \$2,567,579
				2002- 4,024,864	2002- \$1,408,702	2002- \$1,931,934

**Election Programming  
(State and Federal Elections Only– If Contracted)**

Items	Per Precinct Cost (Low)	Per Precinct Cost (High)	Total Precincts Including AVCB's	Total (Low)	Total (High)
Precinct Count Tabulator	\$250	\$750	5,806	\$1,451,500.00	\$4,354,500.00

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**DIRECT RECORDING ELECTRONIC (DRE)  
COSTS SUMMARY**

**Initial Investment Costs**

<b>Item</b>	<b>Unit Cost (Low)</b>	<b>Unit Cost (High)</b>	<b>1 Device - 200 Reg. Voters X 6.7 Million Voters</b>	<b>Total (Low)</b>	<b>Total (High)</b>
Voting Device	\$3,095.00	\$3,500.00	33,500 Devices	\$103,682,000.00	\$117,250,000.00
Disability Voting Device	\$3,150.00	\$3,795.00	4,000 (1 per polling location)	\$12,600,000.00	\$15,180,000.00
Absent Voter Ballot Tabulator	\$4,950.00	\$6,250.00	1514 Cities and Twps. + 150 = 1664	\$8,236,800.00	\$10,400,000.00
EMS Software	\$35,000.00	\$55,000.00	X 83 Counties	\$2,905,000.00	\$4,565,000.00
Vote Accumulation Software			<i>Statewide</i>	\$6,100,000.00	\$7,000,000.00
Total Initial Investment				\$133,523,800.00	\$154,395,000.00

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**DIRECT RECORDING ELECTRONIC (DRE)  
COSTS SUMMARY**

**Absent Voter (AV) Ballot Printing Costs  
(State and Federal Elections Only)**

Item	Unit Cost (Low)	Unit Cost (High)	Total AV Ballots (Primary Election)	Total AV Ballots (General Election)	Total (Low)	Total (High)
AV Ballot Printing (Primary)	35 Cents	48 Cents	2000- 216,000		2000- \$75,600	2000- \$103,680
			2002- 306,000		2002- \$107,100	2002- \$146,880
AV Ballot Printing (General)	35 Cents	48 Cents		2000- 756,000	2000- \$264,600	2000- \$362,880
				2002- 576,000	2002- \$201,600	2002- \$276,480

**Election Programming  
(State and Federal Elections Only – If Contracted)**

Items	Per Precinct Cost (Low)	Per Precinct Cost (High)	1514 Cities and Twps. +150 = 1664	Total (Low)	Total (High)
Precinct Count Tabulator	\$250	\$750	1664	\$416,000.00	\$1,248,000.00

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**Appendix III: Types of Voting  
Equipment in Michigan**

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# VOTING EQUIPMENT IN MICHIGAN

August 4th, 2003

