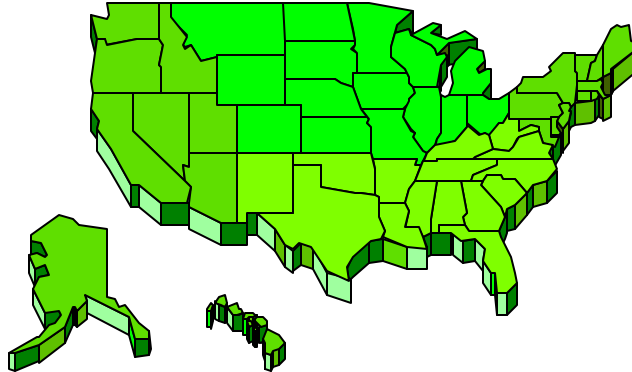


**The Scope of the Problem:**  
An Overview of the U.S. Election  
Processes and Systems



A Report to the National Commission  
on Election Standards and Reform

*By*

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# **The Scope of the Problem: An Overview of the U.S. Elections Processes and Systems**

## **Election 2000 What Went Wrong?**

Are hanging chad and dimples a vote? What is a chad and why is it hanging? What went wrong with the vote counting process in the Presidential Election of 2000? Should the equipment be discarded? Should the federal government establish standards for States to use in federal elections? Should States and local governments be required to purchase new voting and vote counting equipment? Should States allow local jurisdictions to determine what type of equipment they should use in the election process? Will uniform voting rules guarantee better presidential election results? Should State and local governments be allowed to use their laws and procedures to recount presidential elections?

These are a just few of the troubling questions that have surfaced since the November 7, 2000 election. Everyone is talking about the new things they have learned about our election system and the “problems” local governments have counting votes. All of these issues and questions are new to the voting public, *but they are not new to election administrators at any level.* **What is new is that these problems surfaced in a close presidential election.**

In the past, State recounts, court decisions, and Congress resolved election contests. Never before have so many courts, at so many levels, been so involved in the problems and issues of vote counting. Never before have hanging chads, under-voting, and equal protection issues been a dinner table topic of discussion. Now, every person involved, directly or indirectly, in the election process is trying to find out what went wrong and why. For the first time in a lifetime, people are trying to understand the problem and find a solution.

## **Introduction**

The National Association of Counties commissioned this special report to determine the current status of State and local election systems and voting processes in the United States and, to determine what responsibilities State and local governments have in the voting and election management process.

This report looks at the relationship between State and local governments, and the degree of autonomy county election officials have from the State and federal governments in the area of election administration. It also discusses the role States play in the determination of voting systems and the purchase of voting

equipment for local jurisdictions. It will examine certification testing, legal requirements, development of Statewide procedures for system management, funding of new equipment and the responsibilities State and local jurisdictions have in the implementation of new voting systems.

Since most States put the burden of purchasing State certified voting equipment on their local jurisdictions, they implicitly burden local governments with all of the hardware, software, information, training, maintenance and updating that this responsibility brings. Most often all of this is done without financial or technical assistance from the State. For more than 30 years local government has been responsible for administering federal elections, but has been reluctant to allocate enough money to update outdated equipment for a function and process that occurs only once a year or once every two years. The inability to obtain adequate funding for new technology has required that local election administrators become resourceful in maintaining and servicing their voting systems.

Prior to this election, State and local election officials have participated in election contests and recounts. The outcome was determined by recounting ballots and/or court decisions. Whatever the process, the parties involved have at one stage or another, accepted the results and moved on. No one, except State and local election officials, knew or cared about issues of under votes, over votes, overseas absentee ballot postmarks, hanging chad, voter intent, and ballot style or make-up. This election brought up all of these issues as well as those of "antiquated voting equipment, confusing ballots, unequal treatment of voters and hopelessly vague laws," (USA Today Editorial 12/15/000).

As State and local governments recover from the fall-out of the 2000 presidential election, they realize that the US Congress, US Supreme Court, State legislatures and courts will take a serious look at their election processes. Everyone has ideas about what went wrong in this election, and an opinion about how to fix it.

The inability to count questionable votes and the issue of confusing ballots has brought to light many of the problems local and State election officials have with their voting and vote counting equipment. Several States including Florida, Iowa, New Mexico, Oregon, and Wisconsin have come under intense public scrutiny because of questionable voting and vote counting procedures. All State and county governments will probably examine their election laws, procedures, hardware and software to make sure that in future elections they will be able to accurately count votes.

Congress is introducing legislation designed to protect the integrity of federal elections and make sure that winners can be determined. The proposed

legislation covers every aspect of the election process including mandating voting systems that are easy for voters to understand and use; standardized management and training procedures; grants for purchase of new equipment; and uniform procedures for counting questionable votes. Professional associations representing election officials are forming election review committees to determine how to present ideas to congress and State legislators

Dr. Richard Smolka, Professor Emeritus at American University, reports in the November 27, 2000 *Election Administration Reports* that Senators Arlen Specter (R-Pa.) and Tom Harkin (D-Iowa) have introduced legislation to study “voting methods and the electoral process. Their measure, S.3269, creates a Commission on the Comprehensive Study of Voting Procedures. ... Even if the bill goes nowhere this year, federal election procedures will be a hot topic for legislation in the next congress.” In his December 13, 2000 issue, Dr. Smolka reports that several additional elections related bills were introduced in congress.

This presidential election has and will continue to put pressure on State and local governments to:

- Update their voting systems,
- Provide better information and education to voters,
- Improve training for election day officials,
- Have consistent and tested recount procedures in place,
- Be able to certify winners in election contests without creating chaos.

State and local governments will have to be prepared to determine what type(s) of voting equipment should be considered for counties of varying sizes and in most cases they will have to certify the equipment so that it can be sold in the State. State or local jurisdictions will have to provide enough money for new equipment as well as technical and procedural training and development, and implementation of expanded voter information and education programs.

Now, all election officials are on the front line. Everyone has learned about voting systems, “chads,” “butterfly” ballots and the resolution of election contests. It is clear that elections, election systems, and the administrators who run them cannot and will not be taken for granted anymore. It is also clear that in the near future most of the large counties that currently use punch card systems for voting will have to look into new types of voting and vote counting hardware and software. County and State governments will have to start administrative planning for this almost immediately.

## **Administration of Elections in the United States**

## **Overview:**

Local administrators conduct elections under State law within federal constitutional and statutory constraints. We rely on a decentralized administrative system and, with the exception of four States, there are no statewide systems for voting and vote counting.

*There are no federal elections in the U.S.* There are State elections to federal office. Each State draws its legislative districts for its members to the United States House of Representatives, elects its two Senators and, through the State's representatives to the Electoral College, each State elects the President of the U.S.

There are no federal laws that directly prescribe the administrative process for running elections in each State. Rather, there are fifty (50) different election codes that specify how elections are to be conducted administratively. While there are many similarities among the States' election codes, there are important differences that reflect the differences in State circumstances, histories, political culture and preferences. Until the Voting Rights Act of 1965 was enacted, the business of running elections was virtually the exclusive domain of each State.

Although each State prescribes its own election laws, the day-to-day responsibility for administration of the election process belongs to the local county officials. In some localities there are local election boards that establish administrative policy, help with budget preparation, or assist with counting and canvassing. But generally speaking, there is one person in each county who has the primary responsibility for the election office operations.

## **Federal Election Authorities:**

The Constitution of the United States specifies that "The Times, Places and manner of holding Elections...shall be prescribed in each State by the Legislature thereof; but the Congress may at any time by Law make or alter such Regulations." The reality of the relationship between Congress and the States is that currently, Congress is hesitant to infringe on a State's prerogative, consequently there are only **five** federal agencies that play a role in the election process – and none of them has a direct responsibility in the administration of the election. The federal agencies are:

- Federal Election Commission

- Election Crimes Branch, Public Integrity Section of the Department of Justice
- Voting Rights Section in the Civil Rights Division of the Department of Justice
- Federal Voting Assistance Program in the Department of Defense
- Bureau of Census in the Department of Commerce.

### ***State Election Authorities***

In **each** State there is a chief election authority that is either the:

- Secretary of State, or
- State Board of Elections.

In a majority of States, the chief election authority is the Secretary of State, or other cabinet level position, most elected in a partisan election by the voters of the State for a four-year term. The Secretary of State often has a variety of duties in addition to election administration, but the duties vary by State. The range of election authority over local election officials also varies according to State law. Some have no authority and others may prescribe forms, procedures, supervise and train local election officials and maintain State voter registration files. For the most part, Secretaries of State provide information services and technical support to local officials, but seldom get involved in the daily operations of the local election process.

About twelve (12) States have a State Board of Elections typically representing both major political parties and appointed by the Governor for a specific term. State Boards of Elections generally have a wide range of duties and authority in the election process. For example, they likely maintain the State campaign finance records, develop forms, train local election officials, and register political party candidates for State and federal office.

### ***Local Election Authorities***

A local election authority can come from a county, city, town, or township. It may be a single person or member of a board; may be elected, appointed or, may be a civil servant; and depending on the State and size of the jurisdiction, may be either a full or part-time election administrator. In most States, elections are conducted at the county level under the election laws of the State.

*County election authorities usually conduct all elections within the county – including county, city, State, and federal.*

In almost every State, local election authorities have to plan, manage and budget for their elections and obtain their budgets from their local government. In all but four States, the cost of purchasing and maintaining the voting equipment is borne by the local government. The four States that have statewide systems are Delaware, Rhode Island, Arkansas, and Oklahoma. Maryland is considering a Statewide voting system. Louisiana had a lever machine statewide voting system and was in the process of introducing the Direct Electronic System but was stopped because the State legislature did not appropriate adequate funds. Some States have a loan program local governments can use for voting equipment purchase, but for the most part local jurisdictions pay for their own equipment.

### **Voting Equipment**

Generically speaking there are currently only four types of voting and vote counting equipment on the market today. They are:

#### *Paper Ballots*

This system is used by about **2%** of the registered voters in primarily small and rural areas and sometimes for absentee voting in larger jurisdictions. In a paper ballot system, the ballot is printed based on the instructions given by the State or local election authority on various stock weight papers. Voters mark their choices in private, usually by putting a mark in the box next to the candidate or initiative of their choice.

The paper ballot system was first used in Victoria, Australia in 1856 and is commonly known as the “Australian ballot”. New York became the first American State to adopt this style ballot for statewide use in 1889. There are some new voting systems that use a paper ballot type system because many State and local jurisdictions like the idea of having a paper trail that is easy to hand count.

#### *Mechanical Lever Machines*

“Lever machines” are used by less than **20%** of the registered voters because they are no longer produced. The trend is to replace them with computer-based Marksense or direct electronic systems. There are many large cities and counties that still use the lever machines although it is getting difficult to find parts and to maintain them in good working condition.

The first official use of a lever type machine was in Lockport, New York in 1892, and by 1930 lever machines were being used in almost every major city in the country. By the 1960s, over half of the country's votes were cast on these machines. Lever machines were popular because they have no paper ballot that can be used for vote fraud.

### *Marksense (Optical Scan)*

This system is being used by approximately **28%** of the voters in the U.S. Marksense is often referred to as optical scan although there are other methods for recognizing marks on paper through optical reading technology.

The ballot is paper or can be a card on which candidates and issue choices are preprinted next to an empty rectangle, circle, oval or incomplete arrow. Voters record their vote by filling in the shape or completing the arrow. After voting, the voter puts the ballot in a sealed box or feeds it into a computer-tabulating device. The tabulating device reads the votes by "scanning" the ballot. This technology has been in existence for many decades and has been used by school testing organizations as well as lotteries.

The State of Oklahoma uses Marksense as their statewide voting and vote counting system.

### *Direct Recording Electronic (DRE)*

Approximately **10%** of the registered voters in the US use some type of DRE voting system. These systems are an electronic implementation of the old mechanical lever systems. With DREs there are no paper ballots; the candidates and issues appear on a large screen that is the face of the machine. The voter enters choices into the electronic storage by using a touch-screen, push-button, or similar device. An alphabetic keyboard is provided in States that allow write-in voting. Votes are stored using a memory cartridge, diskette, or smart-card and saved along with the choices of the other voters who use the machine.

### *Punchcards*

Although many jurisdictions are switching from punchcard systems to Marksense or DRE systems, many of the largest counties in the United States still use the punchcard voting system. Approximately **35%** of the voters use a punch card system of voting including, Los Angeles, CA; Miami/ Dade, Hillsborough, Pinellas and thirteen other counties in Florida; Montgomery County, MD; and Cook County, IL.

There are two types of punchcards systems, Votomatic and Datavote. The systems are similar and rely on a hole being punched into a card by the voter.

- The Datavote system has the names of the candidates preprinted on the card so that it is somewhat easier for the voter to locate the candidate of choice.
- The Votomatic system uses a computer card and booklet. Each voter inserts the card into a punch device which contains a preprinted book with the candidates and other races printed in it. The voter then has to locate the candidate and the candidate's number and punch the appropriate number on the card. The book has a number by the name of each candidate and an arrow pointing to the place on the card with the corresponding number.

It was the Votomatic system that caused confusion in Palm Beach County, Florida and raised issues about the 2000 Presidential Election. Votomatics have been in use since the mid-1960s and were first used in 1964 in Fulton and DeKalb Counties in Georgia.

## **Voting Equipment Standards**

### ***Background***

In the 1970s anyone could invent a voting machine, build a prototype and sell it to local election officials. Few States had guidelines for testing or evaluating these devices. Local election officials had to rely on the salesman's word or depend on the experiences and opinion of colleagues who had already purchased the equipment. Over time, there were a variety of horror stories that circulated throughout the election community and they triggered concerns about the integrity of the voting and vote counting process.

In 1975, the General Accounting Office of Federal Elections contracted with the National Bureau of Standards to develop operational guidelines that election officials could use to help ensure the accuracy and security of computer-based vote counting equipment.

In 1984, Congress appropriated funds to the Federal Election Commission (FEC) to develop voluntary national standards for computer-based voting systems. In January 1990, the first national performance and test standards were developed for punchcard, marksense and DRE voting systems.

Most States have adopted the FEC standards. These standards have resulted in improved systems, better service, and more concern about user training. By

following these standards, State and local officials are more assured that the voting equipment hardware and software they purchase will do what its supposed to do and that it will do it accurately.

It is interesting and important to note that while the horror stories about voting equipment reliability have declined, stories about pre-standard and untested equipment have increased, and mismanagement of tested equipment is still a problem. We have learned that lack of uniform standards and system management issues were the primary cause of most of the recount problems encountered in the 2000 Presidential Election.

### **Three Levels of Testing**

In the mid-1980s, Congress asked the Federal Election Commission (FEC) to develop standards for voting equipment in response to many complaints concerning vendors selling equipment that did not meet the voting needs of county and other local officials. Testing standards were developed and the National Association of State Election Directors, through the Election Center of Houston, TX, located independent testing authorities and began the testing process.

The FEC recommended that **three** levels of testing take place before any equipment is purchased and introduced into the election process.

The first stage of testing is done by an independent testing authority. Its purpose is to validate the fact that the equipment can do what the manufacturer says it can do.

The second level of testing should be done by the State to assure that the equipment can and will meet the general requirements of the State law in terms of ballot make-up, precinct versus central counting, ability to provide audit trails, etc.

The third level of testing must be done at the local level prior to the jurisdiction's acceptance of the equipment for use in the election process. Local testing ensures that the machines and programs work according to the requirements of the State law and local needs.

### **State and Local Equipment Testing**

Although the standards call for testing that ensures that each product works accurately, reliably and appropriately, the scope of the qualification testing should not be confused with a vendor's developmental testing. These preliminary tests only demonstrate that the machine, whatever kind it is, can

do what the vendor says it is supposed to do. These tests do not eliminate the need for States to conduct certification testing to make certain that the equipment can meet the States' requirements based on its laws and practices, and that the equipment can function in its intended environment.

Each State, working with its local election officials, should develop "functional tests and qualitative assessments to ensure that the system functions within State law and practice." (Federal Election Commission *Frequently Asked Questions* p.4) The FEC report goes on to say that:

"Acceptance tests should be performed at the local level -- the end user. The purpose of acceptance tests is to ensure that the units delivered to the user conform to the system characteristics specified in the procurement documentation as well as those demonstrated in the qualification and acceptance tests. Some of the operational tests conducted during qualification should be repeated on each unit during the acceptance test. Only through these ... testing procedures can local election officials ensure that their voting equipment will function accurately and reliably."

### **Voting Equipment - An Ever-Changing Industry**

Voting equipment vendors come and go. Over the years several new voting equipment companies have emerged through a series of consolidations, buy-outs, and spin-offs of established companies. Even though there are new companies, there are still only four generic types of voting equipment.

Keeping in mind that the punch card system of voting may potentially become a casualty of the Presidential Election, there may be many new, innovative and expensive election and voting products on the market over the next four years. It has already been reported that two technical universities are researching new voting and vote counting technology. Local election officials will carry the burden of assuring that all current and new voting equipment is properly tested, that it meets the requirements of the State law and that it will be well accepted by the voting public.

### **Recounting Contested Elections**

In 1990, the Federal Election Commission's Clearinghouse on Election Administration produced a series of reports entitled *Contested Elections and Recounts*. This three volume series was intended to "provide State and local elections officials, State legislators, the Congress and the courts with

information to assist them in maintaining and improving the efficiency and integrity of the process whereby challenges to the outcome of ... elections for federal office are resolved.” (p3 vol. 1)

The report points out that “ninety-nine percent of all races for federal office are resolved firmly and finally in the original official certification. When a challenge *does* occur, however, the process of resolving it is often onerous.” (p. 3 vol. 1) At the time this report was written, no one ever imagined that this statement would be so graphically proven as it was in the most recent presidential election.

There are as many ways of resolving challenges as there are States and State laws, and within the States there are differences in process and procedures based on the type and model of voting equipment used. Article I, Section 5 of the U.S. Constitution provides that “Each House shall be the judge of the elections, returns and qualifications of its own members.” Based on this provision and subsequent court decisions, the extent to which States have assumed jurisdiction in contested federal elections varies by State. Some States do not have provisions in their State law for resolving federal election contests and other say that they apply their State provisions for resolving federal election challenges.

Applying State statutory provisions in federal elections leaves the door open for challenges in State and federal courts – as we have seen in Florida. While it would take a review of current State statutes to determine current provisions for resolving federal election challenges, it is safe to say that most States provisions are incomplete, contradictory and generally open to wide interpretation by local election officials and the local government attorneys who defend them.

State provisions on challenges to federal elections change as State or local election officials face election challenges. Those States that have had contested federal elections have likely updated and changed their laws to reflect court decisions and suggestions for better procedures. The whole matter of law and procedures on contested federal elections and recounts lacks clarity and in many cases frustrates the ability to resolve disputes fairly and efficiently.

There is no doubt that there is a need for clearly defined, well-documented and tested recount procedures. Unfortunately, most States lack them. Most States have their own procedures for verifying the vote count before certifying the final results. Certifying authorities not only want to count votes; they also want to be sure that the final vote totals accurately reflect the will of the voters. Candidates and political parties are more likely to accept the certified results if they are convinced that the tabulation process includes a careful count and verification that the count is correct.

Local election officials are bound, in varying degrees, by their State statutes governing the way votes are to be counted. At a minimum, they are obligated to count and report votes accurately, objectively, and impartially. Also, local election officials are required to prevent partisan bias.

Several States have legislated specific procedures to be used when counting votes and some States provide guidelines for verification of the original count. Most local election officials, however, have incorporated additional methods of validating the results. Local election authorities have been allowed to develop their own methods for verification purposes because most jurisdictions are using a variety of voting systems and models, making it difficult to legislate or mandate any one specific procedure for validating results.

### **Verifying the Vote Count**

Computerized vote counting has always been subjected to vote counting verification. This is because many people do not trust computers, nor do they understand them. Whatever the reason, jurisdictions that use computer vote counting equipment make use of a Logic and Accuracy Test that demonstrates that the machine is counting the votes the way it should and that there has been no tampering with the counting programs. Once the counting program is verified, election officials and certification boards can be assured the count will be accurate.

No matter how accurate the vote count is, however, the computer will not count ballots that have been over-voted and they will flag under-votes in each race. Over-voting, (marking a ballot for more candidates in a race than is allowed), automatically invalidates the vote for that office. Under voting, on the other hand, can mean that voters deliberately did not vote in a race, or that the counting program could not determine if a valid vote existed. The only way to determine if a voter intended to vote in an under-vote situation is to review each under-voted ballot individually. Determining the validity of a vote in a paper ballot and punch card system is a time-consuming, labor-intensive process and tends to be controversial. For this reason, officials who recount questionable ballots must have specific criteria that are required to be used by all counters impartially and consistently throughout the recount period.

Whatever standards are used to recount ballots in local jurisdictions, the critical reason to try to determine voter intent is that our election system is based on the premise that the universal franchise is meaningful and that no vote should be disallowed without a compelling reason.

State legislatures and local election officials are responsible for making sure that their standards for validating or invalidating ballots are consistent with

the current voting and vote counting equipment and that all local jurisdictions know how to apply the standards.

### **County Government Issues**

The process of evaluating, selecting and implementing voting equipment or systems is an integral part of the election administration process. With only four exceptions, purchasing decisions are made at the local level. Procedures for making these decisions are diverse and vary widely from county to county.

Decisions about voting equipment purchases are designed to meet constitutional, jurisdictional and legislative requirements. Counties should be aware that purchasing voting equipment can be problematic because of complex or ambiguous State laws, vendor reliability and history, lack of up-to-date standards, environmental factors, population dynamics, resources, and the absence of a systematic approach to equipment evaluation and State testing.

With the flurry of pending election related legislation, State and county governments are likely to see changes in requirements for voting, vote counting, and ballot certification procedures. It is likely that there will be demands for new voting and counting equipment in jurisdictions that use punch card voting systems. Whatever the results, the one thing counties can count on, is that it is going to cost more time, more effort and more money.

Counties can expect to be inundated by vendors who may or may not have appropriate voting equipment to sell. Already, new voting technology is being developed. While most activity will be directed toward election officials, other county officials will probably have to provide information on how they plan to support the improvements that will be forthcoming.

The intense focus on election process, procedures, equal protection, due process, fraud in elections, voting equipment standards and resolutions to future federal election contests, will, at the very least, put pressure on State legislatures to begin considering what due process means in terms of Statewide uniformity. Statewide uniformity will mean that counties will have to be ready with concrete plans, policies, procedures and resources.

### **Now What?**

The December 12, 2000 Supreme Court decision confirmed the need for each State to review its respective election laws, voting equipment testing and acceptance programs, and assure that recount procedures are consistent with the type(s) of vote counting systems used. It seems clear that the Supreme Court reinforced the equal protection rights of voters to have their ballots

counted in a uniform way - but the questions still remains - what does a uniform way mean?

There will be as many interpretations of the Supreme Court decision as there are election “experts” and attorneys. Whatever the interpretation, it is apparent that States and counties are going to have to recognize that their responsibility to conduct elections includes a financial as well as a legal and technical obligation. Counties will have to provide the administrative and financial resources necessary to assure that their local election authorities are professionally trained and have the expertise to select appropriate technology, train technical staff, hire knowledgeable office staff, and work with the thousands of election-day volunteers who will be responsible for processing voters, handling ballots, and counting the votes.

Counties across the country have to understand that purchasing new voting and vote counting equipment is not the end, but the beginning of a process that will require:

- Understanding the new equipment,
- Testing and accepting it,
- Application training,
- Voter information and education,
- Election day worker training, and
- Sufficient financial resources to implement effectively.

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