

June 2009

# VOTERS WITH DISABILITIES

## More Polling Places Had No Potential Impediments Than in 2000, but Challenges Remain



GAO

Accountability \* Integrity \* Reliability



Highlights of [GAO-09-685](#), a report to congressional requesters

### Why GAO Did This Study

Voting is fundamental to our democratic system, and federal law generally requires polling places to be accessible to all eligible voters, including those with disabilities. In response, states and localities have implemented provisions and practices addressing the accessibility of polling places. However, during the 2000 federal election, GAO found that only 16 percent of polling places had no potential impediments to access for people with disabilities. To address these and other issues, Congress enacted the Help America Vote Act of 2002, which required polling places to have at least one voting system accessible for people with disabilities. However, the extent to which state and local practices have improved accessibility is unknown.

To respond to this issue, GAO determined (1) the proportion of polling places that have features in the path to the voting area that might facilitate or impede access to voting for people with disabilities and how these results compare to our findings from the 2000 federal election and (2) the proportion of polling places that have features in the voting area that might facilitate or impede private and independent voting for people with disabilities. To do this work, GAO visited randomly selected polling places across the country, which were representative of polling places nationwide, on Election Day 2008 to observe features and voting methods that could impede access and to conduct short interviews with polling place officials. GAO also reviewed relevant laws and documentation.

[View GAO-09-685 or key components.](#) For more information, contact Barbara Bovbjerg at (202) 512-7215 or [bovbjergb@gao.gov](mailto:bovbjergb@gao.gov); or William O. Jenkins, Jr. at (202) 512-8777 or [jenkinswo@gao.gov](mailto:jenkinswo@gao.gov).

## VOTERS WITH DISABILITIES

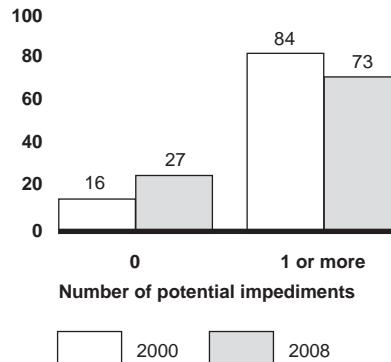
### More Polling Places Had No Potential Impediments Than in 2000, but Challenges Remain

#### What GAO Found

We found that, compared to 2000, the proportion of polling places without potential impediments increased and the most significant reduction in potential impediments occurred at building entrances. We estimate that 27 percent of polling places had no features that might impede access to the voting area for people with disabilities—up from 16 percent in 2000; 45 percent of the polling places had potential impediments but offered curbside voting; and the remaining 27 percent of polling places had potential impediments and did not offer curbside voting. While the percent of polling places with multiple impediments decreased significantly from 2000, still a fair number—16 percent—had four or more potential impediments in 2008. The most significant reduction since 2000 was that potential impediments at building entrances—such as narrow doorways—decreased from 59 percent to 25 percent.

Most polling places we visited on Election Day 2008 had features in the voting area to facilitate private and independent voting, while some had features that could pose challenges. Virtually all polling places had at least one voting system—typically an accessible voting machine in a voting station—to facilitate private and independent voting for people with disabilities. However, we found that 29 percent of the voting stations were not arranged to accommodate a wheelchair. Seventy-seven percent of polling places had voting stations with accessible machines that offered the same or more privacy than stations for other voters, while the remaining polling places had stations that offered less privacy. For example, some voting stations were not positioned to prevent others from seeing how voters using the accessible machines were marking their ballots.

**Proportion of Polling Places with Potential Impediments in the Path to the Voting Area**  
Percentage of polling places



Source: GAO analysis of polling place data collected on Nov. 7, 2000 and Nov. 4, 2008.

The difference between the 2000 and 2008 estimates are statistically significant. For 0 impediments, the 95-percent confidence interval for 2000 data is 11.3 to 21.6 and for 2008 data is 21.9 to 32.7. For 1 or more impediments, the 95-percent confidence interval for 2000 data is 78.4 to 88.7 and for 2008 data is 67.3 to 78.1.

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## Abbreviations

DCI	data collection instrument
HAVA	Help America Vote Act of 2002

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June 10, 2009

### Congressional Requesters

Voting is fundamental to our democratic system, and federal law generally requires federal election polling places to be accessible to all eligible voters, including voters with disabilities. In particular, the Voting Accessibility for the Elderly and Handicapped Act requires that, with a few exceptions, local election jurisdictions assure that polling places used in federal elections are accessible as determined by the state. These requirements can present a challenge to state and local election officials because achieving accessibility—which is affected by a person’s type of impairment, as well as various barriers posed by polling place facilities and voting methods—is part of a larger set of challenges they face in administering elections on a periodic basis. Faced with these challenges, states and localities have implemented provisions and practices addressing the accessibility of polling places for people with disabilities. However, a 1999 study reported that people with disabilities were 10 percent less likely to be registered to vote, after adjusting for differences in demographic characteristics.<sup>1</sup> Additionally, during the 2000 federal election, we found that only 16 percent of polling places had no potential impediments to voting access for people with disabilities—although most polling places with potential impediments offered curbside voting.<sup>2</sup> As the proportion of older Americans increases, the number of voters who may face challenges exercising their right to vote due to mobility and other impairments could grow.

Congress enacted the Help America Vote Act of 2002 (HAVA) to address these and other challenges raised during the 2000 federal election. HAVA required each polling place to have at least one voting system for use in federal elections that is accessible for people with disabilities by January 1, 2006. This voting system can be a direct recording electronic voting system (e.g., touch screen) or another system to provide people with

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<sup>1</sup>See Douglas L. Kruse et al., *A Study of the Political Behavior of People with Disabilities, What Determines Voter Turnout, Executive Summary, Empowerment Through Civic Participation*, Final Report to the Disability Research Consortium Bureau of Economic Research, Rutgers University and New Jersey Developmental Disabilities Council (April 1999).

<sup>2</sup>GAO, *Voters with Disabilities: Access to Polling Places and Alternative Voting Methods*, [GAO-02-107](#) (Washington, D.C.: Oct. 15, 2001).

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disabilities the same opportunity for voting privately and independently as afforded to other voters. While our work since the passage of HAVA has reported improvements in state provisions and local practices to assure accessibility of polling places, the extent to which these provisions and practices have improved accessibility is unknown.<sup>3</sup> To address this issue, you asked us to examine voting access for people with disabilities at polling places on Election Day—November 4, 2008. Specifically, this report examines (1) what proportion of polling places have features in the path to the voting area that might facilitate or impede access to voting for people with disabilities and how these results compare to our findings from the 2000 federal election and (2) what proportion of polling places have features in the voting area that might facilitate or impede private and independent voting for people with disabilities.<sup>4</sup> This study is part of a broader GAO study, which we are also conducting at your request, designed to provide more detail about the proportion of polling places with features that might facilitate or impede voting for people with disabilities compared to 2000; describe state actions to facilitate voting access for people with disabilities; and identify the steps the Department of Justice has taken to enforce HAVA voting access provisions.

To do this work, we visited randomly selected polling places across the country on Election Day—November 4, 2008. We used a two-stage sampling method that created a nationally representative sample of polling places in the contiguous United States with the exception of those in Oregon.<sup>5</sup> The first stage involved selecting a random sample of counties weighted by their total populations. We based the probability of each county's selection on the size of its population so that heavily populated counties, which tend to have more polling places than less-populated counties, would have a greater chance of being selected in the sample. This method allowed us to select a sample that was representative of polling places across the country on Election Day. In addition, the method we used allowed the possibility for counties to be selected multiple times,

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<sup>3</sup>GAO, *Elderly Voters: Some Improvements in Voting Accessibility from 2000 to 2004 Elections, but Gaps in Policy and Implementation Remain*, [GAO-08-442T](#) (Washington, D.C.: Jan. 31, 2008).

<sup>4</sup>This report focuses on access to voting for people with physical disabilities, but does not specifically address access for voters with hearing impairments. It also does not address access to voter registration, in-person absentee voting, or early voting.

<sup>5</sup>We excluded Alaska and Hawaii for cost and efficiency reasons and Oregon because voters exclusively use mail-in ballots.

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resulting in a final selection of 84 unique counties in 31 states (which was the equivalent of 100 counties). The second stage involved randomly selecting eight polling places in each county for each time the county was selected. On Election Day 2008, we visited a total of 730 polling places.<sup>6</sup> At each polling place, we took measurements and made observations of facility features and voting methods that could potentially impede access—such as no accessible parking, high door thresholds, and ramps that were too steep or narrow. We also (1) identified features that could impede private and independent voting for people with disabilities in the voting area such as voting stations that were not properly configured for a wheelchair and (2) conducted short interviews with chief polling place officials to identify other accommodations for voters—such as curbside voting outside the polling place. We documented our observations and interviews with poll workers on our data collection instrument (DCI). The DCI was similar to the one used in our 2000 study of polling places, but we updated the DCI based on changes that have occurred in federal laws and guidance since 2000.<sup>7</sup> We conducted our work from April 2008 through April 2009 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

This study focused on features in the path leading to and within the voting area that might facilitate or impede access to voting for people with disabilities. However, because the extent to which any given feature may affect access is dependent upon numerous factors—including the type or severity of an individual’s disability—we were not able to determine whether any observed feature prevented access. Accordingly, we did not categorize polling places as “accessible” or “inaccessible.” Moreover, we did not determine whether curbside or other accommodations offered at polling places actually facilitated voting. Finally, we did not assess polling

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<sup>6</sup>The 730 polling places we visited on Election Day were located in 79 of the 84 counties we selected for our sample because 5 counties did not grant GAO access to polling places on Election Day. In addition, in several counties, state or county officials granted us access but placed restrictions on our visits, such as preventing us from entering the voting area.

<sup>7</sup>To update our DCI, we reviewed relevant laws such as HAVA and documentation related to polling place accessibility, such as the Department of Justice, Civil Rights Division, Disability Rights Section, *Americans with Disabilities Act: ADA Checklist for Polling Places* (Washington, D.C., February 2004).

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places for legal compliance with HAVA accessible voting system requirements.

On May 15, 2009, we provided a briefing on the results of our work to your staff. With minor clarifications, this report formally conveys information provided during that briefing, which is reproduced in appendix I. We also provided additional information on our research methodology in appendixes II and III.

In summary, we found that compared to 2000, the proportion of polling places with no potential impediments increased and the most significant reduction in potential impediments occurred at building entrances. We estimate that 27 percent of polling places had no potential impediments to the voting area for people with disabilities—up from 16 percent in 2000;<sup>8</sup> 45 percent of polling places had potential impediments but offered curbside voting; and the remaining 27 percent of polling places had potential impediments and did not offer curbside voting.<sup>9</sup> While the percent of polling places with multiple impediments decreased significantly from 2000, still a fair number—16 percent—had four or more potential impediments in 2008.<sup>10</sup> Over 50 percent of polling places had one or more potential impediments on the path from the parking lot to the building entrance, while 14 percent had potential impediments from the building entrance to the voting area.<sup>11</sup> The most significant reduction since 2000 was that potential impediments at building entrances—such as narrow doorways or high door thresholds—decreased from 59 percent to 25 percent.<sup>12</sup>

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<sup>8</sup>The 95-percent confidence interval for 2000 data is 11.3 to 21.6 and for 2008 data is 21.9 to 32.7. The difference between the 2000 and 2008 estimates are statistically significant.

<sup>9</sup>This data is subject to sampling error of plus or minus 8 percentage points at the 95-percent confidence level.

<sup>10</sup>The 95-percent confidence interval for 2000 data is 22.8 to 36.2. The 95-percent confidence interval for 2008 data is 12.2 to 21.1. The difference between 2000 and 2008 data is statistically significant.

<sup>11</sup>This data is subject to sampling error of plus or minus 6.9 percentage points at the 95-percent confidence level.

<sup>12</sup>For the building entrance data, the 95-percent confidence interval for 2000 data is 51.6 to 66.4 and for 2008 data is 16.7 to 34.2. The difference between 2000 and 2008 data is statistically significant.

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Most polling places we visited on Election Day 2008 had features in the voting area to facilitate private and independent voting, while some had features that could pose challenges. Virtually all polling places we visited had at least one voting system—typically an accessible machine in a voting station—to facilitate private and independent voting for people with disabilities. However, we found that 29 percent of the voting stations were not arranged to accommodate a voter in a wheelchair.<sup>13</sup> Seventy-seven percent of polling places had voting stations with accessible machines that offered the same or more privacy than stations for other voters, while the remaining polling places had voting stations that offered less privacy.<sup>14</sup> For example, some voting stations were not positioned to prevent others from seeing how voters using the accessible machine were marking their ballot.

We provided officials at the Department of Justice and the Election Assistance Commission an opportunity to provide technical comments on a draft of this report. The Department of Justice provided a technical comment, which we incorporated into our report.

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We are sending copies of this report to the Department of Justice, the Election Assistance Commission, the U.S. Access Board, relevant congressional committees, and other interested parties. In addition, the report will be made available at no charge on GAO's Web site at <http://www.gao.gov>.

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<sup>13</sup>Based on ADA Accessibility Guidelines for Buildings and Facilities; subject to sampling error of plus or minus 11.4 percentage points at the 95-percent confidence level. Access to the voting area was restricted to GAO at 107 of 730 polling places, and therefore, observations were not collected for those locations.

<sup>14</sup>This data is subject to sampling error of plus or minus 7.8 percentage points at the 95-percent confidence level. This is based on our observations of level of privacy and does not represent a legal evaluation of HAVA compliance.



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If you or your staffs have any questions about this report, please contact Barbara D. Bovbjerg at (202) 512-7215 or [bovbjergb@gao.gov](mailto:bovbjergb@gao.gov), or William O. Jenkins at (202) 512-8777 or [jenkinswo@gao.gov](mailto:jenkinswo@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix IV.



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The Honorable Herbert Kohl  
Chairman

The Honorable Mel Martinez  
Ranking Member  
Special Committee on Aging  
United States Senate

The Honorable Edward M. Kennedy  
Chairman  
Committee on Health, Education, Labor, and Pensions  
United States Senate

The Honorable Robert Bennett  
Ranking Member  
Committee on Rules and Administration  
United States Senate

The Honorable Dianne Feinstein  
The Honorable Tom Harkin  
United States Senate

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# Appendix I: Briefing for Congressional Requesters on Preliminary Findings

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## **Voters with Disabilities: More Polling Places Had No Potential Impediments Than in 2000, but Challenges Remain**

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**Briefing for Congressional Requesters on Preliminary Findings**

**May 15, 2009**

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# Overview

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- Introduction
- Research Objectives
- Summary of Findings
- Background
- Scope and Methodology
- Findings
- Next Steps
- Appendix I



## Introduction

- During the 2000 federal election, a GAO study\* found that only 16 percent of polling places had no potential impediments to voting access for people with disabilities, although most polling places with potential impediments offered curbside voting.
- While the Help America Vote Act of 2002 (HAVA) is designed, in part, to address these issues, questions remain about whether people with disabilities encounter more challenges voting at polling places than those without disabilities.
- This briefing is part of a broader study to provide more detail on whether voting access at polling places has improved since 2000, identify state practices to facilitate access, and describe the Department of Justice's (Justice) role in enforcing voting access under HAVA.

\*GAO, *Voters with Disabilities: Access to Polling Places and Alternative Voting Methods*, [GAO-02-107](#), (Washington, D.C.: Oct. 15, 2001).



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## Research Objectives

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- 1) Determine the proportion of polling places that have features in the path to the voting area that might facilitate or impede access to voting for people with disabilities and determine how these results compare to our findings from the 2000 federal election.
- 2) Determine the proportion of polling places that have features in the voting area that might facilitate or impede private and independent voting for people with disabilities.



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## Summary of Findings

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- Compared to 2000, the proportion of polling places without potential impediments increased—from 16 percent to 27 percent in 2008.
- Virtually all polling places had voting systems to facilitate private and independent voting, although some had features that could pose challenges.



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**Background**

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## **Limited Federal Role in Election Administration**

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- Federal elections are generally administered under state laws and policies, and primary responsibility for managing, planning, and conducting elections typically resides at the local jurisdiction level.
- Prior to 2002, several federal laws applied to voting, and some provisions specifically addressed accessibility issues for people with disabilities. These include
  - The Voting Rights Act of 1965
  - The Voting Accessibility for the Elderly and Handicapped Act
  - The Americans with Disabilities Act of 1990





## Background

# The Help America Vote Act of 2002 (HAVA) Added New Requirements for Voting Access

- HAVA requires each polling place to have at least one voting system for use in federal elections that is accessible for voters with disabilities, which can be a direct recording electronic (DRE) voting system or other system equipped for people with disabilities.
- HAVA also requires that the accessible voting system should provide the same opportunity for people with disabilities to vote privately and independently as afforded by voting systems available to other voters.
- HAVA required states to comply with these requirements by January 1, 2006.



## Background

# Department of Justice Oversees Compliance with Voting Access Requirements of HAVA and ADA

- Justice enforces compliance with the voting access requirements of HAVA by pursuing litigation, on a case-by-case basis. Additionally, Justice oversees other voting legislation.
- Justice issued the *Americans with Disabilities Act: ADA Checklist for Polling Places* in February 2004 to help local voting officials determine if polling places have basic accessibility features for people with disabilities.

Note: We will address the role of Justice in overseeing HAVA voting access compliance and enforcement in our broader voting access report that we plan to issue in September 2009.

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Scope and Methodology

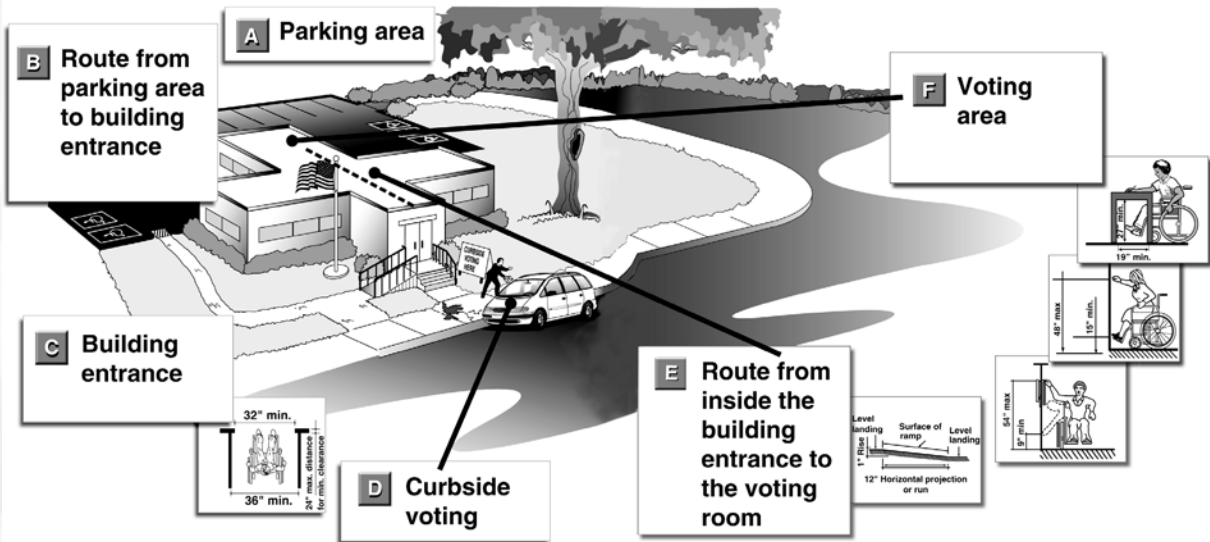


## Updated Data Collection Instrument Used During 2000 Federal Election

- Reviewed relevant legislation, guidance, and other documentation.
- Interviewed officials at Justice and the Election Assistance Commission.
- Received input from the U.S. Access Board, disability advocacy groups, and national associations representing election officials.
- Pre-tested our data collection instrument (DCI) during the presidential primary election in South Dakota in June 2008 and during the congressional primary election in Wisconsin in September 2008.

Scope and Methodology

**Figure 1: DCI Designed to Collect Polling Place Information from Parking Area to Voting Area\***



Sources: GAO and Americans with Disabilities Act Accessibility Guidelines (ADAAG).

\*Voting area refers to the area within the polling place where voters cast their ballot.



Scope and Methodology

**Selected a Nationwide Sample of Polling Places Using a Two-Stage Approach and Visited Most Polling Places in Sample on Election Day\***

Stage I		Stage II	Election Day:
Selected random sample of counties	Requested access to visit polling places in selected counties	Selected random sample of polling places	Conducted site visits
84 unique counties across 31 states	79 counties granted GAO access	746 possible polling places (8 polling places in most counties)	730 polling places

\*See Appendix I for detailed sampling and polling place selection methodology.



## Objective One

### Compared to 2000, More Polling Places Had No Potential Impediments and the Most Significant Reduction Occurred at Building Entrances

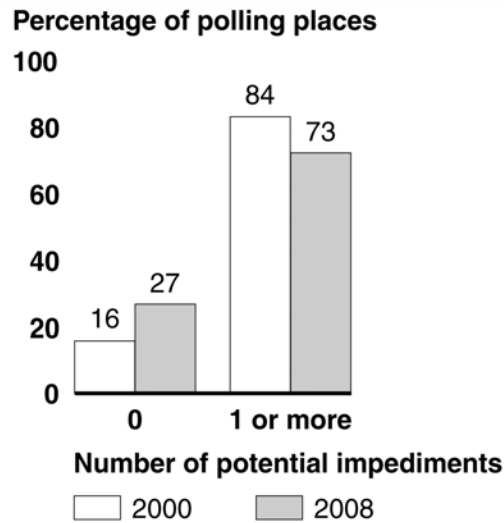
#### Overview of Finding 1

- The proportion of polling places without potential impediments in the path to the voting area increased since 2000.
- The proportion of polling places with potential impediments that did not offer curbside voting remained about the same.
- Polling places that had four or more potential impediments decreased.
- Potential impediments at building entrances dropped sharply.



Objective One

## Figure 2: 27 Percent of Polling Places Had No Potential Impediments in the Path to the Voting Area—Up From 16 Percent in 2000



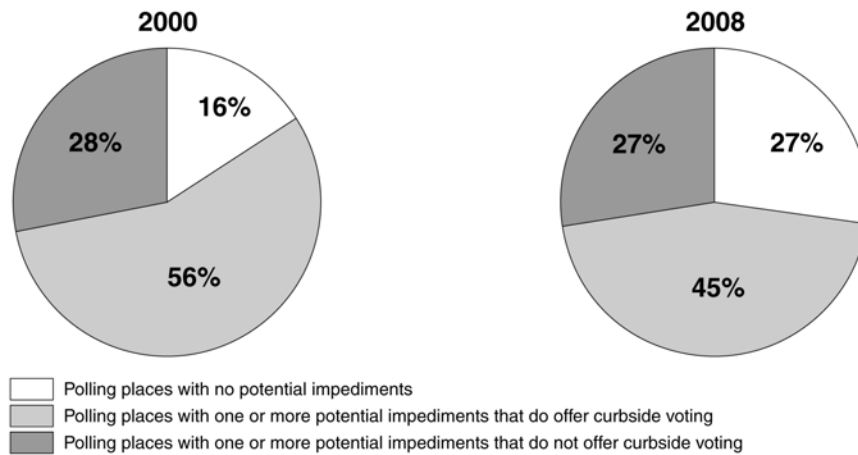
Source: GAO analysis of polling place data collected on Nov. 7, 2000 and Nov. 4, 2008.

Note: The differences between the 2000 and 2008 estimates are statistically significant. For 0 impediments, the 95-percent confidence interval for 2000 data is 11.3 to 21.6 and for 2008 data is 21.9 to 32.7. For 1 or more impediments, the 95-percent confidence interval for 2000 data is 78.4 to 88.7 and for 2008 data is 67.3 to 78.1.



Objective One

**Figure 3: The Proportion of Polling Places with Potential Impediments That Did Not Offer Curbside Voting Remained about the Same**



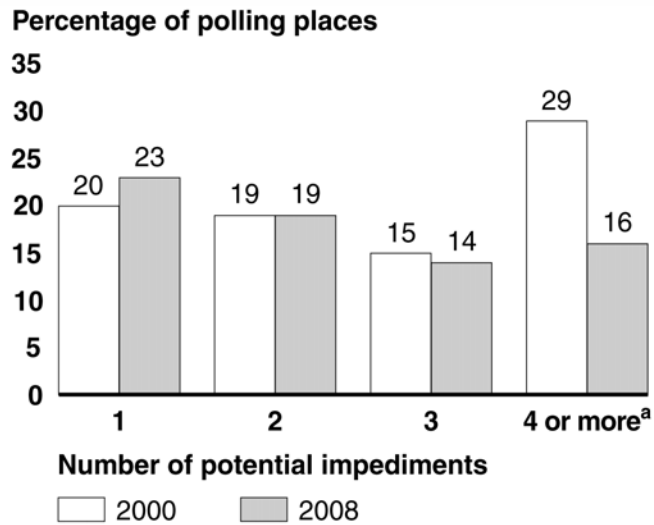
Source: GAO analysis of polling place data collected on Nov. 7, 2000 and Nov. 4, 2008.

Note: The difference between the percentage of polling places with one or more impediments that did not offer curbside voting in 2000 and 2008 data is not significant. The 2008 data is subject to sampling error of plus or minus 8 percentage points at the 95-percent confidence level. The 2008 pie chart only adds up to 99 percent because we rounded each percentage to the nearest whole percent.



Objective One

### Figure 4: The Proportion of Polling Places That Had Four or More Potential Impediments Decreased Significantly



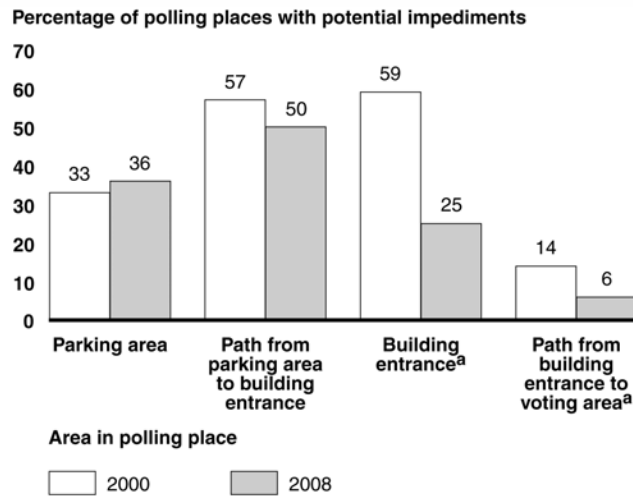
Source: GAO analysis of polling place data collected on Nov. 7, 2000 and Nov. 4, 2008.

<sup>a</sup>The difference between 2000 and 2008 data is statistically significant. The 95-percent confidence interval for 2000 data is 22.8 to 36.2. The 95-percent confidence interval for 2008 data is 12.2 to 21.1.



Objective One

## Figure 5: Potential Impediments at Building Entrances Have Dropped Sharply Since 2000



Source: GAO analysis of polling place data collected on Nov. 7, 2000 and on Nov. 4, 2008.

<sup>a</sup>The difference between 2000 and 2008 data is statistically significant. For the building entrance data, the 95-percent confidence interval for 2000 data is 51.6 to 66.4 and for 2008 data is 16.7 to 34.2. For the path from building entrance to voting area data, the 95-percent confidence interval for 2000 data is 9.8 to 18.2 and for 2008 data is 3.7 to 8.0.



## Objective Two

### **Most Polling Places Had Features in the Voting Area to Facilitate Private and Independent Voting, While Some Had Features That Could Pose Challenges**

#### **Overview of Finding 2:**

- Almost all polling places had at least one voting system to facilitate private and independent voting for people with disabilities.
- Some voting systems had features that could pose challenges for voters in wheelchairs.
- Most polling places offered people with disabilities the same or more privacy for voting than offered to other voters.



## Objective Two

# Almost All Polling Places Had an Accessible Voting System

- All but one polling place we visited had an accessible voting system to facilitate private and independent voting for people with disabilities.
  - In all but a few polling places, the accessible voting system was a voting machine.
    - The accessible voting machines had special features for people with disabilities, such as an audio function to allow voters to listen to voting choices.
    - The most common type of accessible voting machine at polling places we visited was Automark, followed by Premier Accuvote.
  - However, close to 5 percent of polling places had an accessible voting machine that was not set up and powered on.\*

Note: We did not assess polling places' legal compliance with HAVA accessible voting system requirements.

\*The 95-percent confidence interval for this estimate is 2.8 to 8.3.

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## Objective Two

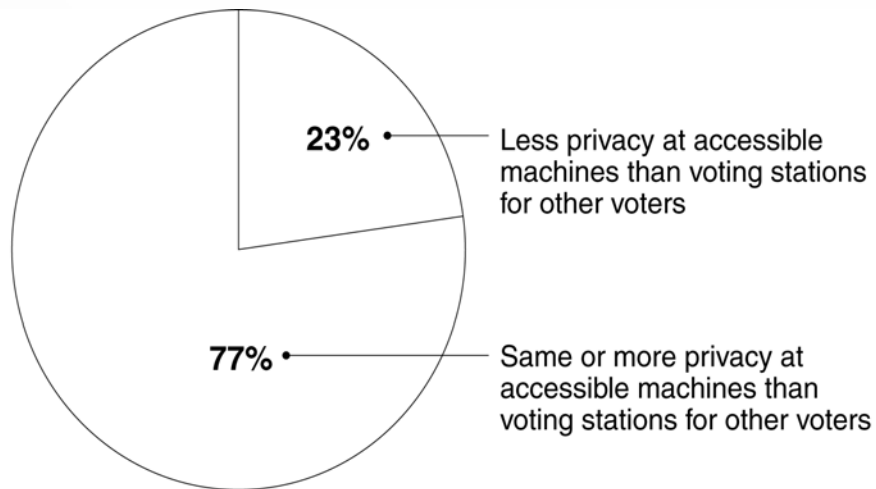
# 29 Percent of Polling Places Had Voting Systems That Could Pose Challenges for Voters in Wheelchairs

- While virtually all polling places had voting systems with accessible machines, 29 percent of polling places had machines located in voting stations that did not have the minimum height, width, or depth dimensions to position a wheelchair within the station.\*
  - We did not ask GAO observers to determine if other accommodations could be made to assist voters in wheelchairs.

\*Based on ADA Accessibility Guidelines for Buildings and Facilities; subject to a sampling error of plus or minus 11.4 percentage points at the 95-percent confidence level. Access to the voting area was restricted to GAO at 107 of 730 polling places, and therefore, observations were not collected for those locations.

Objective Two

### Figure 6: Most Polling Places Offered People with Disabilities the Same or More Privacy for Voting Than Offered to Other Voters



Source: GAO analysis of polling place data collected on Nov. 4, 2008.

Note: Subject to sampling error of plus or minus 7.8 percentage points at the 95-percent confidence level. This is based on our observations of level of privacy and does not represent a legal evaluation of HAVA compliance.



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## Next Steps

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- These findings are part of our broader study designed to
    - provide additional detail on polling places with features that might facilitate or impede voting for people with disabilities,
    - identify states' actions to facilitate voting access for people with disabilities, and
    - describe the steps Justice has taken to enforce HAVA voting access provisions.
  - We plan to issue a report on this broader voting access study in late September 2009.
  - We also plan to issue a report on voting practices for residents in long-term care facilities in late November 2009.
-

Appendix I



## Selected a Nationwide Sample of Polling Places Using a Two-Stage Approach: Stage One

- We selected a random sample of counties in the contiguous United States with probability proportionate to their total population. We made 100 selections with replacement from the list of counties. We excluded Alaska and Hawaii for cost and efficiency reasons and Oregon because its voters exclusively use mail-in ballots.
- This method allowed the possibility for counties to be selected more than once and allowed us to select a sample that was representative of polling places on Election Day. Out of 100 selections, we ended up with a final selection of 84 unique counties across 31 states.



Appendix I



## Selected a Nationwide Sample of Polling Places Using a Two-Stage Approach: Stage Two

- We chose a random sample of 8 polling places from each county for each time it was selected in stage one.\* For example, we selected 8 polling places if a county was selected once, and 16 polling places if it was selected twice.
- Each set of 8 polling places was assigned to a team of two GAO staff.

\*In two counties, less than 8 polling places were selected: one county only had 3 polling places because it is located in a primarily vote-by-mail state, and in another county, 1 of the 8 polling places was a mail-in only location. 23

Appendix I



## Arranged Access to Polling Places on Election Day

- We contacted state and local election officials to obtain permission to visit polling places selected in our sample on Election Day.
  - GAO received approval from 79 of the 84 unique counties in our sample.\*
  - In several counties, state or county officials granted us access but asked us not to enter the voting area or to wait to interview polling place officials until after Election Day.

\*One county where we did not gain access was selected twice in our sample.

Appendix I



## Conducted Polling Place Visits on Election Day 2008

- GAO teams (composed of two GAO staff) visited polling places on Election Day—November 4, 2008—to take measurements, make observations, and conduct a short interview with chief polling place officials. Some of these measurements include:
  - Slope of ramps or cut curbs are no steeper than 1:12
  - Surface is paved or has no abrupt change over ½ inch
  - Single- or double-door openings are 32 inches or wider
- GAO teams visited 730 of 746 (98 percent) of the polling places where we had been granted access.
- We performed our work from April 2008 to April 2009 in accordance with generally accepted government auditing standards.

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# Appendix II: Scope and Methodology

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This appendix provides more details about our methodology for selecting our sample of polling places, conducting our 2008 Election Day site visits, updating the data collection instrument (DCI), and analyzing Election Day data.

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## Selection of Polling Places

We used a two-stage sampling method to select the polling places that we visited on Election Day—November 4, 2008. In stage one, we selected a sample of counties. Each county we selected was treated as a “cluster” of polling places. In stage two, we selected a sample of polling places from within each county.

Since there is no central list of all of the polling places in the United States, the first stage of our sampling method started with all counties, because most elections are administered at the county level.<sup>1</sup> For cost and efficiency reasons, we confined our list of counties to those in the contiguous United States, including the District of Columbia, thus excluding Alaska and Hawaii. We also excluded Oregon because eligible residents have voted almost exclusively by mail since 1998. The total number of counties from which we sampled was 3,074. The list of county population sizes was constructed from 2005 American Community Survey data. We used jurisdictions’ total population size to define the probability of selection in the first stage of sampling because these census data were readily available for all counties and county equivalents. Although it would have been useful to define the sample using national data on all registered voters or all eligible voters, we did not use numbers of registered voters because census data on registered voters were not available at the county level nationwide. In addition, we did not use numbers of eligible voters (individuals 18 years old and over) because census data allowing us to exclude noncitizens and felons—groups that are not eligible to vote—from the 18 years and over population were also not available at the county level nationwide.

Because polling places were the unit of our analysis, we used a sampling method known as probability proportionate to size with replacement. In this method, the probability of selecting any county, or cluster, varies with the size of the county, giving larger counties a greater probability of

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<sup>1</sup>We selected counties and cities that are county-equivalents for census purposes. In eight counties in our sample, officials at the subcounty level, such as towns and cities, administer elections.

selection and smaller counties a lower probability. The measure of size is the population of the county divided by the total population of all the states in our sample. Each time a county was selected, we returned it to the sample universe, which gave it an additional chance of being selected. Therefore, it was possible that we could select any one county multiple times in the sample. This method allowed us to select a sample that was representative of polling places across the country on Election Day. Using this sampling method, we selected a total of 84 unique counties in 31 states, or the equivalent of 100 counties, with 12 counties being selected more than once.<sup>2</sup>

In the second stage, we selected a random sample of polling places in each county selected in stage one. To do this, we searched the Internet to see if each county posted a listing of its polling places. If so, we downloaded the list.<sup>3</sup> If not, we contacted county or state officials to obtain a list of polling places. For each county list, we selected a random sample of eight polling places for each time the county was selected in our sample. For example, if a county was selected once, we selected 8 polling places, and if a county was selected two times, we selected 16 polling places. Election officials in 79 of 84 unique counties (the equivalent of 94 of 100 counties) in our sample granted us permission to visit on Election Day,<sup>4</sup> for a total of 746 polling places.<sup>5</sup>

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## Description of Site Visits and the DCI

On Election Day, November 4, 2008, GAO sent out teams of two GAO staff to counties in our sample.<sup>6</sup> Each team was equipped with a DCI on which to record their observations and the necessary measurement tools: the

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<sup>2</sup>See appendix III for a list of the counties we visited.

<sup>3</sup>In cases where we downloaded a list of polling places from the Internet, we confirmed with county election officials that this was the most current list. In counties where township or city officials administered elections, we contacted all townships or cities within the county and asked for their lists of polling places as well as their permission to visit polling places in their jurisdiction.

<sup>4</sup>One county where we did not gain access was selected twice in our sample.

<sup>5</sup>Two counties had less than eight polling places: One county only had three polling places because it is in a primarily vote-by-mail state, and in another county, one of the eight polling places was a mail-in only location.

<sup>6</sup>Representatives of state or county election officials accompanied GAO teams in six counties, but they did not participate in the team's observations or interviews with polling place officials.

ADA Accessibility Stick II<sup>TM</sup>, a fish scale, and a tape measure.<sup>7</sup> GAO monitored the activities of the teams throughout Election Day and provided assistance by telephone from our Washington, D.C. headquarters.

To ensure uniform data collection across the country, we trained all teams in how to

- properly fill out each question on the DCI,
- use the necessary measurement tools, and
- interview the chief poll worker in each polling place about the accessible voting systems as well as accommodations for voters with disabilities.

We also instructed teams on the appropriate times for visiting polling places and not to approach voters or interfere with the voting process in any way during their visits.

Each GAO team that visited a county on Election Day received a list of up to eight polling places to visit.<sup>8</sup> The first polling place on their list was randomly determined. We then used geocoding software and the address of the polling places to determine the latitude and longitude coordinates for all of the polling places they were scheduled to visit. The latitude and longitude coordinates were used to determine the ordering after the first polling place, which minimized the net travel distance. This geocoding of the addresses allowed the GAO audit teams to minimize the travel distance between their polling places on Election Day. To maintain the integrity of the data collection process, GAO teams were instructed not to disclose the location of the selected polling places ahead of time.

In some cases, states or counties placed restrictions on our visits to polling places. For example, laws in some states prohibit nonelection officials from entering the voting room or voting area. Election officials in several counties granted us access on the condition that we not interview

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<sup>7</sup>The ADA Accessibility Stick II<sup>TM</sup> is a tool designed to measure potential structural impediments in buildings and on walkways. It was designed and manufactured by Access, Inc., Lawrence, Kan. The fish scale was used to measure the force required to open a door and was included in our study as a pilot measure.

<sup>8</sup>The types of buildings used for polling places varied widely but typically included houses of worship, schools, libraries, courthouses, police or fire stations, and community centers.

polling place officials on Election Day, and in several polling places, officials were too busy assisting voters to be interviewed.<sup>9</sup> In these cases, we e-mailed and/or called chief polling place officials after Election Day to complete the interview. Polling place officials contacted after Election Day were asked the same questions as the officials interviewed on Election Day. Due to constraints of time and geography, some teams were not able to visit all eight polling places, but overall, GAO teams were able to visit 98 percent of randomly selected polling places, or 730 of 746 polling places in 79 counties across 31 states.

GAO teams used a DCI that was similar to the one used in our 2000 study of polling places to record observations and measurements taken inside and outside of the polling place and capture responses from our interviews with chief polling place officials. However, we updated the DCI based on changes that have occurred in federal laws and guidance since 2000. The primary sources we used to determine the most current requirements and standards for evaluating polling place accessibility were the voting system requirements specified in the Help America Vote Act of 2002 (HAVA)<sup>10</sup> and polling place accessibility guidance in the *Americans with Disabilities Act: ADA Checklist for Polling Places*, issued by the Department of Justice in 2004.<sup>11</sup> In addition, disability advocates and representatives of the U.S. Access Board reviewed a draft version of our DCI, and we incorporated their comments as appropriate. We also received input from officials of the Department of Justice, Election Assistance Commission, and national organizations that represented election officials. Finally, to ensure that GAO teams could fill out the instrument in the field and complete it in a reasonable amount of time, we pretested the DCI during the presidential primary election in South Dakota in June 2008 and the congressional primary election in Wisconsin in September 2008.

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<sup>9</sup>State or county election officials restricted GAO teams from interviewing polling place officials in 10 counties on Election Day, although we were allowed to interview officials in all but 1 county after Election Day.

<sup>10</sup>HAVA requires that each polling place have at least one voting system for use in federal elections that is accessible for voters with disabilities and provide the same opportunity for people with disabilities to vote privately and independently as afforded by voting systems available to other voters.

<sup>11</sup>U.S. Department of Justice, Civil Rights Division, Disability Rights Section, *Americans with Disabilities Act: ADA Checklist for Polling Places* (Washington, D.C., February 2004). This checklist is a self-help survey that voting officials can use to determine whether a polling place has basic accessible features needed by most voters with disabilities.

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## Analysis of Election Day Data

In analyzing the data collected on Election Day, we first examined features that might facilitate or impede access on the path to the voting area.<sup>12</sup> In doing so, we looked at features at four different locations at the polling place: the parking area, the path from the parking area to the building entrance, the building entrance, and the path from the building entrance to the voting area. These features included:

- Slope of ramps or cut curbs along the path are no steeper than 1:12.
- Surface is paved or has no abrupt changes over ½ inch.
- Doorway threshold does not exceed ½ inch in height.
- Single- or double-door openings are 32 inches or wider.

The percentage of polling places cited as having one or more potential impediments was based on whether or not a polling place was found to have at least one feature that might impede access to voting in any of the four locations we examined and does not include potential impediments associated with the voting area itself.

While features of the voting area were not included in our summary measure of whether a polling place had a potential impediment, we did look for features that might facilitate or impede private and independent voting inside the voting area. We identified the types of voting methods available to voters with and without disabilities and took measurements of the voting station or table used by people with disabilities to determine whether wheelchairs could fit inside the station or under the table and whether equipment was within reach for wheelchair users. We collected information on the accessible voting systems required under HAVA to determine the extent to which the system had features that might facilitate voting for people with disabilities and allow them to vote privately and independently. We also briefly interviewed chief poll workers at most of the polling places we visited to find out whether curbside voting was available and how the poll workers would handle voter requests for assistance from a friend, relative, or election official.

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<sup>12</sup>We did not assess polling places' legal compliance with HAVA accessible voting system requirements.



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## Sampling Errors

All sample surveys are subject to sampling error, which is the extent to which the survey results differ from what would have been obtained if the whole universe of polling places had been observed. Measures of sampling error are defined by two elements—the width of the confidence interval around the estimate (sometimes called precision of the estimate) and the confidence level at which the interval is computed. The confidence interval refers to the range of possible values for a given estimate, not just a single point. This interval is often expressed as a point estimate, plus or minus some value (the precision level). For example, a point estimate of 75 percent plus or minus 5 percentage points means that the true population value is estimated to lie between 70 percent and 80 percent, at some specified level of confidence.

The confidence level of the estimate is a measure of the certainty that the true value lies within the range of the confidence interval. We calculated the sampling error for each statistical estimate in this report at the 95-percent confidence level and present this information throughout the report.

# Appendix III: Alphabetical List of Counties Randomly Selected for Site Visits on Election Day, November 4, 2008

Number of county selected	County	State	Number of times county selected in random sample
1	Allegany <sup>a</sup>	Maryland	1
2	Allegheny	Pennsylvania	3
3	Anderson	Texas	1
4	Anoka	Minnesota	2
5	Ashland	Ohio	1
6	Bannock	Idaho	1
7	Berks <sup>a</sup>	Pennsylvania	2
8	Brazoria	Texas	1
9	Bristol	Massachusetts	1
10	Broward	Florida	1
11	Centre	Pennsylvania	1
12	Clarion	Pennsylvania	1
13	Columbiana	Ohio	1
14	Cumberland	Maine	1
15	Cuyahoga	Ohio	1
16	Dallas	Texas	1
17	Del Norte	California	1
18	Denton	Texas	1
19	Denver	Colorado	1
20	District of Columbia	Washington, D.C.	1
21	Douglas	Colorado	1
22	East Baton Rouge Parish	Louisiana	1
23	Elkhart	Indiana	1
24	Estill	Kentucky	1
25	Fairfax	Virginia	1
26	Franklin	Ohio	1
27	Franklin <sup>a</sup>	Pennsylvania	1
28	Greenville	South Carolina	1
29	Gwinnett	Georgia	2
30	Harris	Texas	1
31	Hillsborough	Florida	1
32	Howard	Maryland	1
33	Huntington	Indiana	1
34	Indiana	Pennsylvania	1
35	Lafayette	Mississippi	1

**Appendix III: Alphabetical List of Counties  
Randomly Selected for Site Visits on Election  
Day, November 4, 2008**

<b>Number of county selected</b>	<b>County</b>	<b>State</b>	<b>Number of times county selected in random sample</b>
36	Lake	Ohio	1
37	Lancaster	Nebraska	1
38	Lancaster	South Carolina	1
39	Lauderdale	Alabama	1
40	Lincoln	Kentucky	1
41	Lincoln	Maine	1
42	Los Angeles	California	2
43	Macon	Illinois	1
44	Madison	Ohio	1
45	Mahoning	Ohio	1
46	Maricopa	Arizona	2
47	Marion	Indiana	1
48	McPherson	Kansas	1
49	Medina	Ohio	1
50	Miami-Dade	Florida	2
51	Middlesex	Massachusetts	1
52	Mitchell	Georgia	1
53	Monmouth	New Jersey	2
54	Monterey	California	1
55	Montgomery	Maryland	1
56	New York City <sup>b</sup>	New York	5
57	Newton	Georgia	1
58	Ocean	New Jersey	1
59	Philadelphia <sup>a</sup>	Pennsylvania	1
60	Pima	Arizona	1
61	Pinellas	Florida	2
62	Rice	Minnesota	1
63	Rockford City	Illinois	1
64	Russell	Kansas	1
65	Sacramento	California	2
66	San Diego	California	2
67	San Luis Obispo	California	1
68	Santa Clara	California	1
69	Saratoga	New York	1
70	Sherburne	Minnesota	1
71	Stafford	Virginia	1

**Appendix III: Alphabetical List of Counties  
Randomly Selected for Site Visits on Election  
Day, November 4, 2008**

<b>Number of county selected</b>	<b>County</b>	<b>State</b>	<b>Number of times county selected in random sample</b>
72	Stark	Ohio	1
73	Sullivan <sup>a</sup>	New York	1
74	Swisher	Texas	1
75	Travis	Texas	1
76	Tulsa	Oklahoma	1
77	Virginia Beach city	Virginia	1
78	Wake	North Carolina	1
79	Washington	Utah	1
80	Wayne	Michigan	1
81	Weber	Utah	1
82	Westmoreland	Pennsylvania	1
83	Will	Illinois	1
84	Yakima	Washington	1
			<b>100</b>

Source: GAO.

Notes: We selected counties and cities that are county-equivalents for Census purposes.

<sup>a</sup>We were not granted permission to visit polling places in this county on Election Day.

<sup>b</sup>Because New York City manages elections at the city level, we treated it as one county when selecting our random sample.

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# Appendix IV: GAO Contacts and Staff Acknowledgments

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## GAO Contacts

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## Staff Acknowledgments

Brett Fallavollita, Assistant Director, and Laura Heald, Analyst-in-Charge, managed this assignment. Carolyn Blocker, Katherine Bowman, Ryan Siegel, and Amber Yancey-Carroll made significant contributions to this report in all aspects of the work. Jason Palmer, Susan Pachikara, Gretta Goodwin, and numerous staff from headquarters and field offices provided assistance with Election Day data collection. Carl Barden, George Quinn, and Walter Vance provided analytical assistance; Alex Galuten provided legal support; Jessica Orr provided assistance on report preparation; Mimi Nguyen developed the report's graphics; and Kathy Peyman, Nancy Purvine, and Paul Wright verified our findings.

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*Election Assistance Commission—Availability of Funds for Purchase of Replacement Voting Equipment.* B-316107. Washington, D.C.: March 19, 2008.

*Elderly Voters: Some Improvements in Voting Accessibility from 2000 to 2004 Elections, but Gaps in Policy and Implementation Remain.* [GAO-08-442T](#). Washington, D.C.: January 31, 2008.

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*Elections: Federal Efforts to Improve Security and Reliability of Electronic Voting Systems Are Under Way, but Key Activities Need to Be Completed.* [GAO-05-956](#). Washington, D.C.: September 21, 2005.

*Elections: Electronic Voting Offers Opportunities and Presents Challenges.* [GAO-04-975T](#). Washington, D.C.: July 20, 2004.

*Elections: A Framework for Evaluating Reform Proposals.* [GAO-02-90](#). Washington, D.C.: October 15, 2001.

*Voters with Disabilities: Access to Polling Places and Alternative Voting Methods.* [GAO-02-107](#). Washington, D.C.: October 15, 2001.

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