

BRENNAN

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FOR JUSTICE

Better
Design,
Better
Elections

Lawrence Norden with Whitney Quesenbery and David C. Kimball

Brennan Center for Justice *at New York University School of Law*

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Contents

Key Points	i
Introduction	2
2012 Election Recommendations	6
Design and Usability: How Elections Have Fallen Behind	9
Ballot Design Checklist	10
Lost Votes: A Primer	12
Design and Usability Problems in 2008 and 2010	15
Problem 1: Ballot Layouts That Invite Overvotes or Undervotes	16
Ballots that Invite Undervotes: Failure to Differentiate Between Contests, East St. Louis, IL., 2008	16
How East St. Louis 2008 Echoes Sarasota 2006	18
Ballots that Invite Overvotes: Split Contest, Ohio 2008	19
Ballots that Invite Overvotes: Split Contests, New York City 2010	20
Problem 2: Poor Voter Instructions	22
Missing Instructions: Miami-Dade County, Florida, 2008 and 2010	22
Confusing Instructions: Ohio, 2010	24
Problem 3: Unclear Voting Machine Messages	26
Inadequate Overvote Warnings: Florida 2008 and New York 2010	26
Problem 4: Difficult Absentee and Provisional Ballot Envelopes	30
The Evolution of A Better Absentee Ballot Envelope, Minnesota After 2008	31
A Better Provisional Ballot Envelope: New York	34
How Usability Testing, Voter Education, and Corrective Action Have Saved Votes	36
Voting Both Sides of the Ballot: Sarasota And Duval Counties, Florida 2008	37
Voter Education About Straight-Party Voting Rules: North Carolina, 2008	39
Voter Education About Cumulative Voting Rules: Port Chester, New York, 2010	41
Corrective Action from the Chief Election Office, Ohio 2008	43
Endnotes	44

Key Points

American elections are marred by major design problems. As smartphones and computer tablets have convinced many people and businesses of the importance of good design and usability, elections have changed far more slowly.

- Poor design increases the risk of lost or misrecorded votes among all voters, but the risk is even greater for particular groups, including low-income voters and the elderly.
- As documented in this report, several hundred thousand votes were not counted in the 2008 and 2010 elections because of voter mistakes, in some cases affecting the outcome of critical contests.
- The rise of absentee and provisional voting since 2000 has only increased the importance of design in elections. We estimate that in the 2008 and 2010 general elections combined, as many as 400,000 people had their absentee or provisional ballot rejected because they made technical mistakes completing the forms or preparing and returning the envelope.
- There are simple measures election officials can take before November to cure design defects in ballots, voting machines, and voter instructions.
- We encourage election officials to review lost vote data from previous elections, conduct usability tests, and work with experts to find design problems and solutions before this November's election.

Introduction

Design problems continue to have a major impact on elections. In 2008, the Brennan Center for Justice publication *Better Ballots* documented how design errors continued to plague elections, leading to the loss of hundreds of thousands of votes. The report made several policy recommendations to alleviate this chronic problem.

This report continues the work of *Better Ballots*, detailing a few of the biggest design flaws in the elections of 2008 and 2010. Unlike *Better Ballots*, which only discussed Election Day ballots, this report also includes voting machine error messages, provisional and absentee ballot envelopes, and voter education materials. The quality of design of all of these materials can be the difference between counting and losing voters' intended choices.

What has happened in the last four years? In the commercial context, a lot. In particular, smartphones and computer tablets have convinced many people and businesses of the significance of design and usability. More generally, as detailed on page 9 of this report, important segments of the private and public sectors are increasingly using design and usability research to improve the ability of customers to use their products.

Within elections there has been some progress, but there are still far too many flaws — mistakes that could easily be fixed before Election Day, saving hundreds of thousands of votes.

The Bad News: More Mistakes, More Lost Votes

Better Ballots examined 13 common ballot design problems. Despite the fact that these design flaws have been shown repeatedly to cause lost votes, many appeared on ballots again in 2008 and 2010.

The rise of absentee and provisional voting since 2000 has made ballot design in our elections even more important. A mistake or oversight in filling out an absentee ballot can be the difference between that ballot being counted or rejected in its entirety. We estimate that in the 2008 and 2010 general elections combined, as many as 400,000 people had their absentee or provisional ballot rejected because they made technical mistakes completing the forms or preparing and returning the envelope.¹

Poor design increases the risk for lost or misrecorded votes among all voters, but the risk is even greater for particular groups. Several studies have shown higher rates of lost or misrecorded votes in low-income and minority communities as well as for the elderly and the disabled;² a number of these studies also show that improvements in voting equipment and ballot design result in substantial reductions in voting errors among these voters.³

Some have dismissed the importance of usability in elections, arguing that voters only have themselves to blame if they fail to navigate design flaws. This misunderstands the purpose of elections. They are not a test of voters' ability to follow confusing designs or complicated instructions; they are, instead, a mechanism by which voters express their preference for candidates and policies. No legitimate public purpose is served by designs that distort voters' choices.

The Good News: Mistakes Can Be Fixed

Fortunately, the news is not all bad. In the last few years, there has been growing support for the technological, administrative, and legislative solutions recommended in *Better Ballots*. More advocates, election officials, voting system vendors, and legislators are focused on eliminating these problems.

Election officials in several jurisdictions have instituted a more rigorous design process, including consulting design experts and conducting usability testing. These measures have improved usability and saved many votes. Examples of election materials produced from this improved process are on pages 27, 31, 33, and 38.

Although the “big picture” solutions recommended in *Better Ballots* are necessary to finally cure the systemic problem of poor design, there is much that jurisdictions can do before November to avoid the pitfalls outlined in this report and *Better Ballots*. Importantly, these steps are relatively easy. There is ample knowledge and research on what is necessary for clear election design. Following the recommendations in these reports will ensure that ballots get counted and reflect what voters intend.

- In June 2007, the U.S. Election Assistance Commission (EAC) published *Effective Designs for the Administration of Federal Elections*. The report contains detailed guidelines and templates for election officials to design more usable election materials. The EAC report was prepared by Design for Democracy, an initiative of AIGA (the professional organization for design), which also published a book on effective ballot design.⁴
- In 2008, the Brookings Institution published *Voting Technology: The Not-So-Simple Act of Casting a Ballot*, which used empirical research to quantify voters’ reactions to different voting systems, including their ability to use these technologies to cast their intended choices accurately.⁵
- The *Field Guides to Ensuring Voter Intent* summarizes research by the EAC and National Institute of Standards and Technology (NIST) on ballot design, writing instructions, poll worker materials, and usability testing.
- *Better Ballots* listed 13 frequent ballot problems and provided a checklist of best practices. A modified version of that checklist is reproduced at the front of this report on pages 10–11.

Additionally, the number of designers with expertise in the field is growing, and election officials are seeking their assistance. For example, Design for Democracy has worked on election materials in Illinois, Kansas, Nebraska, New York, Oregon, and Washington. Designers in Minnesota and New York have created election materials inspired by the *Effective Designs* guidelines. Usability in Civic Life (a project of the Usability Professionals Association) has worked on projects in California, Florida, Kansas, Minnesota, New York, and Ohio. Experts from all of these groups have made presentations at many conferences, from the International Association of Clerks, Records, Election Officials, and Treasurers (IACREOT) to the National Association of Elected Officials (the Election Center).

In the next few weeks, election officials will design the ballots and election forms voters will use this November. This report provides officials with some simple steps to ensure that not only are voters' voices heard, but that they are heard without distortion.

2012 Election Recommendations

As election officials finalize ballots and other election forms in the next several weeks, there are several simple measures that can be taken to ensure the intent of voters is recorded accurately.

1. Review Lost Vote Data

The data in this report are from official election results. Election officials should review their own data on lost votes to determine what problems they may encounter in November. Such an evaluation could help set priorities for the next few months.

2. Create a Checklist of Design Best Practices

On pages 10–11 of this report, we provide a starting point for a design review — a checklist of design best practices. Checklists help election officials and designers create well-organized, easily comprehensible ballots and other election materials that allow voters to cast their intended votes efficiently and effectively.

There are several additional good starting points to develop your own checklist:

- Field Guides to Ensuring Voter Intent, by members of Usability in Civic Life and AIGA Design for Democracy — civicdesigning.org/fieldguides;
- AIGA Top 10 Election Design Guidelines — aiga.org/election-design-top-ten/; and
- Center for Plain Language Checklist — centerforplainlanguage.org/about-plain-language/checklist/.

We provide examples of how usability testing has benefited election officials and voters in past elections throughout this report.

3. Conduct Usability Testing

No matter how thoughtful election officials may be or how many top-flight experts they hire, there is no substitute for usability testing. Usability testing uncovers potential problems, providing an early warning of issues that may arise this fall. Once election officials are aware of any issues, they can address them in poll worker training or voter education.

Some resources for usability testing are:

- The Field Guild to Ensuring Voting Intent, Volume 3, “Testing ballots for usability,” offers an overview of the process. civicdesigning.org/fieldguides;
- The Local Election Official Usability Testing Kit has a full set of instructions and test materials. usabilityinciviclelife.org/voting/leo-testing-kit/; and
- *Better Ballots* discusses usability testing and its benefits (see pages 10-11). brennancenter.org/content/resource/better_ballots/.

4. Make Voters Aware of Potential Problems

When usability testing reveals design problems, election officials should do what they can to make necessary changes to improve the likelihood that voter intent will be accurately recorded. Sometimes, of course, problems cannot be fully addressed before the election — for instance, because of requirements imposed by state law or voting system constraints. In these cases, voter education will be critical.

In the face of serious design flaws, public education has had mixed success.⁶ Still, recent evidence suggests that if targeted and conducted with sufficient resources, public education can significantly reduce voter errors.

For instance, a 2009 study by Professors Christopher Mann of the University of Miami, Rachel Sondheimer of the U.S. Military Academy at West Point, and Pam Anderson, Jefferson County, Colorado Clerk & Recorder suggests that robocalls to voters in all mail elections can “mitigate some problems in administering mail ballot elections,” including getting voters to request replacement ballots when their ballots were spoiled due to errors.⁷

We provide real world examples of how voter education has been used to partially overcome the impact of design problems on pages 39–42.

Design and Usability: How Elections Have Fallen Behind

Elections are not the only place where good design and usability has an impact. In the world of business, there is a growing understanding of how critical design and usability are to the bottom line. Increasingly, leading businesses monitor their own web sites for usability and invest in design and usability research to understand new audiences and keep up with changes in their current customer base. Business research firms⁸ consider usability and user experience alongside more traditional technology and marketing strategies as critical to business success.

The federal government has also been paying attention. The Plain Writing Act of 2010⁹ requires agencies to write all public documents in a “clear, concise, well-organized” manner that follows the best practices of plain language writing. Two federal projects are working to improve forms that are used by millions of Americans in financial transactions and healthcare.

- Almost anyone who buys a house sees a federally required standard mortgage disclosure form. The complexity of these forms arguably contributed to the current financial crisis. The new Consumer Financial Protection Bureau recently published a proposal for new mortgage disclosure forms.¹⁰ These new forms and proposed rule are the result of an intense year-long design and usability project.
- For anyone covered by Medicare, the Medicare Summary Notice¹¹ is the statement of all benefits provided by Medicare. A redesigned MSN with an easy-to-understand snapshot, written in clear language, with definitions of terms and larger fonts to make the form easier to read will launch in 2013.

As this report shows, a similar embrace of usability and design in elections could save hundreds of thousands of votes in every national election, greatly improve the voter experience, and ensure the accurate recording of voter intent.

Ballot Design Checklist

Ballot Instructions

Instructions should be brief, simple, and clear.

Paper ballots and forms:

- Display general instructions in the top left-hand corner of the ballot. Place specific instructions and related actions together, rather than putting all instructions at the beginning of the ballot.
- Let voters know that if they make a mistake, they can get a new ballot. Include this information in the initial instructions.

Electronic ballots:

- Display startup instructions in an easy-to-spot location in the voting booth.
- Place specific instructions and related actions together. Do not put all instructions at the beginning of the ballot.
- Instruct voters to review their selections and provide clear instructions on how to change a selection and cast the ballot.

All ballots:

- In instructions for write-in votes, state plainly that voters should not vote for both a named candidate and a write-in candidate for the same office.
- Write instructions in an active voice and in positive terms. (“Fill in the oval for your write-in vote to count,” rather than “If the oval is not marked, your vote cannot be counted for the write-in candidate.”)
- Use common, easily understood words. (“Move to the next page of the ballot,” or “Move to the next screen,” rather than “Navigate forward through the ballot.”)
- Provide the context of the action first, then the action. (“[Context] To vote for the candidate of your choice, [Action] fill the oval to the left of the candidate’s name.”)
- Place each instruction on its own line.

Ballot Design

Don't split contests.

- List all candidates for the same race on the same page and in the same column.

Make sure ballot design is consistent.

- Be consistent in all design elements: font, text size, headings, and the location of response options.
- Place response options (such as fill-in ovals) to the left of candidate names or ballot question choices.

Make ballots easy to understand visually.

Electronic ballots:

- Place only one contest on each screen, at least for federal and statewide races.

All ballots:

- Use flush-left text, instead of centered text.
- Display all text in mixed case, rather than all capital letters.
- Use a simple and easy-to-read font, such as Arial or Univers.
- Use consistent headings or shading to separate contests.
- Bold and/or shade certain text, such as office names.
- Use a legible, minimum text size, meeting VVSG requirements, such as 12 points.
- Eliminate extraneous information (e.g., candidate's hometown, occupation, etc.), or design it to avoid visual clutter. Make signature blocks on envelopes easy to spot, and large enough for a signature.

Give voters maximum flexibility.

Electronic ballots:

- Allow voters to select or change the language of the ballot at any time during the voting process.
- Allow voters to change text size and contrast levels and to get audio support at any time during the voting process.

Lost Votes: A Primer

To better understand the prevalence of lost votes in a particular election, two measurements were used: residual votes (undervotes, or not selecting any choice on the ballot, either accidentally or intentionally, and overvotes, selecting too many choices, usually accidentally)¹² and disqualified absentee or provisional ballots.

Of course, not every instance of a disqualified vote is the result of poor design or instructions. Yet when the percentage of lost votes is high in a single county when compared statewide or to another county, it suggests that the differences may be attributable to a ballot or other design problem. Undoubtedly there will be other contributing factors, such as demographics or local interest in a political contest.

Still, the strong correlation between flawed design and instructions and high lost vote rates is clear. Invariably, when ballots or voting machines in elections with unusually high residual vote rates are reviewed, one finds poor design, poorly worded instructions, or (very often) both.

Election officials and concerned citizens must take the first step and ascertain the lost vote rate in their jurisdictions. (In many places, at least some of this information will be publicly available.) Armed with this calculation, sensible choices can be made in time to reduce the number of unrecorded votes in November. Below is a quick guide to some of the vocabulary and calculations about lost votes.

Residual votes. Residual votes are typically calculated as the difference between the number of people voting and the number of valid votes cast for a particular office.

Residual vote rates of more than one percent for “top-of-the-ticket” races, particularly for president, are unusual.¹³ They are not, however, a perfect measure of voter error. Voters may select a candidate they did not intend to vote for or may decide to skip a race intentionally. But unusually high residual vote rates serve as the best available evidence from the results themselves that something went awry and that the vote totals may not accurately reflect the voters’ will. There are two types of residual votes:

- **Overvotes** – The voter marks too many choices in a contest. As noted in a recent letter from some of the country’s leading election officials, “overvotes are almost always mistakes that do not reflect the real intent of the voter.”¹⁴ They therefore provide a useful view into whether voters were confused by the ballot or the instructions. Unfortunately, many jurisdictions do not calculate their overvote rates or provide sufficient information to derive it, so analysis of this metric is limited.
- **Undervotes** – The voter does not make any choices in a contest. Unlike overvotes, not every undervote is necessarily a mistake. It’s entirely possible the voter made a deliberate choice to forgo making an explicit preference in a particular contest. But an unusually large number of undervotes can indicate that a design-related problem caused voters to accidentally skip one or more contests.

Uncounted domestic absentee and provisional ballots. The second metric is the number of domestic absentee¹⁵ and provisional ballots not counted for technical reasons, such as a voter failing to sign in the appropriate space or failing to seal the envelope for the ballot. We estimate that in the 2008 and 2010 general elections combined, as many as 400,000 people had their absentee or provisional ballot rejected because they made technical mistakes completing the forms or preparing and returning the envelope.¹⁶ While it is the responsibility of voters to ensure they properly follow instructions when filling out absentee and provisional ballot forms, confusing instructions and forms greatly increase the likelihood that even the most diligent and experienced of voters will cast ballots that are ultimately not counted.

Design and Usability Problems in 2008 and 2010

Problem 1

Ballot Layouts That Invite Overvotes or Undervotes

For the most part, ballot design problems that cause lost votes fall into two broad categories. Some designs mislead voters into choosing more than the number of allowed candidates. Other designs make it difficult for voters to distinguish between contests, and they accidentally skip the race.

As in previous years, these problems appeared again in 2008 and 2010. Below are examples from Illinois in 2008, Ohio in 2008, and New York in 2010.

Ballots that Invite Undervotes: Failure to Differentiate Between Contests, East St. Louis, IL., 2008

Inconsistency in ballot design can lead voters to inadvertently skip a contest. Not only can there be inconsistency in format and style, but ballots can also lack cues such as use of shading and bold text to distinguish between tasks and contests. All of these problems (and more) were present on the 2008 ballot in East St. Louis, Illinois.

The Problem: Among other problems with the ballot in East St. Louis in 2008, every contest had a header identifying the type or level of government — except the contest for United States senator. Inexplicably, only a small identifying label separates the candidate for president from those for senator.

The Result: About 1 in 10 voters in East St. Louis, Illinois did not have a vote recorded for U.S. Senator. In the vast majority of cases, this was due to undervoting, not overvoting. A simple change to the ballot, using consistent headers to separate contests, could have saved many hundreds of votes.

Residual Vote Rate for U.S. Senator ¹⁷

East St. Louis	9.6%
Statewide	4.4%

The Difference: More than twice as many lost votes in East St. Louis.

2008 East St. Louis, IL

Revised ballot

NOVEMBER 4, 2008 GENERAL ELECTION EAST ST. LOUIS

OFFICIAL BALLOT

PRECINCT _____ STYLE _____

INSTRUCTIONS TO VOTERS:
To vote, complete the oval to the LEFT of your choice, like this (X). To cast a write-in vote, complete the oval to the LEFT of the blank space provided and print the candidate's name in that space. For specific write-in instructions, refer to the card of instruction posted in the voting booth. If you fear, soil, deface or erroneously mark this ballot, return it to the Election Judge and obtain another. Vote both sides of ballot if applicable.

James P. ...
Executive Director
EAST ST. LOUIS BOARD OF
ELECTION COMMISSIONERS

FEDERAL	CONGRESSIONAL
<p>FOR PRESIDENT AND VICE PRESIDENT OF THE UNITED STATES (Vote for one)</p> <p><input type="radio"/> (3) BARACK OBAMA (JOE BIDEN) DEMOCRATIC</p> <p><input type="radio"/> (4) CYNTHIA MCKINNEY (ROSA CLEMENTE) GREEN</p> <p><input type="radio"/> (5) JOHN McCain (SARAH PALIN) REPUBLICAN</p> <p><input type="radio"/> (6) BOB BARR (WAYNE A. ROOT) LIBERTARIAN</p> <p><input type="radio"/> (7) JOHN JOSEPH POLACHEK (No Candidate) NEW</p> <p><input type="radio"/> (8) CHARLES O. BALDWIN (DARRELL L. CASTLE) CONSTITUTION PARTY OF ILLINOIS</p> <p><input type="radio"/> (9) RALPH NADER (MATT GONZALEZ) INDEPENDENT</p> <p style="text-align: center;">Write-in</p> <p>FOR UNITED STATES SENATOR (Vote for one)</p> <p><input type="radio"/> (10) RICHARD J. DURBIN DEMOCRATIC</p> <p><input type="radio"/> (11) KATHY CUMMINGS GREEN</p> <p><input type="radio"/> (12) STEVE SAUERBERG REPUBLICAN</p> <p><input type="radio"/> (13) LARRY A. STAFFORD LIBERTARIAN</p> <p><input type="radio"/> (14) CHAD N. KOPPIE CONSTITUTION PARTY OF ILLINOIS</p>	<p>FOR REPRESENTATIVE IN CONGRESS TWELFTH CONGRESSIONAL DISTRICT (Vote for one)</p> <p><input type="radio"/> (15) JERRY F. COSTELLO DEMOCRATIC</p> <p><input type="radio"/> (16) RODGER W. JENNINGS GREEN</p> <p><input type="radio"/> (17) TIMMY JAY RICHARDSON JR. REPUBLICAN</p> <p style="text-align: center;">Write-in</p> <p style="text-align: center;">LEGISLATIVE</p> <p>FOR STATE SENATOR FIFTY-SEVENTH LEGISLATIVE DISTRICT (Vote for one)</p> <p><input type="radio"/> (18) JAMES F. CLAYBORNE, JR. II DEMOCRATIC</p> <p>No Candidate GREEN</p> <p>No Candidate REPUBLICAN</p> <p style="text-align: center;">REPRESENTATIVE</p> <p>FOR REPRESENTATIVE IN THE GENERAL ASSEMBLY ONE HUNDRED AND THIRTIETH REPRESENTATIVE DISTRICT (Vote for one)</p> <p><input type="radio"/> (19) THOMAS "TOM" HOLBROOK DEMOCRATIC</p> <p>No Candidate GREEN</p> <p>No Candidate REPUBLICAN</p> <p style="text-align: center;">REPRESENTATIVE</p> <p>FOR REPRESENTATIVE IN THE GENERAL ASSEMBLY ONE HUNDRED AND FOURTEENTH REPRESENTATIVE DISTRICT (Vote for one)</p> <p><input type="radio"/> (20) WYVETTER H. YOUNG DEMOCRATIC</p> <p>No Candidate GREEN</p> <p>No Candidate REPUBLICAN</p>

Type 61 Sep 03/04 S&K02 PRECINCT _____ 74

NOVEMBER 4, 2008 GENERAL ELECTION

OFFICIAL BALLOT

PRECINCT _____

INSTRUCTIONS TO VOTERS:
To vote, complete the oval to the LEFT of your choice, like this (X). To cast a write-in vote, complete the oval to the LEFT of the blank space provided and print the candidate's name in that space. For specific write-in instructions, refer to the card of instruction posted in the voting booth. If you fear, soil, deface or erroneously mark this ballot, return it to the Election Judge and obtain another. Vote both sides of ballot if applicable.

James P. ...
Executive Director
EAST ST. LOUIS BOARD OF
ELECTION COMMISSIONERS

FEDERAL	CONGRESSIONAL
<p>FOR PRESIDENT AND VICE PRESIDENT OF THE UNITED STATES (Vote for one)</p> <p><input type="radio"/> (3) BARACK OBAMA (JOE BIDEN) DEMOCRATIC</p> <p><input type="radio"/> (4) CYNTHIA MCKINNEY (ROSA CLEMENTE) GREEN</p> <p><input type="radio"/> (5) JOHN McCain (SARAH PALIN) REPUBLICAN</p> <p><input type="radio"/> (6) BOB BARR (WAYNE A. ROOT) LIBERTARIAN</p> <p><input type="radio"/> (7) JOHN JOSEPH POLACHEK (No Candidate) NEW</p> <p><input type="radio"/> (8) CHARLES O. BALDWIN (DARRELL L. CASTLE) CONSTITUTION PARTY OF ILLINOIS</p> <p><input type="radio"/> (9) RALPH NADER (MATT GONZALEZ) INDEPENDENT</p> <p style="text-align: center;">Write-in</p> <p>FOR UNITED STATES SENATOR (Vote for one)</p> <p><input type="radio"/> (10) RICHARD J. DURBIN DEMOCRATIC</p> <p><input type="radio"/> (11) KATHY CUMMINGS GREEN</p> <p><input type="radio"/> (12) STEVE SAUERBERG REPUBLICAN</p> <p><input type="radio"/> (13) LARRY A. STAFFORD LIBERTARIAN</p> <p><input type="radio"/> (14) CHAD N. KOPPIE CONSTITUTION PARTY OF ILLINOIS</p>	<p style="text-align: center;">CONGRESSIONAL</p> <p>FOR UNITED STATES SENATOR (Vote for one)</p> <p><input type="radio"/> (10) RICHARD J. DURBIN DEMOCRATIC</p> <p><input type="radio"/> (11) KATHY CUMMINGS GREEN</p> <p><input type="radio"/> (12) STEVE SAUERBERG REPUBLICAN</p> <p><input type="radio"/> (13) LARRY A. STAFFORD LIBERTARIAN</p> <p><input type="radio"/> (14) CHAD N. KOPPIE CONSTITUTION PARTY OF ILLINOIS</p>

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More examples
in *Better Ballots*, p. 24

How East St. Louis 2008 Echoes Sarasota 2006

The problem in East St. Louis in 2008 echoes the ballot flaw in the 2006 election in Florida's 13th Congressional District, which includes Sarasota.

Sarasota County

U.S. REPRESENTATIVE IN CONGRESS 13TH CONGRESSIONAL DISTRICT (Vote For One)		
Vern Buchanan	REP	<input type="checkbox"/>
Christine Jennings	DEM	<input type="checkbox"/>

STATE

GOVERNOR AND LIEUTENANT GOVERNOR (Vote For One)		
Charlie Crist	REP	<input type="checkbox"/>
Jeff Kottkamp		
Jim Davis	DEM	<input type="checkbox"/>
Daryl L. Jones		
Max Lim	REP	<input type="checkbox"/>
Tom Macklin		
Richard Paul Dembinsky	NPA	<input type="checkbox"/>
Dr. Joe Smith		
John Wayne Smith	NPA	<input type="checkbox"/>
James J. Kearney		
Karl C.C. Behm	NPA	<input type="checkbox"/>
Carol Castagnero		
Write-In		<input type="checkbox"/>

Previous Page | Page 2 of 21 | Next Page
Public Count: 0

Charlotte County¹⁸

REPRESENTATIVE IN CONGRESS DISTRICT 13 (Vote For One)		
Vern Buchanan	REP	<input type="checkbox"/>
Christine Jennings	DEM	<input type="checkbox"/>

Previous Page | Page 2 of 15 | Next Page

In that contest, Republican Rep. Vern Buchanan won the open seat contest by 369 votes. Yet more than 14,000 ballots in Sarasota County did not include a vote in this contest. Many experts have attributed the exceptionally high number of undervotes to a ballot design issue: specifically in Sarasota County, the separation between the gubernatorial and congressional contests was not clear on the county's touchscreen machines.¹⁹ As a point of comparison, Sarasota County saw a residual vote rate of 13.9 percent in the congressional contest, compared to just 2.5 percent in neighboring Charlotte County, where the congressional contest was on its own page, clearly separated from the gubernatorial contest.

Ballots that Invite Overvotes: Split Contest, Ohio 2008

The number one ballot design problem we identified in *Better Ballots* was splitting candidates for the same office onto different pages or columns. This design flaw is an invitation to overvote because it makes it hard to see the boundaries of the contest.

The best known example of this design defect is the “butterfly ballot” used in Palm Beach County, Florida, during the 2000 election. In a presidential contest decided by fewer than 600 votes, nearly 29,000 ballots in Palm Beach County, or 4 percent of all the county’s ballots, were not counted because voters either chose more than one candidate or chose none.²⁰ The butterfly ballot is so notorious that it is now rarely used. But similar problems remain common, with candidates for a single contest spread across two rows or columns.

The Problem: In 2008, 10 counties in Ohio using optical scan voting systems and paper ballots split the presidential contest across two columns.

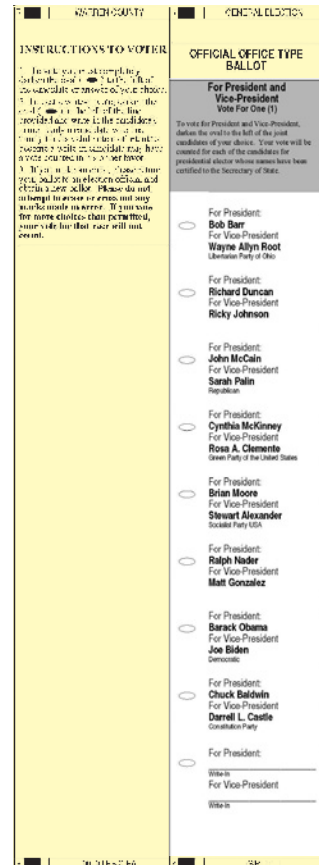
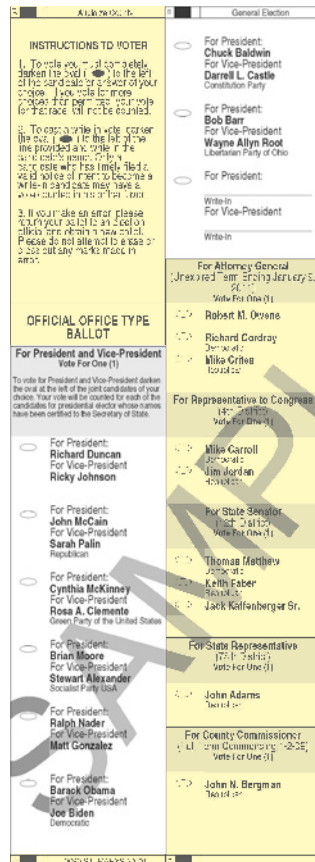
The Result: An increase in lost votes (statistically significant when controlling for other demographic factors).²¹

Residual rate for ballots in 10 counties with this design flaw: 1.9%
Residual rate for ballots in 23 other counties using paper ballots: 1.2%

The Difference: 50 percent more lost votes in the presidential contest.

LEFT
Auglaize County:
Split contest

RIGHT
Warren County:
No split



Ballots that Invite Overvotes: Split Contests, New York City 2010

The Problem: In 2010 New York City's ballot split a contest across two rows. In that election, there were two contests for United States Senate, with Sen. Charles Schumer and Sen. Kirsten Gillibrand both running for re-election.²² Because of the large number of candidates, Gillibrand's contest was split over two rows.

The Result: There were many more overvotes in the Gillibrand contest: undoubtedly, many of them were a result of voters filling out ovals in both the first and second rows.²³

Overvotes in the Gillibrand contest 3,350
 Overvotes in the Schumer contest 1,567

The Difference: 1,783 more lost votes (114 percent).

2010 New York City

5	United States Senator (2 Year Term) Senador de los Estados Unidos (Periodo de 2 Años) Voto Ex Cole Voto por U.N.C.	A ★ Democratic	B 🇺🇸 Republican	C 🦅 Independence	D 🦉 Conservative	E 🏠 Working Families	F 🌿 Green		H 🇺🇸 Libertarian	
	Charles E. Schumer	Jay Townsend	Charles E. Schumer	Jay Townsend	Charles E. Schumer	Colia Clark		Randy A. Credico		
6	United States Senator (2 Year Unexpired Term) Senador de los Estados Unidos (Periodo Inconcluso de 2 Años) Voto Ex Cole Voto por U.N.C.	A ★ Democratic	B 🇺🇸 Republican	C 🦅 Independence	D 🦉 Conservative	E 🏠 Working Families	F 🌿 Green	G 🏠 Rent Is 2 Damn High	H 🇺🇸 Libertarian	
	Kirsten E. Gillibrand	Joseph J. DiGuardi	Kirsten E. Gillibrand	Joseph J. DiGuardi	Kirsten E. Gillibrand	Cecile A. Lawrence	Joseph Huff	John Clifton		
							L 📉 CUT TAXES Tax Revolt	I 🌿 Anti-Prohibition		
							Bruce Blakeman	Vivia Morgan		

Confirmation that the source of the overvote problem in the Gillibrand race was ballot design can be found by examining the gubernatorial contest that year. New York Attorney General Andrew Cuomo, a Democrat, was running against GOP nominee and Buffalo businessman Carl Paladino. Yet, there were several minor candidates in that race, and they were listed over two rows on the ballot.

1	Governor and Lieutenant Governor Gobernador y Vice Gobernador Voto Ex Cole Voto por U.N.C.	A ★ Democratic	B 🇺🇸 Republican	C 🦅 Independence	D 🦉 Conservative	E 🏠 Working Families	F 🌿 Green	G 🏠 Rent Is 2 Damn High	H 🇺🇸 Libertarian	WRITE-IN CANDIDATO POR ESCRITO
		For Governor Para Gobernador Andrew M. Cuomo and Robert J. Duffy	For Governor Para Gobernador Carl P. Paladino and Gregory J. Edwards	For Governor Para Gobernador Andrew M. Cuomo and Robert J. Duffy	For Governor Para Gobernador Carl P. Paladino and Gregory J. Edwards	For Governor Para Gobernador Andrew M. Cuomo and Robert J. Duffy	For Governor Para Gobernador Howie Hawkins and Gloria Matterna	For Governor Para Gobernador Jimmy McMillan	For Governor Para Gobernador Warren Redlich and Alden Link	
							K 📉 Taxpayers	J 🇺🇸 Freedom	I 🌿 Anti-Prohibition	
							For Governor Para Gobernador Carl P. Paladino and Gregory J. Edwards	For Governor Para Gobernador Charles Barron and Eva M. Doyle	For Governor Para Gobernador Kristin M. Davis and Tanya Gendelman	


Based on documents from the New York City Board of Elections, the Brennan Center estimated that there were 6,500 overvotes in the gubernatorial race, the highest overvote rate of any New York City contest that year.²⁴

New York State's ballot design requirements are considered the worst in the nation.²⁵ So far, legislative attempts to reform ballot design have failed. Yet, it is still possible to improve ballot design even within New York's current constraints.

For instance, Drew Davies, of Oxide Design Co., and AIGA Design for Democracy created a concept design for New York City's 2010 ballot. This redesign follows other counties in using a horizontal format, which allows more room to print names and office titles. It also meets the New York legal requirements that a ballot fit on one page, and other requirements like the party emblems. Although these restrictions make it impossible to fit all of the candidates in one column, the use of shading and heavier lines between the contests help create a stronger boundary between contests. Removing clutter around the candidate names also makes the ballot easier to read.

Design concept, 2010 New York City

Instructions / Instrucciones



To vote for a candidate whose name is printed on this ballot fill in the oval above the name of the candidate.

To vote for a person whose name is not printed on this ballot write or stamp his or her name in the space labeled "write-in" that appears at the end of the row for such office and fill in the oval corresponding with the write-in space in which you have written a name.

Do not overvote. If you select a greater number of candidates than there are vacancies to be filled, your ballot will be void for that public office, party position or proposal.

Please read more instructions on other side of ballot.

Para votar por un candidato cuyo nombre está impreso en este relleno de votación en el óvalo por encima del nombre del candidato.

Para votar por una persona cuyo nombre no se imprime en esta votación escribir o estampar su nombre en el espacio titulado "candidato por escrito" que aparece al final de la fila para este cargo y rellenar el óvalo correspondiente a la escritura en el espacio en el que tienes escrito un nombre.

No más de voto. Si selecciona un número mayor de candidatos que las vacantes por completar en la composición de las partes.

Por favor, lea las instrucciones en el otro lado de la papeleta.

	Governor and Lieutenant Governor Gobernador y Vice Gobernador Vote once / Voto una vez	Comptroller Contralor Vote for 1 / Voto por 1	Attorney General Fiscal General Vote for 1 / Voto por 1	U.S. Senator (6-year term) Senador de los EU (Período de 6 años) Vote for 1 / Voto por 1	U.S. Senator (2-year unexpired term) Senador de los EU (Período inconcluso de 2 años) Vote for 1 / Voto por 1	Representative in Congress Representante en el Congreso Vote for 1 / Voto por 1	State Senator Senador Estatal Vote for 1 / Voto por 1
★ Democratic A	Andrew M Cuomo and Robert J Duffy <small>Democratic</small>	Thomas P DiNapoli <small>Democratic</small>	Eric T Schneiderman <small>Democratic</small>	Charles E Schumer <small>Democratic</small>	Kirsten E Gillibrand <small>Democratic</small>	Jerrold L Nadler <small>Democratic</small>	Daniel Squadron <small>Democratic</small>
🇺🇸 Republican B	Carl P Paladino and Gregory J Edwards <small>Republican</small>	Harry Wilson <small>Republican</small>	Dan Donovan <small>Republican</small>	Jay Townsend <small>Republican</small>	Joseph J DiGuardi <small>Republican</small>	Susan L Cone <small>Republican</small>	Joseph ... <small>Rep...</small>
🇺🇸 Independence C	Andrew M Cuomo and Robert J Duffy <small>Independence</small>	Harry Wilson <small>Independence</small>	Eric T Schneiderman <small>Independence</small>	Charles E Schumer <small>Independence</small>	Kirsten E Gillibrand <small>Independence</small>		
🇺🇸 Conservative D	Carl P Paladino and Gregory J Edwards <small>Conservative</small>	Harry Wilson <small>Conservative</small>	Dan Donovan <small>Conservative</small>	Jay Townsend <small>Conservative</small>	Joseph J DiGuardi <small>Conservative</small>	Susan L Cone <small>Conservative</small>	
🇺🇸 Working Families E	Andrew M Cuomo and Robert J Duffy <small>Working Families</small>	Thomas P DiNapoli <small>Working Families</small>	Eric T Schneiderman <small>Working Families</small>	Charles E Schumer <small>Working Families</small>	Kirsten E Gillibrand <small>Working Families</small>	Jerrold L Nadler <small>Working Families</small>	
🌿 Green F	Howie Hawkins and Gloria Mattera <small>Green</small>	Julia A Willebrand <small>Green</small>		Celia Clark <small>Green</small>	Cecile A Lawrence <small>Green</small>		
🏠 Rent Is 2 Damn High G	Jimmy McMillan <small>Rent Is 2 Damn High</small>				Joseph Huff <small>Rent Is 2 Damn High</small>		
🇺🇸 Libertarian Freedom H	Warren Redlich and Aiden Link <small>Libertarian</small>	Charles Barron and Eva M Doyle <small>Libertarian</small>	John Gaetani <small>Libertarian</small>	Carl E Person <small>Libertarian</small>	Randy A Credico <small>Libertarian Antiprohibition</small>	John Clifton <small>Libertarian</small>	
🇺🇸 Taxpayers Antiprohibition I	Carl P Paladino and Gregory J Edwards <small>Taxpayers</small>	Kristin M Davis and Tanya Gendelman <small>Antiprohibition</small>		Ramon J Jimenez <small>Freedom</small>		Vivia Morgan <small>Antiprohibition</small>	Bruce Blakeman <small>Tax Payer</small>
Write-in J	write-in candidato por escrito	write-in candidato por escrito	write-in candidato por escrito	write-in candidato por escrito	write-in candidato por escrito	write-in candidato por escrito	write-in candidato por escrito

Problem 2

Poor Voter Instructions

Voting should not be the equivalent of building furniture from IKEA. It should be easy for all voters to understand. Yet, badly written and formatted instructions can cause problems for even the most experienced voters. Moreover, when instructions are dense or hard to read, many voters simply skip over them, resulting in difficulties when they select a candidate.²⁶

Instruction problems are usually caused by one or more of the following:

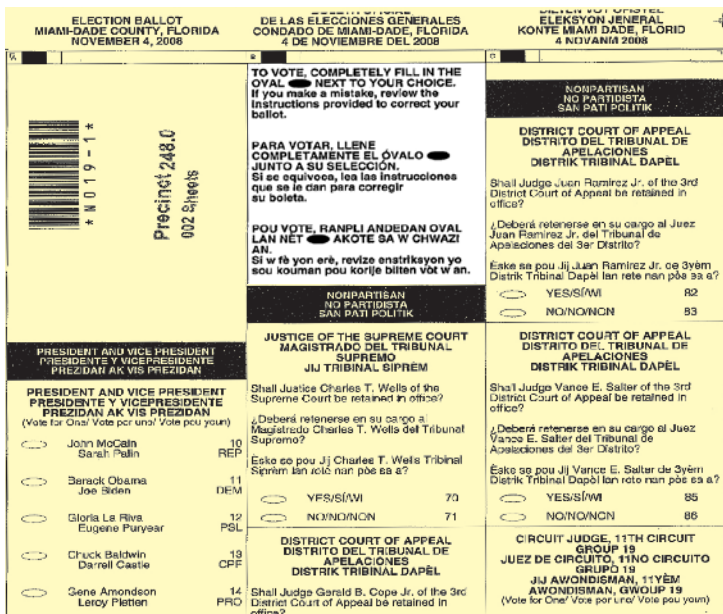
- Instructions are far from related actions;
- Instructions do not show how to correct mistakes made on paper ballots; and
- Instructions are not short and simple.

Missing Instructions: Miami-Dade County, Florida, 2008 and 2010

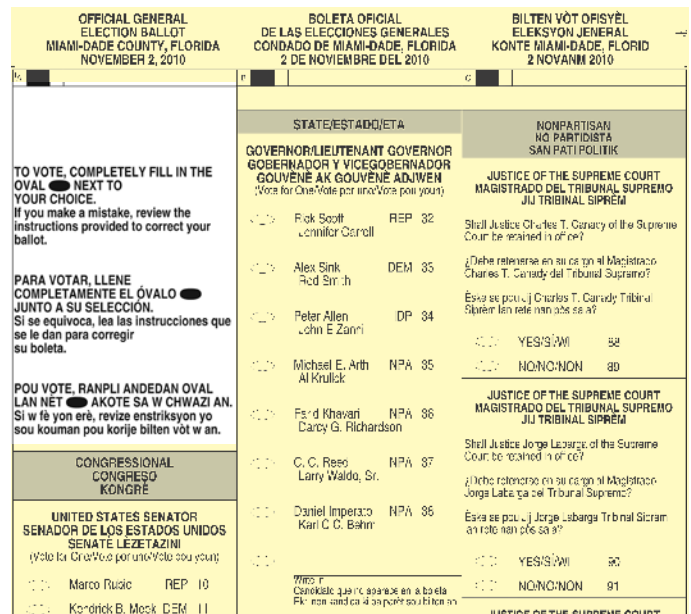
Miami-Dade County has had exceptionally high overvote rates in recent federal elections — several times the state average. As discussed on pages 26–28, part of this may be attributable to the inadequate overvote protection on the voting machines used in the county. But Miami-Dade County’s overvote rate exceeds that of other Florida counties using the same voting machine. A physical inspection of the ballots revealed a possible culprit — incomplete and poorly located voting instructions.

The Problem: In both 2008 and 2010, Miami-Dade made available to both absentee and in-person voters detailed instructions for how to cast their ballots. Unfortunately, in contrast to other counties in the state, these instructions were not on the ballot. Instead, voters saw this:

Miami, 2008



Miami, 2010



Although the 2010 ballot complies with experts' recommendations that instructions appear in the upper left corner (the 2008 ballot does not), neither set of instructions addresses the basic issue of how to correct a mistake or the consequences of doing so. Instead, they ask the voter "to review the instructions provided." Yet, why should a voter be forced to consult a separate piece of paper to learn that the proper way to correct a mistake is to ask for a new ballot? Even worse, voters who bothered to consult the *three additional* pages of instructions to find the one relevant direction would not have learned the consequences of trying to correct a mistake could be that their vote would not count.

The Result: Miami-Dade's hide-and-seek voter directives resulted in overvote rates 2.5 times higher than the state average in 2008 and five times higher than the 2010 average.²⁷

Votes not counted due to overvoting in Miami-Dade County:

In 2008:	over 6,000 votes or 0.7%	2.5 times the state average
In 2010:	over 2,600 votes or 0.53%	5.0 times the state average

The Difference: 2.5 - 5 times more overvotes than the statewide rate of 0.11 percent.

The Solution: Some counties placed instructions where they would be seen. They also used clear instructions about what a voter should do after making a mistake (i.e., "ask for a new ballot") and the consequences of attempting to fix the problem on her own ("your vote may not count").

This instruction was used in Volusia and Citrus Counties. For absentee ballots in 2010, both counties had close to zero overvotes for the top-of-the-ticket U.S. Senate contest. In contrast, Miami-Dade County had an overvote rate of nearly 1 percent for absentee ballots.²⁸

Citrus County, FL, 2008

OFFICIAL GENERAL ELECTION BALLOT CITRUS COUNTY, FLORIDA NOVEMBER 4, 2008
<ul style="list-style-type: none">• TO VOTE, COMPLETELY FILL IN THE OVAL ● NEXT TO YOUR CHOICE.• Use a blue or black ink pen.• If you make a mistake, don't hesitate to ask for a new ballot. If you erase or make other marks, your vote may not count.• To vote for a candidate whose name is not printed on the ballot, fill in the oval, and write in the candidate's name on the blank line provided for a write-in candidate.

Confusing Instructions: Ohio, 2010

In 2010, Republican Rep. John Kasich challenged and ultimately defeated incumbent Democratic Gov. Ted Strickland. It was a hotly contested race. Unfortunately, several Ohio counties reported unusually high overvote rates. Those high overvote rates are not especially surprising because voters read the following instruction: “select the set of joint candidates of your choice.” This confusing instruction probably led some voters to believe they could vote for more than one gubernatorial candidate.

**For Governor and
Lieutenant Governor
Para el Gobernador y
el Vicegobernador**
To vote for Governor and Lieutenant
Governor, select the set of joint
candidates of your choice.
Para votar para Gobernador y
Vicegobernador, seleccione el conjunto de
candidato.

The Result: In most counties for which the Brennan Center was able to obtain overvote data,²⁹ overvote rates were extremely high in the gubernatorial contest.³⁰ In Cuyahoga County alone, more than 2,000 voters did not have their choice for governor counted due to overvoting.

Votes for governor not counted due to overvotes*

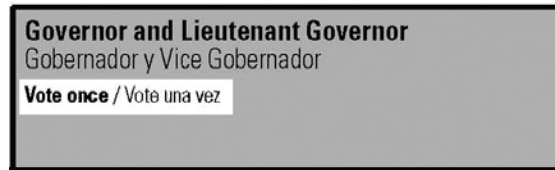
County	% Overvote Rate
Lawrence	1.16
Allen	.81
Cuyahoga	.54
Clermont	.51
Summit	.41
Athens	.40
Auglaize	.40

* Overvote rates vary from county to county in part because of different overvote protections on voting machines. Still, in all of these cases, rates are far higher than we would normally expect.

As a point of comparison, a national study of 200 counties in the 2002 gubernatorial elections showed an average overvote rate of 0.1 percent.³¹ While an extra loss of 0.5 percent of votes may not seem significant, statewide in Ohio this would have translated to nearly 20,000 votes.

Impact: Thousands of Ohio voters did not have their intended choice for governor counted.

The Solution: The overvote rate could have been greatly reduced by using plain language and testing it with voters to ensure they were reading it correctly.



Problem 3

Unclear Voting Machine Messages

Electronic ballot marking systems can prevent overvotes, but when paper ballots are marked by hand, it's not so easy. Once a ballot goes through the scanner, it cannot be retrieved in order for voters to make a correction.

In most counties that use paper ballots, scanners read the ballots in the polling place, so voters have the opportunity (required by the Help America Vote Act) to “change the ballot or correct any error before the ballot is cast and counted.”³²

To do this, scanners can be programmed to notify the voter when it cannot read the voter's choice at all — when either it reads no choice (an undervote) or more than the allowed number of choices (an overvote). Some of these messages have proven to be very effective, but others have not. An ineffective warning can result in tens of thousands of extra lost votes.

Inadequate Overvote Warnings: Florida 2008 and New York 2010

The Problem: Thirteen counties in Florida (including Miami-Dade) in 2008, and all of the counties in New York in 2010, employed what the Brennan Center has alleged was an ineffective overvote warning.³³

- The warning used election jargon (“Over Voted Ballot”) without explaining its meaning.
- It did not explain in plain language that the selections in the overvoted contests would not count unless the ballot was corrected.
- If the voter instead pressed the green “Accept” button, marked with a check, the ballot would be cast with the overvote, and the vote would be lost.

The Result: In the 13 Florida counties in 2008, more than 12,000 voters did not have their choice for president counted because the machines read them as overvotes. In New York State in 2010, the Brennan Center estimates that about 20,000 voters did not have their votes for governor counted because the machines read their choices as “overvotes,” and even more — 50,000 to 60,000 total — were lost in other contests.³⁴

Number of overvoted ballots

In 13 Florida counties for president in 2008	more than 12,000
In New York for governor in 2010	around 20,000 (estimate)
In New York for other contests in 2010	50,000 – 60,000 (estimate)

Impact: Tens of thousands of votes not counted.

New York message, 2008

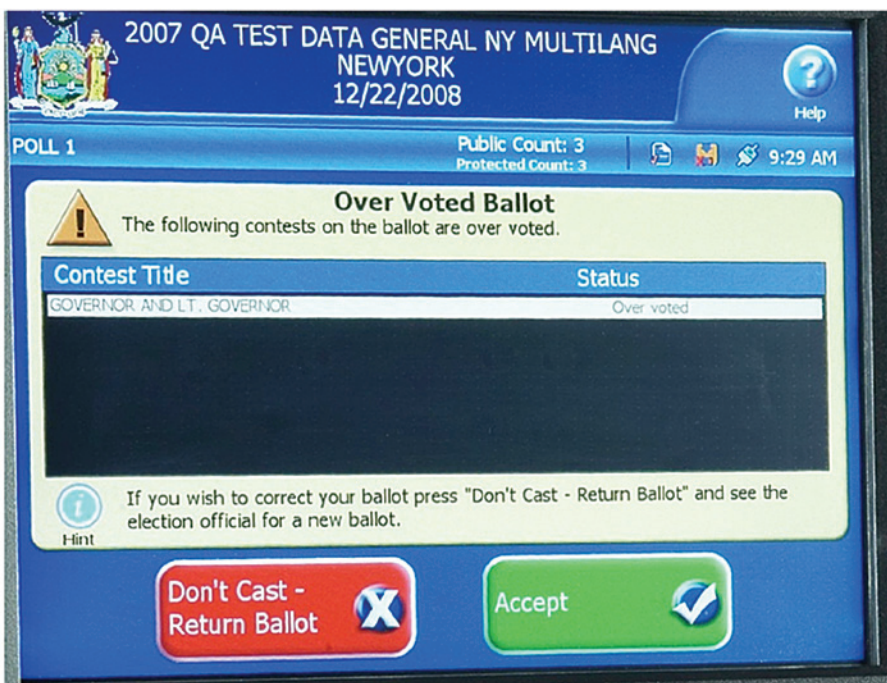
“Over Voted” is election jargon many voters do not understand.

The name of the contest is hard to read.

The message does not explain that this vote will not be counted.

The Don't Cast – Return Ballot button sounds negative and a red warning color, but is the correct way to correct the ballot.

The Accept is positive, green, and has a check, but means the vote will be lost.



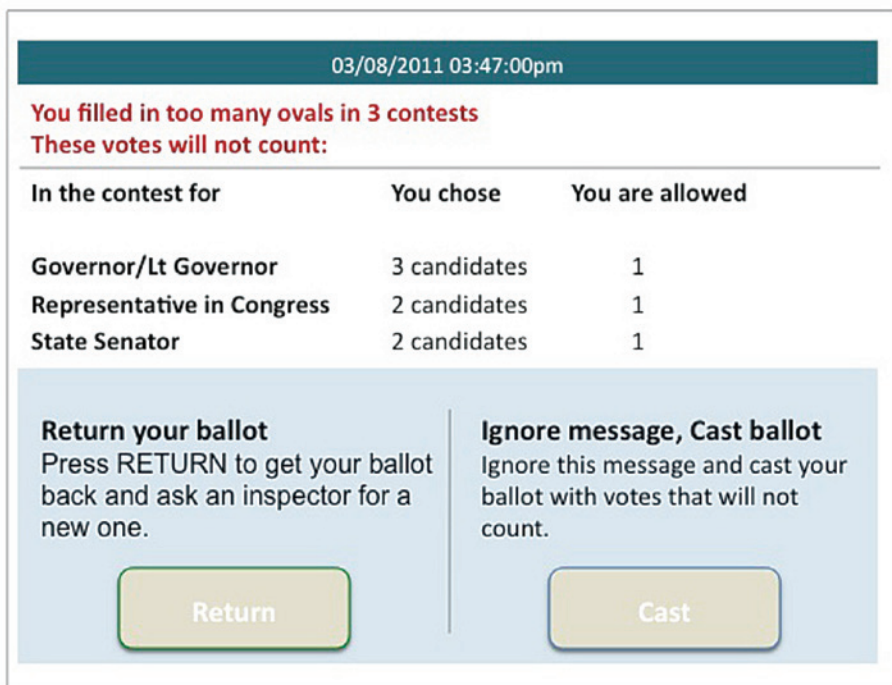
New York message, for 2012

The message explains the problem in plain language.

The middle of the message clearly spells out what the voter did, and what is allowed.

Text, read before the buttons, explains what each button allows the voter to do.

The buttons are clear, simple words, with language matching the explanation, and no color cues.



More examples of helpful voter education materials on pages 39-42 of this report

Curing the problem of confusing messages from electronic scanners (and touch screen machines) may require reprogramming the voting system. Such a comprehensive solution may not be possible before November's election. Moreover, it does not address problems stemming from poor ballot design or machine malfunction. There are, however, measures election officials do have sufficient time to deploy that can reduce voter confusion when confronted with a vote the machine cannot read.

Reject overvoted ballots

The ideal solution is to have scanners simply reject overvoted ballots. If the ballot is returned to the voter, there is little chance an overvoted ballot will be accepted when that was not the voter's intent. In addition, when there is a significant problem with ballot design or machine performance, it is more likely that the problem will be noted and addressed if ballots are rejected and, thus, available for inspection by election officials. Many jurisdictions set their scanners to reject overvoted ballots automatically.³⁵ In the 33 Florida counties that used this method in 2008 and 2010, their overvote rates were close to zero for ballots cast at polling places.³⁶ Many other counties and states that program their machines to reject overvotes also report overvote rates at close to zero.³⁷ It is our understanding that virtually all scanners can be programmed to reject overvoted ballots.³⁸

Use plain language for overvote warnings

A recent agreement by the New York State Board of Elections includes many elements of a more sensible voter alert. Not only will there be a message in plain language, but the machine will also tell the voter which races they have filled-in too many ovals and how many are allowed, helping them find and fix any mistakes. The potentially confusing red and green buttons will also be eliminated. The graphic on page 27 shows what voters will see under the new system.

While this will not be as effective as rejecting overvoted ballots automatically, the new message should help some voters correct errors and notify poll workers if machines are misreading ballots.³⁹

Have clear manuals for poll workers and clear voter instructions

Again and again, good design in elections comes down to a simple directive: use simple, clear, plain language. When it comes to any printed materials associated with voting, the task is not to obfuscate, but to clarify. The bureaucratic language used in elections and in other contexts is the precise opposite of what should be used in any written material read by a voter or poll worker.

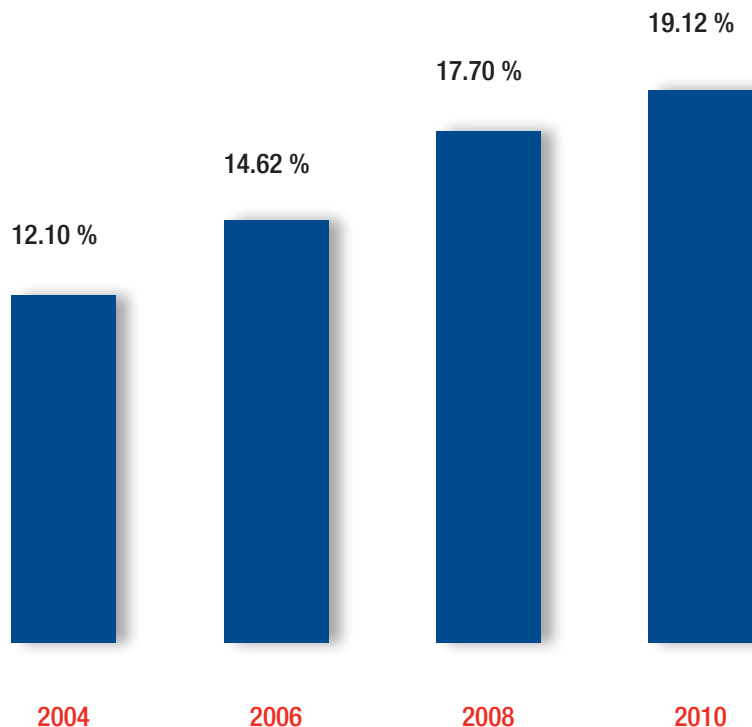
Clear voter information sheets, handed to voters when they sign-in, or located in privacy booths, can ensure that any voter with a question about a confusing message or other known problem gets consistent, understandable, accurate information that both describes the problems and explains how to fix mistakes on the ballot.

Problem 4

Difficult Absentee and Provisional Ballot Envelopes

The use of absentee or provisional ballots has exploded in recent years. But many of these votes are not counted when voters fail to properly mark the envelope containing these ballots. The chart below illustrates the growth in the use of absentee ballots, which includes those who opt to vote by mail before Election Day.⁴⁰

Percentage of Absentee Ballots In Recent Elections



By absentee ballot, we mean ballots submitted, often by mail, in advance of an election by a voter who is unable to be present at her polling location on Election Day.

We estimate that in 2008, between 150,000 and 200,000 absentee ballots were not counted because of technical errors⁴¹ in filling out the ballot envelope. The numbers for 2010, when far fewer voters participated, are between 100,000 and 150,000.⁴² These errors include a voter's failure to sign her name in the correct place on the envelope, to provide all requested information, or to seal the envelope before mailing.

By provisional ballot we mean a ballot provided to a voter who claims she is registered and eligible to vote, but whose eligibility or registration status cannot be confirmed at the polling place. Such ballots were federally mandated with the passage of the Help America Vote Act in 2002.⁴³ We estimate that in 2008 and 2010, more than 50,000 provisional ballots were not counted because of technical errors on the provisional ballot envelope.⁴⁴

Our examples for this problem show how improved design, along with updated election procedures, can reduce the number of ballots disqualified for technical reasons.

The Evolution of a Better Absentee Ballot Envelope, Minnesota after 2008

After the 2008 election, the Minnesota Secretary of State's office began a successful effort to improve the design and usability of absentee envelopes that continues in the 2012 election. Their results show the need for usability and design improvements to be an ongoing process, as solving one problem can sometimes uncover others that then need to be solved. This provides an excellent case study for how election officials and outside experts can work together to improve elections for all voters.

Problem: As absentee voting has increased nationally, so has the significance of the fact that many absentee ballots are never counted for technical reasons, like failing to fill out all required information on the absentee envelope. Too often, the number of ballots discarded is greater than the margin of victory between candidates. The contest for United States senator between Al Franken and Norm Coleman in 2008 was decided by just 312 votes. More than 10 times that number, or 3,906 absentee ballots, were not counted because the envelope was not signed.⁴⁵ In total, 1.2 percent (or more than one in every 100) of absentee ballots were rejected because the absentee ballot was not signed.

The Result: In 2009, the Minnesota Secretary of State's office worked with usability, design, and plain language experts from Usability in Civic Life to redesign the absentee ballot envelope and instructions. Among other things, the expert group focused on the fact that so many voters had previously failed to sign the absentee ballot envelope, and as a result did not have their votes counted. The new envelope form is much clearer, identifying the signature blocks with a large "X."

Minnesota, 2008	Minnesota, 2010

Far fewer voters failed to sign their absentee envelopes in 2010. In fact, out of 133,072 absentee ballots cast, only 837 went uncounted for failure to sign the envelope, or less than half of the rate of unsigned envelopes in 2008.⁴⁶ While other factors, including a different electorate and new statewide procedures for processing absentee ballots in Minnesota, may have contributed to this lower number,⁴⁷ the drastic reduction strongly suggests that the redesign of the envelope helped voters, as was suggested by usability testing done prior to its use.

Number of absentee ballot envelopes not signed

In 2008	3906	1.2%
In 2010	837	0.6%


The Difference: Drastic reduction in the number of voters who missed the signature line.

Continuing work: Even though the number of ballots rejected because of a missing voter signature dropped, a new problem persisted in 2010: the failure to correctly complete the address fields for the witness. Several hundred absentee ballots were rejected in 2010 for this reason. Fortunately, while there was again a close statewide race, this time the number of rejected ballots was smaller than any margin of victory.⁴⁸ The Minnesota Secretary of State’s office decided to do further testing anyway, hoping to further improve the absentee ballot envelope.

Part of the issue with the address field for witnesses is that the requirement itself is confusing, asking for the address of a citizen, but only the title of an official who acts as witness. For 2012, Minnesota has clarified the instructions to emphasize the need for an address in light of the strict laws now in place for accepting absentee ballots. They added emphasis on street address, and clarified the exception for officials and notaries.

Minnesota deserves substantial praise for continuing to work to reduce the number of disqualified ballots, learning from each election to improve both the design of the ballot materials and election procedures. We look forward to seeing even more improvements in the number of disqualified absentee ballots.

Minnesota, 2010

Put the **Ballot Envelope** in here,
then seal flap 

Signature Envelope

Voter completes this section please print clearly

Voter's name

Voter's MN address
 MN

I certify that on election day I will meet all the legal requirements to vote by absentee ballot.

Voter's Signature

Date

Witness completes this section

Witness name

MN address or title, if an official
 MN


I certify that:

- The voter showed me the blank ballots before voting;
- The voter marked the ballots in private or, if physically unable to mark the ballots, the ballots were marked as directed by the voter;
- The voter enclosed and sealed the ballots in the secrecy envelope; and
- I am or have been registered to vote in Minnesota, or am a notary, or am authorized to give oaths.

Witness Signature

If notary, must affix stamp

Minnesota, 2012

Put the **Ballot Envelope**
in here, then seal flap 

Signature Envelope

Voter must complete this section please print clearly

Voter name

Voter MN address
 MN

ID number
 (MN driver's license #,
 MN ID card #,
 or last four digits of SSN)

I do not have a MN-issued driver's license, MN-issued ID card, or a Social Security Number.

I certify that on Election Day I will meet all the legal requirements to vote by absentee ballot.

Voter Signature

Witness must complete this section

Witness name

MN street address (or title, if an official or notary)
 MN

I certify that:

- the voter showed me the blank ballots before voting;
- the voter marked the ballots in private or, if physically unable to mark the ballots, the ballots were marked as directed by the voter;
- the voter enclosed and sealed the ballots in the ballot envelope; and
- I am or have been registered to vote in Minnesota, or am a notary, or am authorized to give oaths.

Witness Signature

If notary, must affix stamp

A Better Provisional Ballot Envelope: New York

The problem: In the 2008 and 2010 elections, New York State had among the highest rates of provisional ballot rejections in the nation.⁴⁹ In 2008, nearly 8,000 provisional ballots (called “affidavit ballots” in New York), or nearly 3 percent of the total, were rejected because voters either failed to sign the envelope or improperly filled out the form (or did so in a way that was illegible).⁵⁰ In 2010, nearly 3 percent of the envelopes were rejected simply because voters did not sign the envelope.

New York, 2008

AFFIDAVIT BALLOT ENVELOPE

INSTRUCTIONS: YOU MUST READ THIS REVERSE SIDE OF THIS ENVELOPE BEFORE PROCEEDING.
For voters who do not speak, read, write, or understand English, the form may be completed by a family member, friend, or neighbor who is not a candidate for any office. The voter must be present and the signer must be a resident of the same household as the voter. The voter must be at least 18 years old and a citizen of the United States. The voter must be a resident of the county in which the ballot is being cast. The voter must be a resident of the county in which the ballot is being cast. The voter must be a resident of the county in which the ballot is being cast.

1	Are you a U.S. citizen? Yes <input type="checkbox"/> No <input type="checkbox"/>	2	Will you be 18 years of age on Election Day? Yes <input type="checkbox"/> No <input type="checkbox"/>	3	Are you a resident of this county? Yes <input type="checkbox"/> No <input type="checkbox"/>
4	Name (Print Name)		Maiden Name		City/Town/Village
5	Address (Print Your Current Mailing Address for Ballot Mail)		PO Box, etc.	Post Office	Zip Code
6	Household	7	Signature	8	Date (Print Name and Date)
9	<input type="checkbox"/> I am not a voter in this county. <input type="checkbox"/> I am not a voter in this county, but I am a voter in another county. <input type="checkbox"/> I am not a voter in this county, but I am a voter in another state. <input type="checkbox"/> I am not a voter in this county, but I am a voter in another country.				
10	<input type="checkbox"/> I do not wish to vote in a party. <input type="checkbox"/> I do not wish to vote in a party. <input type="checkbox"/> I do not wish to vote in a party.				
11	Choose a Party - Check one box only: <input type="checkbox"/> Democratic Party <input type="checkbox"/> Republican Party <input type="checkbox"/> Conservative Party <input type="checkbox"/> Working Families Party <input type="checkbox"/> Independence Party <input type="checkbox"/> Green Party <input type="checkbox"/> Other (write in) _____ <input type="checkbox"/> I do not wish to vote in a party.				
12	Signature (Print Name) Signature (Print Name) Signature (Print Name)				

Print Name

MUST COMPLETE BOTH SIDES

GENERAL ELECTION AFFIDAVIT OATH

PART A: Must be completed by all affidavit ballot voters:

- My name is _____
- I reside at _____
- I am a U.S. citizen _____

PART B: Select one: you must check one of these 3 boxes, and fill in appropriate blanks:

- I have been informed by the city/town that my signature record is not available to them, however, I have duly registered to vote in this election district from the address given, and I remain a duly qualified voter in this district.
- I have moved within _____ since my last registration, and my previous address was _____
- I was required to present identification when I voted today, but did not do so.

PART C: ALL VOTERS MUST COMPLETE THIS OATH
 I understand that any false statement made in this affidavit is perjury and is punishable according to law.

DATE: _____ VOTER SIGNATURE: _____

Signed in before me this _____ day of _____, 20____

INSPECTOR SIGNATURE: _____

The Result: In 2011, the New York State Board of Elections decided to take steps to reduce the number of rejections by significantly redesigning the ballot envelope and affidavit form.

These provisional ballots will be used for the first major election in November, so we do not yet have data on their effectiveness. But the advantages of redesign are apparent. Among them:

- The layout is clean, with fields and instructions lined up neatly;
- Choices for identification make the requirements clear;
- There is a large, distinctive space for the signature; and
- The two parts have been consolidated into one coherent form.

How Usability Testing, Voter Education, and Corrective Action Have Saved Votes

In the fast-paced calendar of a presidential election year, it can be difficult to find time for design reviews and usability testing. Sometimes, design flaws cannot be completely addressed without changes in voting systems, administrative procedures, or election laws. But often, a small change to the existing ballot or form design can make a big difference, especially when coupled with effective voter education campaigns and other corrective action.

In this section we present four case studies that demonstrate the powerful impact usability testing, voter education, and other corrective action before an election can have in reducing voter error in elections.

Voting Both Sides of the Ballot: Sarasota and Duval Counties, Florida 2008

Small changes can have a big impact. Usability tests in Sarasota and Duval Counties in the summer of 2008 also show how small design tweaks to an almost-final ballot design, based on usability testing, can save substantial numbers of votes.

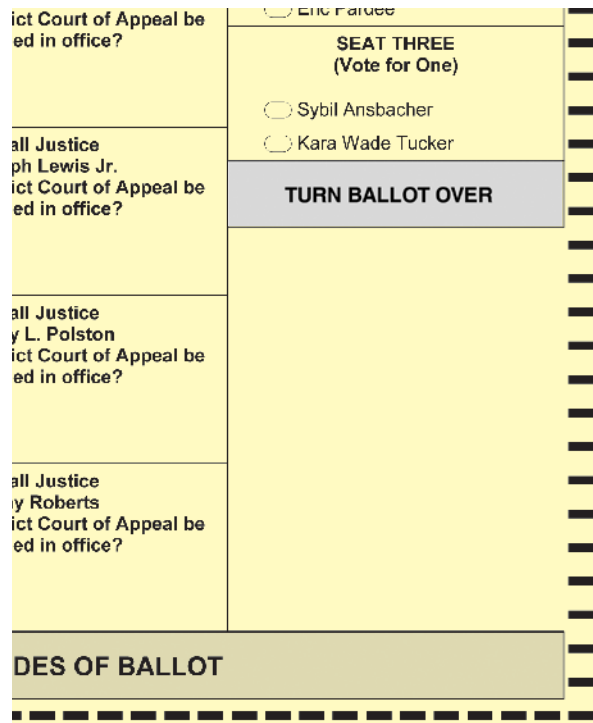
In September 2008, Sarasota voters used paper ballots for the first time. Election officials in Sarasota and Duval Counties invited the Brennan Center and Usability in Civic Life to conduct a day of testing in their respective offices. The majority of the 10 usability participants in both counties were regular voters who had just voted in the August primary, but several had to be prompted to turn the ballot over and vote on the second side. They simply never noticed the instruction to “VOTE BOTH SIDES OF BALLOT” in the grey bar at the bottom of the ballot.

Duval, FL, 2008 - Before testing

REPRESENTATIVE IN CONGRESS DISTRICT FOUR (Vote for One) <input type="radio"/> Ander Crenshaw REP <input type="radio"/> Jay McGovern DEM	Shall Justice Marguerite H. Davis of the 1st District Court of Appeal be retained in office? <input type="radio"/> YES <input type="radio"/> NO	<input type="radio"/> Eric Pardee SEAT THREE (Vote for One) <input type="radio"/> Sybil Ansbacher <input type="radio"/> Kara Wade Tucker
	STATE	Shall Justice Joseph Lewis Jr. of the 1st District Court of Appeal be retained in office? <input type="radio"/> YES <input type="radio"/> NO
PUBLIC DEFENDER FOURTH JUDICIAL CIRCUIT (Vote for One) <input type="radio"/> Mathew (Matt) A. Shirk REP <input type="radio"/> Bill White DEM	Shall Justice Ricky L. Polston of the 1st District Court of Appeal be retained in office? <input type="radio"/> YES <input type="radio"/> NO	
	Shall Justice Clay Roberts of the 1st District Court of Appeal be retained in office? <input type="radio"/> YES <input type="radio"/> NO	
VOTE BOTH SIDES OF BALLOT		

After reviewing the results of the usability test, the elections department in both counties agreed to add an instruction to “turn the ballot over” immediately after the last contest on the page, working within the capabilities of the ballot design system.

Duval, FL, 2008 - After testing



Solution: Use explicit, clear instructions to turn the ballot over, placed *just below* the last contest on each side of the ballot. The EAC *Effective Designs for the Administration of Federal Elections* includes the template and images for optical scan ballots.

Results: Election data suggest that the design change made a difference. The residual vote rate for Duval and Sarasota Counties on Constitutional Amendment 1 (the first contest on the back page in Duval and Sarasota in 2008) was 10.2 percent. In 15 other Florida counties where the amendment also appeared on a second page, the residual vote rate was 14.7 percent.⁵¹ The 4.5 percent reduction in residual votes in Duval and Sarasota equates to almost 28,000 fewer lost votes on the amendment in those two counties.

Duval and Sarasota Residual Vote Rate for Constitutional Amendment 1	10.2%
Residual vote rate in 15 other counties	14.7%

The Difference: 28,000 fewer lost votes.

Voter Education About Straight-Party Voting Rules: North Carolina, 2008

Massive voter education around a design problem in North Carolina in 2008 also suggests that if done with enough resources, voter education about design flaws can reduce errors.

North Carolina, like 15 other states, has an option on the ballot that allows voters to cast a straight-party ballot with one mark.⁵² Straight-party voting allows voters to vote quickly and easily, and often results in more votes for down-ballot contests. But it presents some serious usability challenges for voters. And in North Carolina, straight-party voting is particularly tricky: a straight-party vote (counter-intuitively) *does not* include a vote for president — voters must make a separate mark under the presidential contest.

Perhaps not surprisingly, since this straight-party ticket rule was established, North Carolina has historically had extremely large numbers of voters who did not cast votes in the presidential election. In 2004, 2.2 percent of voters did not have a vote for president counted, double the national rate that year.⁵³ In 2008, with North Carolina a top “battleground” state in the presidential contest, there was unprecedented attention to this design problem. *The New York Times* called it “this year’s butterfly ballot.”⁵⁴ There was a massive public education campaign to raise public awareness and ensure that voters marked their choice for president. Election watchdog and advocacy groups throughout the state and nation wrote about this issue, as well as local and national media; both major political parties and the Obama campaign invested in voter education around the issue.⁵⁵ The North Carolina State Board of Elections trained poll workers to give voters verbal instructions about the straight ticket option, and included with each ballot a special slip of paper that detailed the same information.

North Carolina, 2008

PLEASE NOTE:

A “straight party” vote **does not** include the office of president or any nonpartisan race or issue. You must vote for president/vice president separately from the other offices. Nonpartisan offices and issues also must be voted separately. More detailed instructions are on your ballot. For paper ballots, be sure to turn the ballot over.

Results: All of this public attention and education seems to have made a difference. The residual vote rate in the presidential contest was just 1.0 percent, less than half the 2.2 percent rate in 2004. While some of the reduction may be attributable to changes in voting technology in the state between 2004 and 2008,⁵⁶ it seems likely that a significant portion was due to the unprecedented attention to the problem.

Residual vote rate in the presidential contest

In 2004	2.2%
In 2008	1.0%

The Difference: More than 50,000 votes for president saved in 2008.

Margin of victory between Barack Obama and John McCain: just over 14,000 votes.

North Carolina, 2008

MECKLENBURG COUNTY, NC 2008 GENERAL: (English Version) Ballot Style #51

OFFICIAL BALLOT
MECKLENBURG COUNTY, NORTH CAROLINA
NOVEMBER 4, 2008

PRESIDENTIAL CONTEST:

STRAIGHT PARTY VOTING

The offices of President and Vice President of the United States are not included in a Straight Party vote. These offices must be voted separately.

a. A Straight Party vote is a vote for all candidates of that party in partisan offices. Individual partisan office selections are not necessary if you select a Straight Party below.

PRESIDENT AND VICE PRESIDENT OF THE UNITED STATES (You May Vote For ONE)

<input type="checkbox"/>	Barack Obama Joe Biden DEMOCRAT
<input type="checkbox"/>	John McCain Sarah Palin REPUBLICAN
<input type="checkbox"/>	Bob Barr Wayne A. Root LIBERTARIAN
<input type="checkbox"/>	Write-In

b. You may select a Straight Party AND ALSO vote for a candidate of a different party in any individual office.

c. In any multi-seat race, a Straight Party vote is a vote for ALL candidates of that party. If you individually vote for any candidate in a multi-seat race, you must also individually select all other candidates in that race for whom you wish to vote in order for your vote to count.

d. If you do not select a Straight Party below, you may vote by marking each office separately.

e. A Straight Party vote does not vote for unaffiliated candidates, or nonpartisan offices or referenda.

STRAIGHT PARTY (You may vote for ONE)

<input type="checkbox"/>	DEMOCRATIC
<input type="checkbox"/>	REPUBLICAN
<input type="checkbox"/>	LIBERTARIAN

1 / 8



Next Page



Page: 1

Voter Education About Cumulative Voting Rules: Port Chester, New York, 2010

In 2010, the Village of Port Chester, New York held an election for the Village Board of Trustees. This was the first election since a lawsuit for equal access on behalf of Hispanic and Spanish-language citizens.⁵⁷ Under the terms of a legal settlement, voters used an unusual form of voting — cumulative voting — in which voters can cast their six votes in any way they choose, including giving more than one vote to a candidate.⁵⁸

The legal settlement also required extensive public education to be sure that voters understood how to vote.⁵⁹ In preparation for education sessions, Usability in Civic Life conducted usability testing that included both the voter education brochure and the ballots.

The usability testing revealed that although voters generally understood the concept of cumulative voting, they were not sure how to actually vote. In addition, some voters said that long habit with the lever machines (still in use for this election) made it difficult to remember that they could cast more than one vote for a candidate.

As a result, a voter education flyer called “How to Vote with Cumulative Voting” combined the basic instructions, an illustration of the concept, and an illustration of what different choices would look like on the voting system. These flyers were distributed widely at voter education sessions, in the local newspapers, and at other locations.

Results: The results of an exit poll⁶⁰ of Port Chester voters suggest the voter education program was successful. Many voters reported they had seen the educational materials before the election and most voters, particularly Hispanic voters, found the educational materials to be helpful. In addition, a large majority of voters indicated they were comfortable with the cumulative voting system. More than 95 percent of voters reported using all six of their votes in the election. Election returns buttress this conclusion. The Port Chester election produced a lower rate of residual votes than observed in other communities using cumulative voting.⁶¹

The Difference: Low rates of residual votes, even with a new voting method.



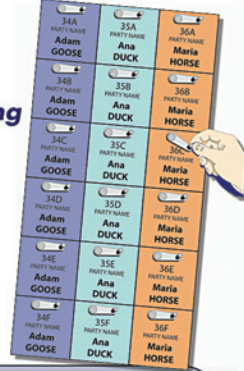
How to Vote with Cumulative Voting

On June 15, you have 6 votes *please use them all!*

Here's what you need to know:

1. You are electing 6 trustees. You have 6 votes.
2. You can give more than 1 vote to a candidate.
3. You cast a vote by flipping a lever next to a candidate's name.
4. When voting, you should flip a total of 6 levers.

*Any combination of votes totaling up to six votes is okay.
It's your choice. Just remember to use ALL six votes!*



Ballot for Example 1

Example 1

You might decide to give *three votes each* to *two candidates*

Example 3

You might cast one vote for *six different candidates*

Ballot for Example 3

Ballot for Example 2

Example 2

You might cast *all six of your votes* for your *favorite candidate*

Ballot for Example 4

Example 4

You might give *four votes to one candidate* and *one vote each* to *two other candidates*

Corrective Action from the Chief Election Office, Ohio 2008

An action by Ohio's Secretary of State in the summer of 2008 to provide counties with clear guidance on best design practices may have saved thousands of votes in the presidential contest.

As discussed on page 19 of this report, 10 counties split the presidential contest over two columns on their ballots. When contacted by the Brennan Center, some of the counties that did so told us they were following a template provided by the Ohio Secretary of State's office.⁶² When we notified the secretary's office of this potential problem, the office sent a memo to all county election officials reiterating several best practices for ballot design, including a clear recommendation that counties should *not* split any contest over two columns. In the end, the vast majority of counties using paper ballots followed the secretary's recommendation.

This example illustrates the importance of usability testing and following design guidelines for statewide templates or design requirements in election law to be sure that they do not create unintentional design mistakes. It also shows that prompt action, when a problem is discovered, can make a difference.

The Difference: Thousands of more votes for president counted in counties that followed guidance.

Endnotes

¹ This is a conservative estimate. We did not include in this estimate up to 350,000 ballots that states rejected for “other” or unspecified reasons, which almost certainly included some portion of ballots rejected due to voter error. U.S. ELECTION ASSISTANCE COMM’N, 2008 ELECTION ADMINISTRATION AND VOTING SURVEY 37-53, tbls. 33, 34A, 34B, 34C, 35, 36A, & 36B (2009) (hereinafter 2008 EAVS); U.S. ELECTION ASSISTANCE COMM’N, 2010 ELECTION ADMINISTRATION AND VOTING SURVEY 38-58, tbls. 32, 33A, 33B, 33C, 34, 35A, & 35B (2011) (hereinafter 2010 EAVS). For the purposes of this calculation, we considered the following to be technical reasons for rejecting absentee ballots: not received on time or missed deadline, no voter signature, no witness signature, no election official’s signature, ballots returned in an unofficial envelope, ballots missing from envelope, an unsealed envelope, no resident address on the envelope, and multiple ballots returned in an envelope. For provisional ballots, we considered the following to be technical reasons: incomplete/illegible envelope/ballot, ballot missing from envelope, and no signature. Our calculation corrects for underreporting by states. To correct for underreporting, we divided the reported total by the following quotient: the total number of absentee ballots cast in reporting states divided by the total number of absentee ballots in all states. We repeated the same calculation for provisional ballots. Professor Charles Stewart at MIT is currently revising the EAC data and we expect a more fully accurate count in the coming months.

² LAWRENCE NORDEN & SUNDEEP IYER, BRENNAN CENTER FOR JUSTICE AT NYU SCHOOL OF LAW, DESIGN DEFICIENCIES AND LOST VOTES (2011), *available at* http://www.brennancenter.org/content/resource/design_deficiencies_and_lost_votes/; Robert Darcy & Anne Schneider, *Confusing Ballots, Roll-Off, and the Black Vote*, 42 W. POL. Q. 347-364 (1989); Stephen M. Nichols, *State Referendum Voting, Ballot Roll-off, and the Effect of New Electoral Technology*, 30 ST. AND LOC. GOV’T REV. 106-117 (1998); Michael Tomz & Robert P. Van Houweling, *How Does Voting Equipment Affect the Racial Gap in Voided Ballots?*, 47 AM. J. OF POL. SC. 46-60 (2003); Stephen Knack & Martha Kropf, *Invalidated Ballots in the 1996 Presidential Election: A County-Level Analysis*, 65 J. OF POL. 881-897 (2003); Michael C. Herron & Jasjeet S. Sekhon, *Overvoting and Representation: An Examination of Overvoted Presidential Ballots in Broward and Miami-Dade Counties*, 22 ELECTORAL STUD. 21-47 (2003); David C. Kimball et al., *Unrecorded Votes and Political Representation*, in COUNTING VOTES: LESSONS FROM THE 2000 PRESIDENTIAL ELECTION IN FLORIDA (Robert P. Watson, ed., Univ. Press of Fla. 2004); R. Michael Alvarez et al., *Counting Ballots and the 2000 Election: What Went Wrong?*, in RETHINKING THE VOTE (Ann N. Crigler et al., eds., Oxford Univ. Press 2004); Justin Buchler et al., *Punch Card Technology and the Racial Gap in Residual Votes*, 2 PERSPECTIVES ON POL. 517-524 (2004); PAUL S. HERRN SON ET AL., VOTING TECHNOLOGY: THE NOT-SO-SIMPLE ACT OF CASTING A BALLOT (Brookings Inst. Press ed., 2008); David C. Kimball & Martha Kropf, *Voting Technology, Ballot Measures, and Residual Votes*, 36 AM. POL. RES. 479-509 (2008); MARTHA KROPF & DAVID C. KIMBALL, HELPING AMERICA VOTE: THE LIMITS OF ELECTION REFORM (Routledge ed., 2012).

³ NORDEN & IYER, *supra* note 2; R. Michael Alvarez et al., *supra* note 2; PAUL S. HERRN SON ET AL., *supra* note 2.

⁴ U.S. ELECTION ASSISTANCE COMM’N, EFFECTIVE DESIGNS FOR THE ADMINISTRATION OF FEDERAL ELECTIONS (June 2007), *available at* <http://www.eac.gov/election/effective-polling-place-designs/>; *See also* MARCIA LAUSEN, DESIGN FOR DEMOCRACY: BALLOT AND ELECTION DESIGN (University of Chicago Press 2007).

⁵ PAUL S. HERRN SON ET AL., *supra* note 2.

⁶ LAWRENCE NORDEN ET AL., BRENNAN CENTER FOR JUSTICE AT NYU SCHOOL OF LAW, BETTER BALLOTS 72 (2008), *available at* http://www.brennancenter.org/content/resource/better_ballots.

⁷ CHRISTOPHER MANN, ET AL., COST EFFECTIVE VOTER EDUCATION BY CLERKS IN ALL MAIL VOTING SETTINGS 9 (2009).

⁸ *See* MIKE GUALTIERI, BEST PRACTICES IN USER EXPERIENCE (UX) DESIGN, FORRESTER (2009), *available at* http://www.wimages.adobe.com/www.adobe.com/content/dam/Adobe/en/industryinsights/solutions/pdfs/Forrester_Best_Prac_In_User_Exp.pdf.

⁹ Plain Writing Act, 5 USCA § 301 (2010); Plain Writing Act of 2010, Center for Plain Language, <http://centerforplainlanguage.org/resources/plain-writing-laws/plain-writing-act-of-2010/> (last visited Jul. 19, 2012).

¹⁰ Know Before You Owe, Consumer Financial Protection Bureau, <http://www.consumerfinance.gov/knowbeforeyouowe/> (last visited Jul. 19, 2012).

¹¹ Press Release, *Medicare Redesigns Claims and Benefits Statement Empowers Seniors with Clear Information on Health Care Services Used*, Mar. 7, 2008, CENTERS FOR MEDICARE & MEDICAID SERVICES, *available at* <http://www.cms.gov/apps/medialpress/release.asp?Counter=4298>; Side by Side Comparison of Current and Redesigned Medicare Summary Notice, CENTERS FOR MEDICARE & MEDICAID SERVICES (2012), *available at* http://www.cms.gov/apps/files/msn_changes.pdf.

- ¹² David Kimball & Martha Kropf, *Dos and Don'ts of Ballot Design*, AEI/Brookings Election Reform Project (Oct. 2007), available at <http://www.electionreformproject.org/Resources/314eadd7-6dc9-4dad-b6e4-5daf8f51b79e/r1/Detail.aspx>.
- ¹³ N. COMM'N ON FED. ELECTION REFORM, *To Assure Pride and Confidence in the Electoral Process* 53-54 (2001), available at http://web1.millercenter.org/commissions/comm_2001.pdf.
- ¹⁴ See letter from Dean Logan, Los Angeles County Registrar-Recorder, et al., to New York State Board of Elections, Jul. 8, 2010, available at <http://www.brennancenter.org/page/-/Election%20Officials%20Letter%20to%20NY%20BOE.pdf>.
- ¹⁵ We analyzed data on domestic absentee ballots and their disposition collected by the EAC's Election Administration and Voting Survey (EAVS). We did not use data on military and overseas voters because the EAVS does not categorize the reasons for rejection of military and overseas voters. Domestic absentee ballots make up the bulk of all absentee votes cast in 2008 and 2010.
- ¹⁶ *Supra* note 1.
- ¹⁷ 2008 Election Results from East. St. Louis are on file with the Brennan Center. The statewide residual vote rate was calculated using David Kimball and Martha Kropf's data set on voting in the 2008 General Election (on file with the Brennan Center) and election results from the Illinois State Board of Elections, available at <http://www.elections.il.gov/ElectionInformation/DownloadVoteTotals.aspx>.
- ¹⁸ Ballot Differences, (last visited Jul. 18, 2012), <http://web.archive.org/web/20061213215250/http://electionupdates.caltech.edu/BALLOTS.pdf>.
- ¹⁹ David Jefferson, *What Happened in Sarasota County?*, *THE BRIDGE*, 17, 19 (Summer 2007), available at <http://www.nae.edu/Publications/Bridge/VotingTechnologies/WhatHappenedinSarasotaCounty.aspx>; Laurin Frisina et al., *Ballot Formats, Touchscreens, and Undervotes: A Study of the 2006 Midterm Elections in Florida*, 7 *ELECTION L.J.* 26 (2008), available at <http://www.liebertonline.com/doi/abs/10.1089/elj.2008.7103>.
- ²⁰ Don Van Natta Jr. & Dana Canedy, *The 2000 Elections: The Palm Beach Ballot; Florida Democrats Say Ballot's Design Hurt Gore*, *N. Y. TIMES*, Nov. 9, 2000, at A1.
- ²¹ Unlike most election years, in 2010, there were two U.S. Senate races in New York State. After Hillary Clinton left the U.S. Senate to become Secretary of State, Governor David Patterson appointed Kirsten Gillibrand to fill her position until a special election could be held to determine who would serve the remainder of Clinton's term. Readers will also note that some candidates are listed multiple times on the ballot. In New York, candidates can be nominated by more than one party.
- ²² Analysis of 2008 Residual Vote Rates in Ohio Conducted by David Kimball, Associate Professor, University of Missouri-St. Louis, (on file with the Brennan Center).
- ²³ NORDEN & IYER, *supra* note 2, at 21.
- ²⁴ *Id.* at 2.
- ²⁵ NORDEN ET AL., *supra* note 6, at 62..
- ²⁶ U.S. ELECTION ASSISTANCE COMM'N *supra* note 4, at 7.21. (“[Diverse] Participants often failed to notice that voting instructions changed from contest to contest.”). The research team for the EAC report anecdotally observed difficulties caused by confusing or unclear instructions for even the most experienced voters participating in the studies. Various findings on the impact of instructions language for voters using touch screen systems can be found at pages 7.37-7.39 of the EAC's report.
- ²⁷ DIV. OF ELECTIONS FLA. DEP'T OF STATE, ANALYSIS AND REPORT OF OVERVOTES AND UNDERVOTES FOR THE 2008 GENERAL ELECTION (spreadsheet) (2009), <http://election.dos.state.fl.us/reports/pdf/generalOverUndervote08.pdf>, at tbl. 4; Div. of Elections Fla. Dep't of State, Analysis and Report of Overvotes and Undervotes for the 2010 General Election 10 (2011), http://election.dos.state.fl.us/reports/pdf/Over_Under_Report_10.pdf.
- ²⁸ DIV. OF ELECTIONS FLA. DEP'T OF STATE, ANALYSIS AND REPORT OF OVERVOTES AND UNDERVOTES FOR THE 2010 GENERAL ELECTION (spreadsheet) (2011), available at <http://election.dos.state.fl.us/reports/pdf/generalOverUndervote10.pdf>.

- ²⁹ Ohio does not require counties to report this data.
- ³⁰ Lawrence County had a 1.19 percent overvote rate for votes cast in person on Election Day and a 1.09 percent overvote rate for votes cast by absentee ballots. Similarly, Allen County's absentee ballots had a 1.01 percent overvote rate in the Governor's contest.
- ³¹ DAVID C. KIMBALL & MARTHA KROPF, *BALLOT DESIGN AND UNRECORDED VOTES ON PAPER-BASED BALLOTS*, 69 PUB. OPINION Q. 508-529 (2005).
- ³² Help America Vote Act (HAVA) of 2002 §301(a)(1)(A)(ii), 42 U.S.C.A. § 15481(a)(1)(A)(ii) (West 2012).
- ³³ NAACP N.Y. State Conference v. New York State Board of Elections No. 10-02950 (E.D.N.Y. filed June 28, 2010).
- ³⁴ NORDEN & IYER, *supra* note 2 at, at 2.
- ³⁵ Los Angeles County (CA), San Mateo County (CA), Marin County (CA), Dival County (FL), Minnesota, Connecticut, and Iowa are among the many counties and states that their voting machines to automatically reject overvoted ballots. See letter from Dean Logan, Los Angeles County Registrar-Recorder, et al., to New York State Board of Elections, Jul. 8, 2010, available at <http://www.brennancenter.org/page/-/Election%20Officials%20Letter%20to%20NY%20BOE.pdf>.
- ³⁶ In 2008, the 33 counties that used the Premier OS and OSx systems, which were set to return overvoted ballots automatically, had an election day overvote rate of 0.04% for the presidential contests for all voters. In 2010, these counties had an election day overvote rate of 0.02% in the U.S. Senate contest. DIV. OF ELECTIONS FLA. DEP'T OF STATE, ANALYSIS AND REPORT OF OVERVOTES AND UNDERVOTES FOR THE 2008 GENERAL ELECTION tbl. 4 (2009), available at http://election.dos.state.fl.us/reports/pdf/Over_Under_Report_08.pdf; DIV. OF ELECTIONS FLA. DEP'T OF STATE, ANALYSIS AND REPORT OF OVERVOTES AND UNDERVOTES FOR THE 2010 GENERAL ELECTION tbl. 2 (2011), available at http://election.dos.state.fl.us/reports/pdf/Over_Under_Report_10.pdf.
- ³⁷ MARY K. GARBER, FLA. FAIR ELECTIONS CTR., EXAMINING FLORIDA'S HIGH INVALID VOTE RATE IN THE 2008 GENERAL ELECTION, PART I: HOW VOTING SYSTEM DESIGN FLAWS LED TO LOST VOTES 10 (2009), available at http://www.ffec.org/documents/Invalid_Vote_Report_Revised_23June2009.pdf; Letter from Dean Logan et al., *supra* note 35.
- ³⁸ Election Systems & Software, Requirements Response to the New York City Board of Elections Request for Information 24 (2009), available at http://vote.nyc.ny.us/pdf/documents/boe/rfi/2009/50_ESSresponse/ES&S%20Requirements%20Response_01.09.09_FINAL%20for%20Web.pdf; Sequoia Voting Systems, Requirements Response to the New York City Board of Elections Request for Information 40 (2009), http://vote.nyc.ny.us/pdf/documents/boe/rfi/2009/80_SequoiaResponse/Sequoia%20Requirements%20Response%20012009%20for%20Web.pdf; Frequently Asked Questions About Inkavote Plus, Los Angeles County Registrar-Recorder/County Clerk, available at http://www.lavote.net/VOTER/PDFS/INKAVOTE_PLUS_FAQS.pdf; Office of Voting Systems Technology Assessment, California Secretary of State 4 (2008), available at http://web.archive.org/web/20100516082924/http://www.sos.ca.gov/elections/voting_systems/sequoia/system40/2008-09-19_staff_report.pdf.
- ³⁹ During the November 2010 general election, the poll site located at P.S. 65 in the South Bronx experienced abnormally high overvote rates. The machines misread hundreds of ballots, finding overvotes where there were none. The Board of Elections did not know there was a problem until they were notified by the Brennan Center after the center reviewed election results containing overvote data. Despite the problem occurring in two separate elections, machines were not taken out of service during either Election Day. See John Travis, *Overvotes: Phantoms of the Ballot Box*, May 9, 2012, REFORMNY, <http://reformny.blogspot.com/2012/05/overvotes-phantoms-of-ballot-box.html>.
- ⁴⁰ U.S. ELECTION ASSISTANCE COMM'N, 2004 ELECTION ADMINISTRATION AND VOTING SURVEY tpls. 3 & 5; U.S. ELECTION ASSISTANCE COMM'N, 2006 ELECTION ADMINISTRATION AND VOTING SURVEY tpls 26; 2008 EAVS, *supra* note 1 at tpls. 29A & 33; 2010 EAVS, *supra* note 1 at tpls. 28A & 31.
- ⁴¹ 2008 EAVS, *supra* note 1, at 37-45 tpls. 33, 34A, 34B, & 34C. Our estimate was derived according to the calculation in *supra* note 1.
- ⁴² We estimate that in 2010 between 100,000 and 150,000 absentee ballots were rejected for technical reasons. 2010 EAVS *supra* note 1, at 38-48 tpls 32, 33A,33B & 33C. Our estimate was derived according to the calculation in *supra* note 1.

- ⁴³ Help America Vote Act (HAVA) of 2002 §302, 42 U.S.C.A. § 15482 (West 2012).
- ⁴⁴ 2008 EAVS *supra* note 1, at 47-53 tbls. 35, 36A & 36B; 2010 EAVS *supra* note 1, at 51-58, tbls. 34, 35A & 35B. Our estimate was derived according to the calculation in *supra* note 1.
- ⁴⁵ 2008 EAVS, *supra* note 1 at 40-41 tbl. 34A. Unfortunately, the 2006 EAVS did not have any data for Minnesota absentee ballots.
- ⁴⁶ 2010 EAVS, *supra* note 1, at 43-44 tbl. 33A. The EAVS 2006 survey does not provide absentee ballot data for Minnesota, so we are unable to use the 2006 election as a point of comparison.
- ⁴⁷ OFFICE OF MINN. SEC'Y OF STATE MARK RITCHIE, ABSENTEE BALLOTING IN THE 2010 GENERAL ELECTION 1, 2 (2011) <http://archive.leg.state.mn.us/docs/2011/mandated/110304.pdf>.
- ⁴⁸ Democratic-Farmer-Labor candidate Mark Dayton defeated Republican Tom Emmer by nearly 9,000 votes, in excess of the number of absentee ballots rejected in Minnesota in 2010. November 2, 2010 General Election Results, Minn. Sec'y of State, <http://electionresults.sos.state.mn.us/20101102/> (last visited July 23, 2012).
- ⁴⁹ 2008 EAVS, *supra* note 1, at 47-48 tbl. 35; 2010 EAVS, *supra* note 1, at 51-52 tbl. 34.
- ⁵⁰ 2008 EAVS, *supra* note 1, at 50-53 tbls. 36A & 36B.
- ⁵¹ The other counties with the amendment on page 2 are Broward, Charlotte, Citrus, Escambia, Hernando, Holmes, Leon, Monroe, Miami-Dade, Okaloosa, Palm Beach, Polk, Putnam, Santa Rosa, and Walton.
- ⁵² Nat'l Conference of State Legislatures, *Straight-Ticket Voting*, NCLS.ORG (Jun. 2, 2011), <http://www.ncsl.org/legislatures-elections/elections/straight-ticket-voting-states.aspx>.
- ⁵³ LAWRENCE NORDEN, ET AL., THE MACHINERY OF DEMOCRACY: USABILITY OF VOTING SYSTEMS, BRENNAN CENTER FOR JUSTICE AT NYU SCHOOL OF LAW U5 (2006), available at http://brennan.3cdn.net/bb59042f6839b7fee2_njm6bcl84.pdf.
- ⁵⁴ Editorial, *This Year's Butterfly Ballot*, N.Y. TIMES, Oct. 27, 2008, at A26.
- ⁵⁵ Mike Baker, *'Straight Tickets' in NC Don't Vote for President*, USA TODAY, Oct. 28, 2008, http://www.usatoday.com/news/politics/2008-10-28-3526421643_x.htm; James T. Hamilton, *Straight-Ticket Omits Presidential Race*, CHARLOTTE OBSERVER, Oct. 7, 2008, <http://www.charlotteobserver.com/2008/10/07/236903/straight-ticket-omits-presidential.html>; Editorial, *This Year's Butterfly Ballot*, N.Y. TIMES, Oct. 27, 2008, at A26; Lynn Bonner, *N. Carolina Ballot Design May Cut Votes Cast for President*, RALEIGH NEWS & OBSERVER, Oct. 28, 2008, <http://www.mcclatchydc.com/2008/10/28/54872/n-carolina-ballot-design-may-cut.html>; Ben Smith, *Straight Ticket, Plus One*, POLITICO, Oct. 28, 2008, http://www.politico.com/blogs/bensmith/1008/Straight_ticket_plus_one.html.
- ⁵⁶ 2005 N.C. Sess. Laws 323. The law required counties to purchase new voting systems with voter verified paper records. It is not clear that for most counties the change in equipment would have led to significantly lower residual vote rates.
- ⁵⁷ United States v. Port Chester, No. 06-cv-15173, (S.D.N.Y. 2006).
- ⁵⁸ United States v. Port Chester, No. 06-cv-15173, consent decree at 3-4 (S.D.N.Y. 2006).
- ⁵⁹ *Id.* at 4; Kirk Semple, *First Latino Board Member Is Elected in Port Chester*, June 16, 2010, N.Y. TIMES, at A27.
- ⁶⁰ David C. Kimball & Martha Kropf, Cumulative Voting Educational Program Exit Poll Report, Port Chester, N.Y. Final report, Aug. 20, 2010.
- ⁶¹ David C. Kimball & Martha Kropf, Cumulative Voting: The Case of Port Chester, New York (2011) (paper presented at the Annual Meeting of the Midwest Political Science Association) (on file with the authors).
- ⁶² Email on file with the Brennan Center.

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