Analysis and Report of Overvotes and Undervotes for the 2006 General Election

Pursuant to Section 101.595, Florida Statutes

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Executive Summary

Florida's combined under and overvote rate since the 2000 General Election has experienced a gradual decline. In 2000, uncounted ballots accounted for 2.9% of the votes cast in the presidential race utilizing voting systems that included lever machines and punch cards along with a central count voting method for precinct punch cards and marked sense ballots. The election reforms enacted in 2001 resulted in a gradual reduction in the number of uncounted votes. These reforms included the elimination of lever and punch card voting and the requirement to perform precinct tabulation to provide immediate feedback to the voter should a voting error exist. As a result of these changes, in 2002 the combined under and overvote rate for the Governor's race dropped to 0.78%; or 0.86% when invalid write-in votes are included.[1]

The 2004 election cycle saw another reduction in the combined under and overvote rate, dropping it to a historical low of 0.41 % for the presidential race.[2] It is believed that a statewide, non-partisan voter education campaign combined with the fact that voters became more accustomed to using new technologies, contributed to the continuation of this trend.[3] However, voter interest in a race does appear to be a primary driver of the "no valid vote" rate. "No valid vote" is a collective term that refers to the combined uncounted votes due to overvotes, undervotes, and invalid write-in votes.[4] Analysis of the 2006 General Election shows a reversal of this trend with the combined under and overvote rate for the Governor's race increasing to 0.98%, similar to the level observed for the 2002 Governor's race. The 2002 and 2006 "no valid vote" rates mirror the combined under and overvote rate as the number of invalid write-in votes is not significant and has remained nearly identical and consistently below 0.09%. Comparisons of the 2006 results to the 2004 results and the 2006 results to the 2002 results suggest that the combined under and overvote rate is tied directly to the race of interest, further suggesting that this rate may be cyclical with the type of general election (presidential or gubernatorial). In addition, it appears that the "no valid vote" rate for the Governor's race may be nearly double that expected for a presidential race. Assuming no other influences, it is estimated that the state-wide "no valid vote" rate for the 2008 presidential race will fall again to half that of the 2006 Governor's race or around 0.49%.

Additional supporting evidence comes from the vote data collected for the 2006 U.S. Senate race. Despite being the first race on the ballot, the U.S. Senate race produced a state-wide "no valid vote" rate of 1.72%, nearly double that for the Governor's race which was typically the third race on the ballot. Comparison of these two races shows the 100% touchscreen counties experienced approximately a 1% increase in their early voting and election day undervote rate supported by a similar increase in the absentee undervote rate for these same counties between the two races. However, this degree of increase in absentee undervotes for the blended counties, while significant, did not approach the same magnitude as that observed for absentee voting in the 100% touchscreen counties. Considering the results from the presidential, gubernatorial, and

[1] Analysis and Report of Overvotes and Undervotes for the 2002 General Election, Division of Elections, report available at http://election.dos.state.fl.us/reports/electreports.shtml

[2] Analysis and Report of Overvotes and Undervotes for the 2004 General Election, Division of Elections, report available at http://election.dos.state.fl.us/reports/electreports.shtml

[3] Report on Voter Education Programs During the 2004 Election Cycle, Division of Elections, report available at http://election.dos.state.fl.us/reports/electreports.shtml

[4] The 2004 over and undervote report did not address invalid write-in votes in its analysis. As noted above, the invalid write-in vote rate is not significant. Therefore, the 2002 and 2006 over and undervote rates presented in this report include the invalid write-in votes.

senatorial races, there appears to be a definite proportional influence that these races have on voter interest, apathy, and/or carelessness.

Overall Under and Overvote Rate

Voting System	Type	No. of Counties	2002 Governor	2004 President	2006 Governor	2006 U.S. Senate
ES&S	100% TS	11	1.12%	0.46%	1.09%	2.35%
Sequoia	100% TS	4	1.11%	0.46%	0.96%	1.90%
Diebold	Blended[1]	31	0.49%	0.27%	0.78%	1.15%
ES&S	Blended ES&S[2]	14	0.89%	0.42%	1.06%	1.19%
ES&S	Blended Optech[3]	7	0.56%	0.42%	1.27%	1.42%
	State-wide	67	0.86%	0.41%	0.98%	1.72%

Notes:

1 Prior to mid-2005 there were 30 Diebold counties. During 2005, Baker County switched from a Sequoia optical scan system to the Diebold blended voting system. Baker County's under and overvote rate for the Sequoia optical scan system is not included in the above 2002 data in order to maintain comparable data across the five types of voting systems.

2 ES&S voting system that accumulates (blends) the results by precinct from both the iVotronic touchscreen and ES&S optical scanners.

3 ES&S voting system that accumulates (blends) the results by precinct from both the iVotronic touchscreen and Optech optical scanners.

Overall the 2006 data in comparison with the 2002 data shows a slight improvement in the combined under and overvote rate for the fifteen 100% touchscreen counties along with a higher combined rate for the 52 optical scan counties. Comparisons of the 2006 Governor's race to the 2004 presidential race as indicated earlier show an across the board increase in the combined under and overvote rate that is conjectured to be race dependent.

A curiosity with the 2006 data concerns the high number of absentee undervotes for the seven optical scan counties with the ES&S Optech blended voting system. Although the other Florida counties also experienced an increase in the absentee undervote rate, it was not to the same degree for the Governor's race as experienced by the ES&S Optech counties. Those counties using the ES&S Optech system produced a 2.73% undervote rate for the Governor's race and 3.07% for the U.S. Senate race relative to the other 60 counties' average absentee undervote rate of 0.84% and 1.65%, respectively. For the Governor's race, the touchscreen counties fell below the state-wide average along with the Diebold blended system while the ES&S optical scan counties were above the state-wide undervote rate. However, the U.S. Senate race did not reflect this behavior and was unexpectantly higher across Florida for absentee undervotes.

Absentee Undervote Rate

Voting System	Type	No. of Counties	2002 Governor	2004 President	2006 Governor	2006 U.S. Senate
ES&S	100% TS	11	0.11%	0.38%	0.78%	2.30%
Sequoia	100% TS	4	0.06%	0.37%	0.79%	1.51%
Diebold	Blended	31	0.07%	0.32%	0.86%	1.36%
ES&S	Blended ES&S	14	0.15%	0.48%	1.04%	1.25%
ES&S	Blended Optech	7	0.08%	0.77%	2.73%	3.07%
	State-wide	67	0.66%	0.41%	1.02%	1.84%

In addition, the fifteen 100% touchscreen counties experienced a relatively high number of absentee optical scan overvotes compared to their 2002 data, with mixed results compared to 2004 presidential race. The absentee overvote rate for the 2006 U.S. Senate race was nearly identical to the 2006 Governor's race. The blended optical scan counties 2006 overvote rate is also nearly identical to their 2002 overvote rate. The 2004 report did not offer an explanation for the high overvote rate experienced during the 2004 General Election.

Absentee Overvote Rate

Voting System	Type	No. of Counties	2002 Governor	2004 President	2006 Governor	2006 U.S. Senate
ES&S	100% TS	11	0.01%	0.18%	0.21%	0.21%
Sequoia	100% TS	4	0.04%	0.36%	0.14%	0.14%
Diebold	Blended	31	0.01%	0.10%	0.03%	0.03%
ES&S	Blended ES&S	14	0.03%	0.15%	0.05%	0.04%
ES&S	Blended Optech	7	0.06%	0.58%	0.05%	0.05%
	State-wide	67	0.02%	0.23%	0.11%	0.11%

Problems with ballot design or instructions

The Congressional District 13 (CD-13) race in Sarasota County has raised the possibility that ballot layout may have contributed to the unexpected undervote rate experienced with the ES&S iVotronic touchscreen. In that race, the county presented its voters with the U.S. Senate race on the first visual ballot page. This was followed by the second ballot image page that included the CD-13 race at the top, followed by a highly visible header for the State races under which was the Governor/Lt. Governor's race with a large list of candidates. Speculation is that this highly visible "STATE" header drew the voter's attention away from the CD-13 race in favor of the Governor's race. Although the touchscreen provides voters with an opportunity to change or correct their vote selections on the review pages, it has not been determined why such a high number of voters chose not to record a vote for this race. Functional testing of a small sample of the Sarasota touchscreens indicated that the iVotronic touchscreens accurately captured the voter's selections.[5] In addition, Sarasota's absentee undervote rate for CD-13 appears consistent with the overall undervote rate experienced by the other CD-13 counties (Charlotte, DeSoto, Hardee, and Manatee), thus suggesting that a non-optimal ballot design may be the root cause.

Hardee County has provided a breakdown by voting method for the CD-13 recount data on their website.[6] An examination of this data provides supporting evidence that ballot layout may be a factor. Hardee County indicated that the CD-13 recount resulted in 253 optical scan undervotes. This represents 5.6% of the CD-13 vote for all the voting methods that utilized paper ballots; the sum of which totals 4,526 optical scan votes. However, the Diebold TSx touchscreen recorded 12 undervotes out of just 58 CD-13 votes, thus yielding a touchscreen undervote rate of 20.7%. This undervote rate, when combined with the optical scan results yields a county-wide undervote rate of 5.8% for CD-13, thus giving the appearance that Hardee County's results did not reflect Sarasota's high undervotes, when in fact, it did. The Diebold TSx ballot layout consisted of a two-column presentation with the first page containing the U.S. Senate and the CD-13 races in column one and the Governor/Lt. Governor and Attorney General races in column two.

[5] Parallel Test Summary Report – Sarasota County, Florida - 12/18/06, Division of Elections, report available at http://election.dos.state.fl.us/index.html

[6] http://www.hardeecountyelections.com/SOVC_REPORT_PAGE.htm

Aside from the Sarasota CD-13 undervote, several counties provided their observations regarding causes for a "no valid vote." One county speculated that the "Vote for One" may cause voter confusion leading to an overvote when the contest header and candidate is an office / candidate pair, such as the Governor/Lt. Governor race. Another county indicated that undervotes occur at significantly higher rates when there is little information available for voters to become informed on the candidate or issue, i.e. judicial retention, constitutional amendments, etc. This county strongly recommended that more information should be made available concerning judicial retention and constitutional amendments. Several counties noted that a voter's lack of interest in a contest and a voter's deviation from the voting instructions are major contributors to the "no valid vote" rate.

- **Problems with the voting system's design**

Overall the 2006 November election went smoothly with no significant problems other than the Sarasota CD-13 race. However, the increasing popularity of absentee voting does pose a dilemma. The requirement for tabulating early voting and election day ballots at the precinct is intended to provide immediate feedback to the voter to minimize latent voter error (e.g., blank ballot and overvoted contests.) This benefit to the voter is nullified by absentee and paper provisional voting. In addition, the requirements to successfully complete the absentee voting process present the voter with additional challenges to ensuring that their vote is counted. The least risk to the voter to ensure that there vote is counted is to vote during early voting or on election day. In addition, the increasing absentee voting trend appears to be amplifying the undervote rate. Furthermore, this report was not able to consider the overall absentee success rate relative to the number of absentee ballots received by the supervisors of elections. The extent of this potential problem is not known as data has been collected to analyze absentee requests, absentee ballots sent, absentee ballots returned, and absentee ballots rejected along with the causes for their rejection. In addition, it is not known how many absentee ballots with overvoted contests were converted to undervotes as specified by section, 101.5614(5), Florida Statutes.

- **Recommendations for correcting identified problems**
  - The suggestion that the undervote rate for the Sarasota CD-13 contest could be attributed to ballot layout merits attention regardless of the actual root cause of the high number of undervotes. The Division of Elections should consider engaging the services of human factors experts to examine ballot layout methodologies with the goal to develop a guidance document for Florida's supervisors that goes beyond the requirements of the uniform ballot rule.[7] The intent is to draw upon existing studies concerning voter response to both paper and video layout schemes that enhance a voter's attention to the ballot's contests and vote selections. Further consideration could also be given to the ballot instructions. For example: the Optech paper ballots utilize an arrow head and tail with a space between the two for the voter to fill in to indicate a vote. It is believed that some voters misinterpret the ballot's instructions and instead construct a new arrow outside the scanned target area. As noted previously, a "Vote for One" contest that has paired candidates may be interpreted as a need to vote twice, such as using the write-in, to select the pair. Other factors for consideration include a host of other environmental considerations, such as booth lighting.

[7] F.A.C., 1S-2.032 Uniform Primary and General Election Ballot, available at: http://election.dos.state.fl.us/laws/AdoptedRules/ElectionsRules.shtml

- Absentee voting's proportion of the overall vote is increasing. It is unknown if this increasing trend will amplify absentee ballot rejection or increase undervoted contests. What is known is that not enough is known about the absentee success rate. It is recommended that the Division of Elections take a pro-active approach to assess this consideration.

Introduction

Section 101.595, Florida Statutes, delegates the Department of State with the responsibility to analyze and report on the performance of each type of voting system after every general election. The basis for this analysis is the over and undervote report that is provided by each Florida County for either the "President and Vice President" race or "Governor and Lieutenant Governor" race or if neither is present, the first race on the ballot. The Department of State analyzes this information and reports its findings to the Legislature and the Governor by January 31 of the year following the general election. This report must address at least two areas that may have contributed to voter confusion: 1) Problems with ballot design or instructions; and 2) Problems with the voting system's design. This report must also offer recommendations for correcting any identified problems.

Thus, the purpose of this report is to look at factors relating to no valid votes being cast for the race of interest. The three circumstances where this occur are ballots that contain either overvotes, undervotes, or invalid write-in votes (if applicable). Note that an undervote may not be a voting machine error or "lost vote," but rather the prerogative of the voter. Undervotes can occur when voters exercise their right to withhold their vote: For example, casting a ballot to maintain voter history without participating in the decision making (voting) process, casting a ballot without a voted race to serve as a protest vote for that race, or casting a ballot without a valid vote for some other reason that is known only to the voter. An overvote occurs when a voter casts more votes than allowed in a race or ballot measure. This condition is typically voter error and is the basis for the requirement that ballots, other than absentee and provisional ballots, be tabulated at the polling location. This allows the voter the opportunity to correct a ballot that contains one or more overvoted contests. However, except for a blank ballot, casting an undervoted paper ballot will not afford the voter an opportunity to make changes. Likewise, an absentee ballot or a paper provisional ballot does not provide the voter with the opportunity to correct latent voter error. Touchscreen provisional voting allows the voter to check their vote selections. In addition, each county's canvassing board is responsible for manually assessing voter intent for over and undervoted absentee ballots.[8] However, this requirement causes overvoted absentee races to be tabulated as undervotes. An invalid write-in vote may be voter error other than spelling, such as writing in a valid candidate's name that is already on the ballot for that race or writing in a valid candidate's name from another race. An invalid write-in vote may also be a protest vote, such as "Mickey Mouse," "Bozo the clown," "None of the above," etc.

Florida's voting systems fall into two general precinct tabulation classes: 100% Direct Recording Electronic (DRE) touchscreen and "blended." Blended refers to a voting system that includes both touchscreen and optical scan voting methods coexisting at the same polling location. Blending derives its name from the election management system's ability to accumulate results

[8] Section, 101.5614(5), Florida Statutes

(i.e., blend) from the two types of precinct tabulators into one set of results broken down by precinct. Election officials perform this task at their central location utilizing their election management system. Blending does not refer to a voting systems ability to accumulate and produce a single set of results at the precinct. However, several voting system vendors are developing this capability. Recently, the blending concept has been extended to include accumulating absentee and early voting results within the election management system leading to a county's ability to report all the accumulated totals by precinct.

Florida's 52 blended counties fall into two vendor groups: Elections Systems and Software, Inc. (ES&S) and Diebold Elections Systems, Inc. (DESI or Diebold). A further subdivision distinguishes ES&S counties that utilize either the ES&S optical scanners (Model 650 central count scanner and/or M100 precinct scanner) or the Optech scanners (Model IV-C central count scanner and/or Optech III-P Eagle precinct scanner). There are 14 counties that use the ES&S blended voting system with the ES&S scanners and 7 counties that use the ES&S blended voting system with the Optech scanners. There are 31 Diebold blended counties and 15 100% touchscreen counties consisting of 11 ES&S counties and 4 Sequoia Voting Systems, Inc. (Sequoia) counties. The various voting systems can be grouped into five general types: ES&S 100% touchscreen, Sequoia 100% touchscreen, Diebold blended system, ES&S blended system with ES&S scanners, and ES&S blended system with Optech scanners.

All 67 Florida counties utilize optical scan for absentee tabulation. Absentee optical scanners may consist of either one or more high-speed central count scanners or one or more of the certified precinct scanners. Smaller ES&S blended counties utilize precinct scanners for absentee tabulation as a more cost effective alternative to using a high-speed scanner. Diebold does not have a Florida certified high-speed central count scanner. Thus, the Diebold counties utilize one or more of the certified precinct scanners (AccuVote OS) for scanning and tabulating absentee ballots. All four Sequoia counties use one or more high-speed central count scanners (Optech 400-C).

Discussion

Each county provided their 2006 election data for the U.S. Senate and the Governor/Lt. Governor races. Florida's 67 counties provided data in a suitable format to support this report. The Division of Elections made minor adjustments to this data to arrive at a uniform and consistent set of data. The majority of the data reflects the separation of vote data by voting method and voting device. However, a few optical scan counties were not able to extract out the early voting and election day touchscreen data from the optical scan data. Fortunately, the counties that encountered this difficulty were few and these exceptions are not expected to bias the results.

Vote data for the 2002 elections was obtained from the Analysis and Report of Overvotes and Undervotes for the 2002 General Election, dated January 31, 2003. The data for the 2004 election was obtained from the Analysis and Report of Overvotes and Undervotes for the 2004 General Election, dated January 31, 2005. Data for the 2000 General Election was extracted from both of these reports. The 2006 raw data and consolidated results presented in Tables 1 to 3 are contained in an MS Excel spreadsheet. These reports and the spreadsheet are available on the Division of Elections website at: http://election.dos.state.fl.us/reports/electreports.shtml

Presented below are the summary results of three comparisons of the 2006 data. First, the 2006 results are compared to the 2002 results. This is the best apples-to-apples comparison, as the race of interest is the same and the voting methods are similarly distributed among the Florida counties. Next, Table 2 presents the comparison of the 2006 U.S. Senate race with the 2006 Governor's race to assess the influence of ballot placement and office. Finally, Table presents the comparison of the 2006 Governor's race with the 2004 presidential election to ascertain if the "no valid vote" trend is dominated by the race of interest and/or correlated with time.

Nomenclature:

AB	Absentee Ballot
ED	Election Day
EV	Early Voting
OS	Optical Scan
TS	Touchscreen
OV	Overvote
UV	Undervote
I WI	Invalid write-in

Table 1
2006 Breakdown of the Governor's race compared to 2002

Under and Overvote rate by voting system

Voting System	Type	No. of Counties	2002[4] Governor OS	2006 Governor OS & TS Combined
ES&S	100% TS	11	1.12%	1.09%
Sequoia	100% TS	4	1.11%	0.96%
Diebold	Blended[1]	31	0.49%	0.78%
ES&S	Blended ES&S	14	0.89%	1.06%
ES&S	Blended Optech	7	0.56%	1.27%
	State-wide	67	0.86%	0.98%

Absentee undervote and overvote rate by voting system

Voting System	Type	No. of Counties	2002[2] Governor AB OS UV	2006[3] Governor AB OS UV	2002 Governor AB OS OV	2006[3] Governor AB OS OV
ES&S	100% TS	11	0.11%	0.78%	0.01%	0.21%
Sequoia	100% TS	4	0.06%	0.79%	0.04%	0.14%
Diebold	Blended[1]	31	0.07%	0.86%	0.01%	0.03%
ES&S	Blended ES&S	14	0.15%	1.04%	0.03%	0.05%
ES&S	Blended Optech	7	0.08%	2.73%	0.06%	0.05%
	State-wide	67	0.09%	1.02%	0.02%	0.11%

Precinct optical scan and touchscreen undervote rate by voting system

Voting System	Type	No. of Counties	2002 Governor ED OS UV	2006 Governor EV ED OS UV	2002 Governor ED TS UV	2006[5] Governor EV ED TS UV
ES&S	100% TS	11	NA	NA	0.92%	1.02%
Sequoia	100% TS	4	NA	NA	0.93%	0.86%
Diebold	Blended[1]	31	0.31%	0.62%	NA[4]	0.99%
ES&S	Blended ES&S	14	0.53%	0.87%	NA[4]	0.97%
ES&S	Blended Optech	7	0.30%	0.89%	NA[4]	0.56%
	State-wide	67	0.33	0.70%	0.93%	0.94%

Invalid write-in vote rate by voting system *(Combined OS & TS)*

Voting System	Type	No. of Counties	2002[4] Governor OS I WI	2006 Governor OS TS I WI
ES&S	100% TS	11	0.07%	0.04%
Sequoia	100% TS	4	0.08%	0.05%
Diebold	Blended[1]	31	0.09%	0.06%
ES&S	Blended ES&S	14	0.07%	0.09%
ES&S	Blended Optech	7	0.07%	0.09%
	State-wide	67	0.08%	0.06%

Notes:

1 Prior to mid-2005 there were 30 Diebold counties. During 2005, Baker County switched from a Sequoia optical scan system to the Diebold blended voting system. Baker County's under and overvote rate for the Sequoia optical scan system is not included in the above 2002 data in order to maintain comparable data across the five types of voting systems.

2 The 2002 absentee (AB) undervotes for the ES&S 100% touchscreen (TS) counties included results from both optical scan absentee ballots and votes cast prior to election day on touch screen voting terminals (i.e., what would become early voting).

3 Undervote and overvote data for the absentee (AB) optical scan (OS) include accepted provisional paper ballot data, since the paper provisional voter does not have the opportunity to correct ballot errors at the polling location.

4 The first certified blended voting systems became available in 2003. Thus, the 2002 data for the blended counties represent only optical scan data.

5 Undervote and overvote data for the early voting (EV) and election day (ED) touchscreen (TS) include the accepted provisional electronic ballot data, since the touchscreen provisional voter is afforded the opportunity to correct ballot errors at the polling location.

Table 2
2006 Breakdown of the Governor's race compared to the U.S. Senate race

Total "no valid vote" rate by voting system *(Combined OS & TS)*

Voting System	Type	No. of Counties	2006 Senate OS TS Combined	2006 Governor OS TS Combined
ES&S	100% TS	11	2.35%	1.09%
Sequoia	100% TS	4	1.90%	0.96%
Diebold	Blended[1]	31	1.15%	0.78%
ES&S	Blended ES&S	14	1.19%	1.06%
ES&S	Blended Optech	7	1.42%	1.27%
	State-wide	67	1.72%	0.98%

Absentee undervote and overvote rate by voting system

Voting System	Type	No. of Counties	2006[3] Senate AB OS UV	2006[3] Governor AB OS UV	2006[3] Senate AB OS OV	2006[3] Governor AB OS OV
ES&S	100% TS	11	2.30%	0.78%	0.21%	0.21%
Sequoia	100% TS	4	1.51%	0.79%	0.14%	0.14%
Diebold	Blended[1]	31	1.36%	0.86%	0.03%	0.03%
ES&S	Blended ES&S	14	1.25%	1.04%	0.04%	0.05%
ES&S	Blended Optech	7	3.07%	2.73%	0.05%	0.05%
	State-wide	67	1.84%	1.02%	0.11%	0.11%

Precinct optical scan and touchscreen undervote rate by voting system

Voting System	Type	No. of Counties	2006 Senate EV ED OS UV	2006 Governor EV ED OS UV	2006[5] Senate EV ED TS UV	2006[5] Governor EV ED TS UV
ES&S	100% TS	11	NA	NA	2.23%	1.02%
Sequoia	100% TS	4	NA	NA	1.84%	0.86%
Diebold	Blended[1]	31	1.00%	0.62%	1.15%	0.99%
ES&S	Blended ES&S	14	1.04%	0.87%	1.14%	0.97%
ES&S	Blended Optech	7	1.03%	0.89%	0.96%	0.56%
	State-wide	67	1.01%	0.70%	1.98%	0.94%

Invalid write-in vote rate by voting system *(Combined OS & TS)*

Voting System	Type	No. of Counties	2006 Senate OS TS I WI	2006 Governor OS TS I WI
ES&S	100% TS	11	0.08%	0.04%
Sequoia	100% TS	4	0.09%	0.05%
Diebold	Blended[1]	31	0.07%	0.06%
ES&S	Blended ES&S	14	0.07%	0.09%
ES&S	Blended Optech	7	0.07%	0.09%
	State-wide	67	0.08%	0.06%

Table 3
2006 Breakdown of the Governor's race compared to 2004 Presidential race

Total "no valid vote" rate by voting system

Voting System	Type	No. of Counties	2004 President OS & TS Combined	2006 Governor OS & TS Combined
ES&S	100% TS	11	0.46%	1.09%
Sequoia	100% TS	4	0.46%	0.96%
Diebold	Blended[1]	31	0.27%	0.78%
ES&S	Blended ES&S	14	0.42%	1.06%
ES&S	Blended Optech	7	0.42%	1.27%
	State-wide	67	0.41%	0.98%

Absentee undervote and overvote rate by voting system

Voting System	Type	No. of Counties	2004 President AB OS UV	2006[3] Governor AB OS UV	2004 President AB OS OV	2006[3] Governor AB OS OV
ES&S	100% TS	11	0.38%	0.78%	0.18%	0.21%
Sequoia	100% TS	4	0.37%	0.79%	0.36%	0.14%
Diebold	Blended[1]	31	0.32%	0.87%	0.10%	0.03%
ES&S	Blended ES&S	14	0.48%	1.04%	0.15%	0.05%
ES&S	Blended Optech	7	0.77%	2.73%	0.58%	0.05%
	State-wide	67	0.41%	1.02%	0.23%	0.11%

Precinct optical scan and touchscreen undervote rate by voting system

Voting System	Type	No. of Counties	2004 President EV ED OS UV	2006 Governor EV ED OS UV	2004 President EV ED TS UV	2006[5] Governor EV ED TS UV
ES&S	100% TS	11	NA	NA	0.48%	1.02%
Sequoia	100% TS	4	NA	NA	0.41%	0.86%
Diebold	Blended[1]	31	0.24%	0.62%	NA	0.99%
ES&S	Blended ES&S	14	0.37%	0.87%	NA	0.97%
ES&S	Blended Optech	7	0.29%	0.89%	NA	0.56%
	State-wide	67	0.26%	0.70%	0.45%	0.94%

Conclusions:

The 2006 general election data suggests that the "no valid vote" rate is a function of the race of interest and as such is expected to exhibit a cyclical trend based on that office's re-election cycle. Based on this assumption and assuming no changes to Florida's voting system's deployment, it is expected that the 2008 presidential election will once again show the same low "no valid vote" rate demonstrated during the 2004 presidential race. The rate for invalid write-in votes has remained steady regardless of time, race of interest, or voting method and contributes no more than 0.10 % to the overall "no valid vote" rate. The 2006 results also indicate that there is currently little difference between the undervote rate for optical scan and that for the touchscreen voting methods for the Governor's race, however this relationship appears to highly dependent on the race of interest. Similarly, the absentee undervote rate for these methods is also in a state of flux. Furthermore, the 2006 optical scan undervote rate, while similar to the touchscreens, has increased over the levels reported in 2002 for the same contest of interest. Conversely, the touchscreen undervote rate has declined over this same four-year cycle for the Governor's race.

The undervote rate for Sarasota's CD-13 race, although not part of this analysis, does suggest that ballot layout warrants additional consideration and this concern should be addressed by a human factors analysis.