Analysis and Report of Overvotes and Undervotes in the 2018 General Election

Pursuant to Section 101.595, Florida Statutes

January 31, 2019

Executive Summary

Section 101.595, Fla. Stat., directs the Florida Department of State (Department) to report on the performance of each type of voting system after a general election based on "the total number of overvotes and undervotes in the "President and Vice President" or "Governor and Lieutenant Governor" race that appears first on the ballot or, if neither appears, the first race appearing on the ballot." This report is conducted on the Governor and Lieutenant Governor's (Gubernatorial) contest.

The 67 Florida county Supervisors of Elections are required to provide to the Department the overvote and undervote data and the likely reasons for such overvotes and undervotes and other useful information. The Department then analyzes the county information to determine whether there is an identifiable problem with a voting system's design and/or whether ballot design or instructions contributed to voter confusion. The findings must be reported to the Legislature and the Governor by January 31 of the year following the general election.

For purposes of this report, the following definitions apply:

- *Overvote:* the elector marks or designates more names than there are persons to be elected to an office or designates more than one answer to a ballot question, and the tabulator records no vote for the office or question.
- *Undervote:* when the elector does not properly designate any choice for an office or ballot question, and the tabulator records no vote for the office or question.

The Department makes the following findings for the 2018 General Election:

1. The overvote rate decreased and undervote increased compared to previous overvote and undervote rates for general elections. The method of casting a vote remains a key factor in the overvote and undervote rates. The Vote-By-Mail voting method consistently produced a higher number of overvotes and undervotes than during Early Voting and Election Day. This is consistent with prior reports.

2. The compiled Gubernatorial contest data do not show anything to suggest or conclude that voter confusion existed during the election as a result of ballot design and/or ballot instructions issues, or that the voting equipment manifested any anomalies. A historical overview of the overvote and undervote data consistently shows no demonstrable correlation as to whether ballot design and/or instructions confused voters, and whether the voting system manifested any anomalies.

3. An inherent bias continues to exist in actual overvote rates (or conversely higher than actual *undervote* rates) due to the current ballot duplication requirements in law. Specifically, section 101.5614(5), Fla. Stat., requires a vote-by-mail ballot with an overvoted contest to be duplicated as a ballot with only valid votes. This bias is compounded by current polling place practices in some counties that place overvoted or blank ballots in emergency bins for later duplication of ballots in accordance with those same duplication procedures. Therefore, the actual rate of overvotes appears lower than it may actually be.

Based on the foregoing, the Department recommends the following:

- To minimize the inherent bias in overvote and undervote data, the Supervisors of Elections must train pollworkers to allow a voter who chooses to vote an overvoted ballot on Election Day or during Early Voting to immediately cast the ballot in the precinct tabulator, in lieu of placing the overvoted ballot in the emergency bin for subsequent duplication and canvassing by the canvassing board.

- To provide a more integrated meaningful report that may better identify potential issues, if any, or correlation between ballot design and instructions, and/or voting system design, and impact on the voters, a statutory change is recommended combining into a single report data elements and information from the current overvote and undervote report and the conduct of elections report due at the same time (in lieu of two separate reports due at different times).

- To elicit more detailed information, the DS-DE 40 Form should be modified to include more specific questions related but not limited to likely reasons for overvotes and undervotes in a contest, and how voting system or ballot design and instructions may have contributed to voter confusion, if at all.

Introduction

Section 101.595, Fla. Stat., directs the Florida Department of State (Department) to report on the performance of each type of voting system after a general election based on "the total number of overvotes and undervotes in the "President and Vice President" or "Governor and Lieutenant Governor" race that appears first on the ballot or, if neither appears, the first race appearing on the ballot." This report is conducted on the Governor and Lieutenant Governor's (Gubernatorial) contest.

The 67 Florida county Supervisors of Elections are required to provide to the Department the overvote and undervote data and the likely reasons for such overvotes and undervotes and other useful information. The Department then analyzes the county information to determine whether there is an identifiable problem with a voting system's design and/or whether ballot design or instructions contributed to voter confusion. The findings must be reported to the Legislature and the Governor by January 31 of the year following the general election.

This report focuses on factors relating to the "*no valid votes*" being cast for the Gubernatorial contest. The "*no valid votes"* consist of three categories:

- *Overvote*. An overvote occurs when a voter casts more votes than allowed in a contest. An overvote is typically attributed to voter error and ballots tabulated at the polling location. By tabulating the ballots at the polls, the voter is immediately alerted to the error when the tabulator rejects the ballot. The voter is then given the choice to correct the ballot or to cast the rejected ballot. In the case of a Vote-By-Mail or Provisional ballot voter, no statutory mechanism or opportunity exists to let the voter know that he or she has overvoted one or more contests and to correct it since the ballot is canvassed and tabulated later at the central office.

- *Undervote*. An undervote means that the voter did not properly designate a choice for a contest and/or the tabulator records no vote for the contest. Although an undervote may be due to a voting machine error, most often it reflects a voter's intent not to vote in a particular contest. Voting systems, as counties currently code them, alert the voter as to a blank ballot (not whether there is one or more undervoted contests). As in the case of overvoting, no statutory mechanism or opportunity exists to let a Vote-By-Mail or Provisional ballot voter know that he or she has undervoted one or more contests and to correct it.

- *Invalid write-in vote*. An invalid write-in vote may be due to voter error, such as unintentionally writing in a valid candidate's name from another contest, or intentionally writing in (as protest) "Mickey Mouse," "None of the above," "Anybody but [candidate]," or a fictitious name.

The certified voting systems in Florida's 67 counties fall into four vendor-labeled categories: Dominion Voting Systems, Inc. (Dominion), Elections Systems and Software, Inc. (ES&S), Premier Election Solutions (GEMS), and Sequoia Voting Systems, Inc. (Sequoia). At this time, only two active voting system vendors provide and service certified voting systems in Florida: ES&S and Dominion.[1] Democracy Suite, Premier(GEMS), and Sequoia are Dominion product

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[1] In 2009, ES&S acquired Premier Election Solutions from Diebold Election Systems, Inc. In 2010, the U.S. Department of Justice mandated ES&S to divest elements of the Premier line of voting systems due to monopoly

lines. EVS and Unity are ES&S product lines. Currently, 19 Florida counties use Dominion voting systems, and 48 counties use ES&S voting systems.

All voting in Florida must be by paper/marksense ballot method in connection with a paper tabulator scanner with the exception of persons with disabilities, who still have the option of voting on Direct Recording Electronic (DRE) touchscreen machines.[2] Accessible voting systems must be available for persons with disabilities pursuant to the Help America Vote Act (HAVA)[3]. However, by 2020, all counties must provide disability accessible voting equipment that permit the voter to cast a paper/marksense ballot.[4]

Methodology

The 2018 General Election data was compared to data from the 2010, 2012, 2014, and 2016 General Elections. Since 2010, the Department has been analyzing the data at the tabulator level instead of the voting system level. This analytical approach offers more flexibility, provides greater details and can be applied in the event of future changes in voting system configuration.

For purposes of this report, the 2018 General Election data was analyzed on the basis of the twelve types of voting systems' tabulation devices (tabulators) that have been used by Florida counties in the last four years. The twelve types of tabulators were further segregated in **Table 1,** below, according to their use for Early Voting, Election Day, and Vote-By-Mail voting for the 2018 General Election. **Table 1** shows how many counties used each tabulator type and for which voting method (Early Voting, Election Day, and Vote-By-Mail).

Table 1			
Voting System Tabulators by Voting Method Usage in Florida			
Voting System - Tabulators	Number of Counties using Tabulators, By Voting Method		
	EV	ED	VBM
Sequoia Counties · Insight +	1	1	0
Sequoia Counties · 400-C	0	0	1
Democracy Suite - ICE	16	16	8
Democracy Suite - ICC	0	0	8
GEMS Counties - AVOS	2	2	2
ES&S Counties - DS200	48	48	12
ES&S Counties - M650	0	0	1
ES&S Counties - DS850	0	0	32
ES&S Counties - DS450	0	0	3
GEMS Counties - AVOSX	0	0	0
GEMS Counties - PCS	0	0	0
ES&S Counties - M100	0	0	0
Total =	67	67	67

Depending on the voting system and tabulator, a county may use a tabulator type for tabulating ballots of one voting method, or several voting methods. Prior to the 2018 General Election, counties using either the Premier GEMS AVOSX, the ES&S M100 and the GEMS PCS upgraded their existing voting systems or to a different system entirely. Therefore, those three tabulator types listed in Table 1 do not show any current usage data in this report.

The 67 county Supervisors of Elections reported their raw overvote and undervote data in an excel spreadsheet designed for this purpose (Form DS-DE 40, General Election Report on Overvotes and Undervotes). During the data verification, reconciliation, and compilation process, counties were contacted as needed for explanations of any discrepancies or unusual entries. The aggregate data was then categorized and analyzed according to voting equipment (tabulation device).

Figures presented in this report show not only statewide results, but results aggregated by tabulator. In total, counties reported only 83 ballots cast via DRE touchscreen, representing .001% of the total number of ballots cast. No meaningful comparison and analysis can be done between ballots cast using the DRE touchscreen tabulator device and the optical scanner tabulator. Therefore, since 2010, the touchscreen votes have been combined with the counties' optical scan tabulator group data, without biasing the results.

Data in this report are presented as rates, or percentages, of an event, rather than as raw data. The reason for this is that numbers of ballots cast vary greatly across Florida counties, ranging from a few thousand to millions of ballots cast in a county. By converting the event raw values to percentage of ballots cast, it becomes possible to compare events across Florida counties.

Results

The overvote and undervote rates for the Gubernatorial contest, whether by voting method or by tabulator type, or "no valid votes" by voting system for the 2018 General Election were consistent with the rates or trends found and reported in previous reports. The increased overvote rate for the Gubernatorial contest was consistent with the increasing overvote rate for all voting methods during the General Election cycles starting with 2010 to the 2018 General Election cycles. See **Chart 1**
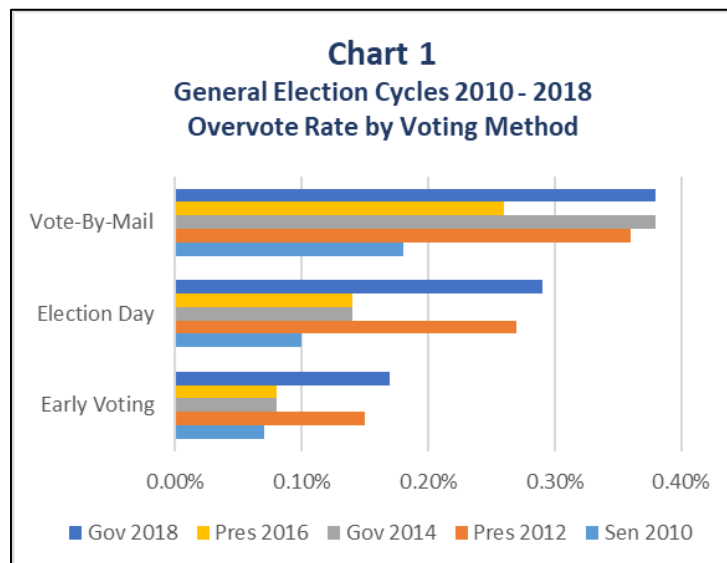
In contrast, the undervote rate for the 2018 Gubernatorial contest for all voting methods decreased, consistent with the decrease of undervote rates for the General Elections in prior years to 2010 See **Chart 2**.
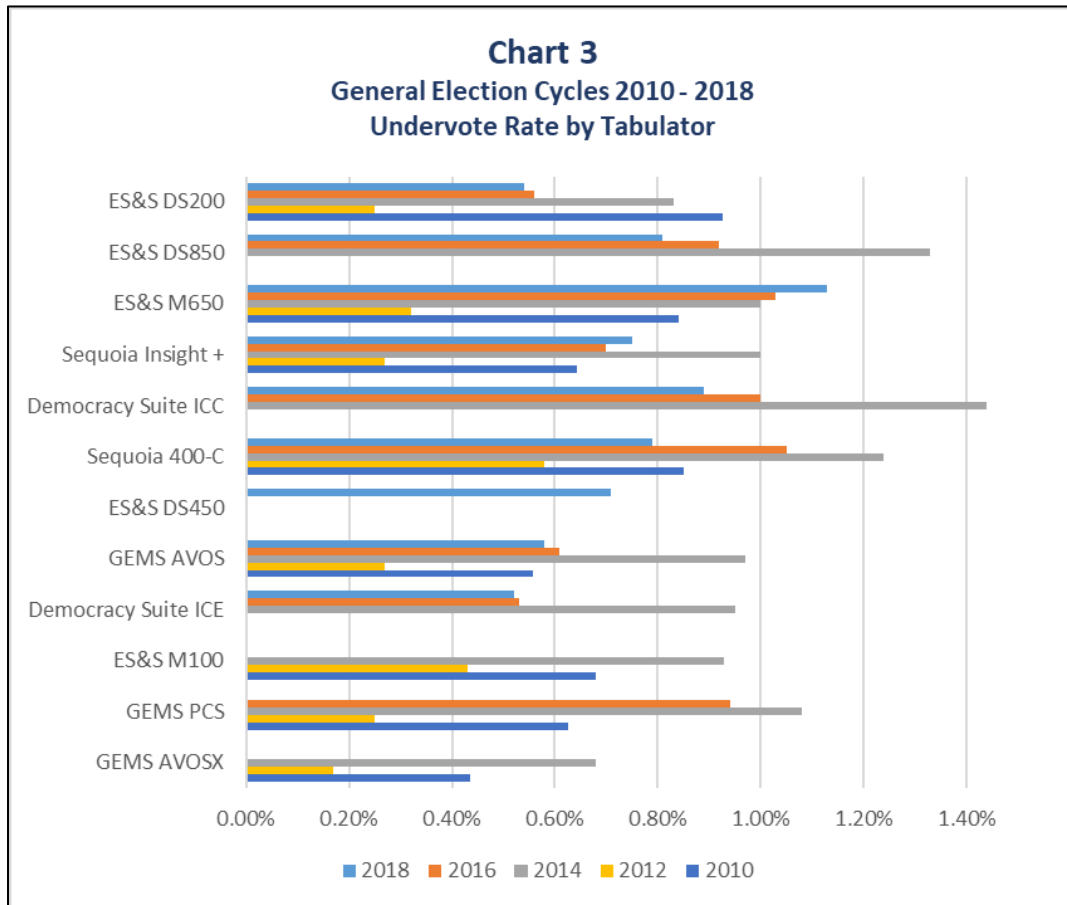

Chart 2
General Election Cycles 2010 - 2018
Undervote Rate by Voting Method
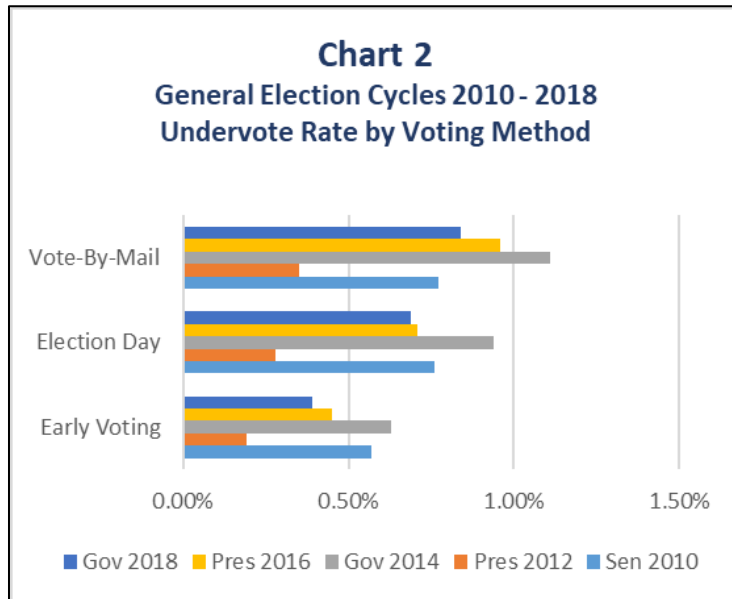
Table 2[5], below, shows there is no discernable trend in the "no valid vote" rates for the 2018 Gubernatorial contest when compared to the first contest on the ballot in the last four general elections.

Table 2
General Election Cycles 2010 - 2018
"No Valid Vote" Rate by Voting System

Tabulators	2010 Senator % No Valid Votes	2012 President % No Valid Votes	2014 Governor % No Valid Votes	2016 President % No Valid Votes	2018 Governor % No Valid Votes
Sequoia C Insight +	0.79%	0.61%	1.37%	1.40%	1.35%
Sequoia C 400-C	1.20%	1.33%	2.25%	2.19%	2.26%
Democrac ICE*	N/A	N/A	N/A	1.47%	0.75%
Democrac ICC*	N/A	N/A	N/A	2.30%	1.19%
GEMS Cou AVOS	0.67%	0.64%	1.42%	1.64%	0.68%
ES&S Cour DS200	0.85%	0.76%	1.15%	1.38%	0.82%
ES&S Cour M650	1.11%	0.98%	1.69%	2.27%	1.81%
ES&S Cour DS850*	N/A	N/A	N/A	2.59%	1.20%
ES&S Cour DS450*	N/A	N/A	N/A	N/A	1.09%
GEMS Cou AVOSX	0.51%	0.47%	0.96%	N/A	N/A
GEMS Cou PCS	0.70%	0.74%	1.56%	1.41%	N/A
ES&S Cour M100	1.19%	0.89%	1.42%	N/A	N/A
Total =	0.91%	0.75%	1.36%	1.68%	1.00%

[5] An asterisk next to a system in Table 2 indicates the following: 1. The Democracy Suite voting system and the ES&S DS850 and DS450 Central Count scanners were not used in Florida during the 2010, 2012, and 2014 elections. 2. The ES&S DS450 Central Count scanner was not used in Florida during the 2016 election.

Undervotes

Chart 3, below, shows that the undervote rate for the 2018 Gubernatorial contest decreased for nearly all tabulator types. While two tabulator types the ES&S M650 and Sequoia Insight+ showed a slight increase, insufficient data exists to determine the cause. The other tabulator types showed demonstrable decreases. Therefore, tabulator type does not seem to be a factor in the undervote rate.

Overvotes

Chart 4, below, shows that the overvote rate for the 2018 Gubernatorial contest and other contests for 2010 through 2016 increased for all tabulator types. The most notable increases were the Sequoia 400-C and Insight+, both used in only one county, the rate of increase is nearly triple the previous general election data. The GEMS AVOS was the only tabulator type whose rate has decreased since 2010.

Chart 4
General Election Cycles 2010 - 2018
Overvote Rate by Tabulator
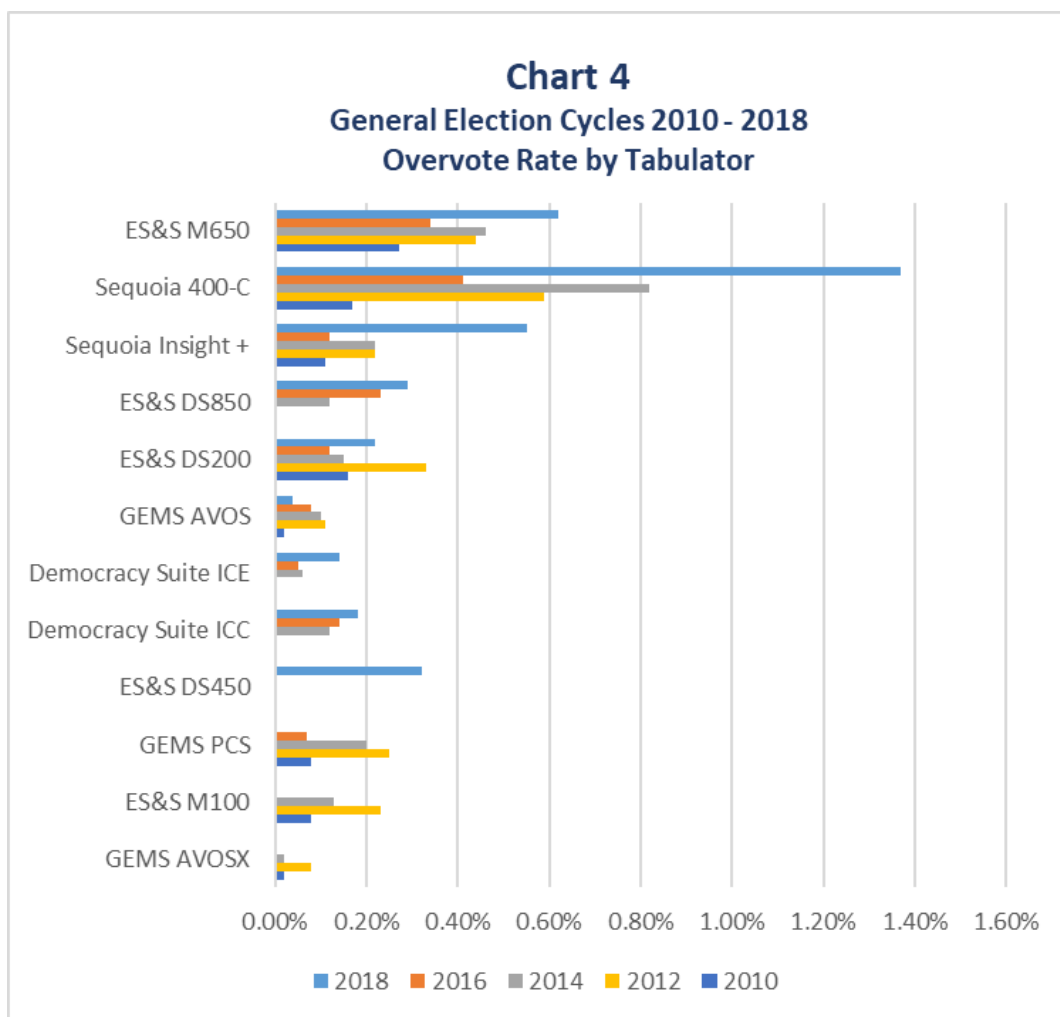
Invalid Write-In Votes

The invalid write-in votes (those votes for which the voter wrote in a candidate's name who had not qualified for the ballot) rate decreased for the 2018 Gubernatorial contest when compared to contests examined over the period since the 2010 General Elections as shown in **Table 3**[6] below. There is not enough data to determine a cause.

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[6] Invalid write-ins were not separated by equipment type in 2010. All invalid write-ins for a county were grouped under their precinct tabulator type.

Table 3
General Election Cycles 2010 - 2018
Invalid Write-In Rate by Tabulator Type

| Tabulators	Senator 2010	2012 President	2014 Governor	2016 President	2018 Governor
Sequoia Insight +	0.04%	0.12%	0.14%	0.57%	0.06%
Sequoia 400-C	0.00%	0.16%	0.19%	0.73%	0.11%
Democracy Suite ICE	N/A	N/A	0.28%	0.89%	0.10%
Democracy Suite ICC	N/A	N/A	0.22%	1.15%	0.13%
GEMS AVOS	0.09%	0.26%	0.34%	0.95%	0.07%
ES&S DS200	0.10%	0.18%	0.17%	0.70%	0.06%
ES&S M650	0.00%	0.22%	0.23%	0.90%	0.07%
ES&S DS850	N/A	0.00%	0.44%	1.44%	0.10%
ES&S DS450	N/A	N/A	N/A	N/A	0.06%
GEMS AVOSX	0.05%	0.23%	0.26%	N/A	N/A
GEMS PCS	0.00%	0.25%	0.28%	0.40%	N/A
ES&S M100	0.09%	0.23%	0.36%	N/A	N/A
Statewide	0.07%	0.21%	0.24%	0.86%	0.08%

Distribution of Undervotes and Overvotes

The method of casting a vote is a consistently recurring factor in the overvote and undervote rates. See **Charts 1** and **2** (mentioned earlier in the report) for an overview of the overvote and undervote rates for the 2018 Gubernatorial contest compared to data collected from previous elections.

Chart 5, below, shows the overall distribution of total ballots cast by voting method for the 2018 General Election. Election Day was the most used method for casting a ballot in 2018, followed by Early Voting, and then, Vote-By-Mail.

Chart 5
Distribution of Total Ballots, 2018 General Election

Voting Method	Percentage
Vote-By-Mail	31.60%
Early Voting	32.20%
Election Day	36.10%
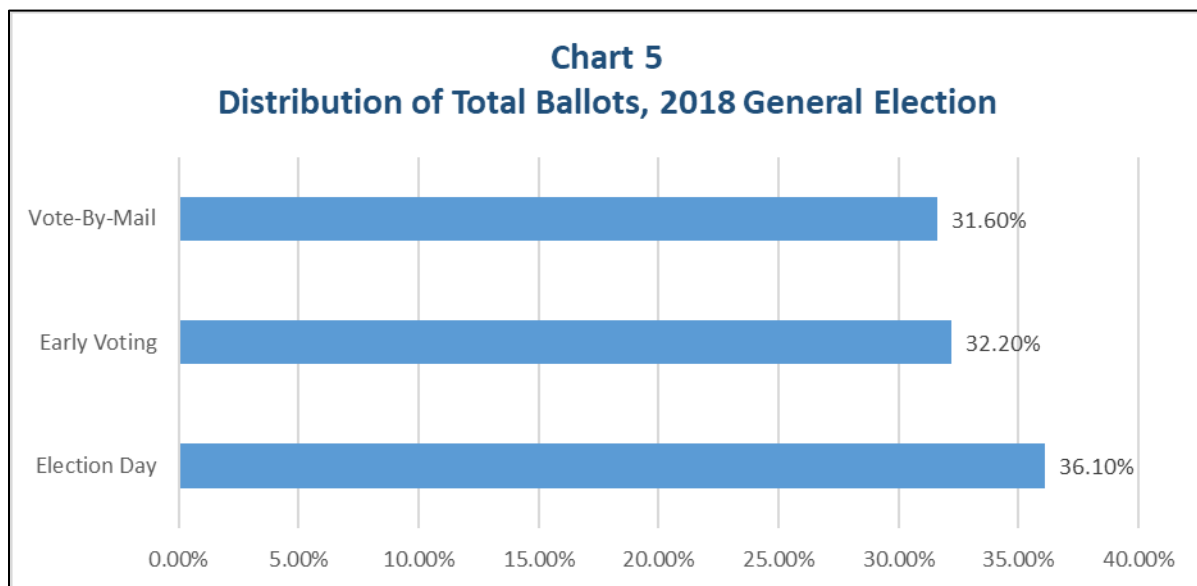
Chart 6, below, shows where the percentages of the 2018 Gubernatorial contest's overvotes and undervotes were cast relative to the voting method. The Vote-By-Mail voting method generated the most undervotes and overvotes in the election. The 2018 Gubernatorial contest's rates are consistent with rates seen in previous elections where Vote-By-Mail has been shown to have higher rates of undervoted ballots.
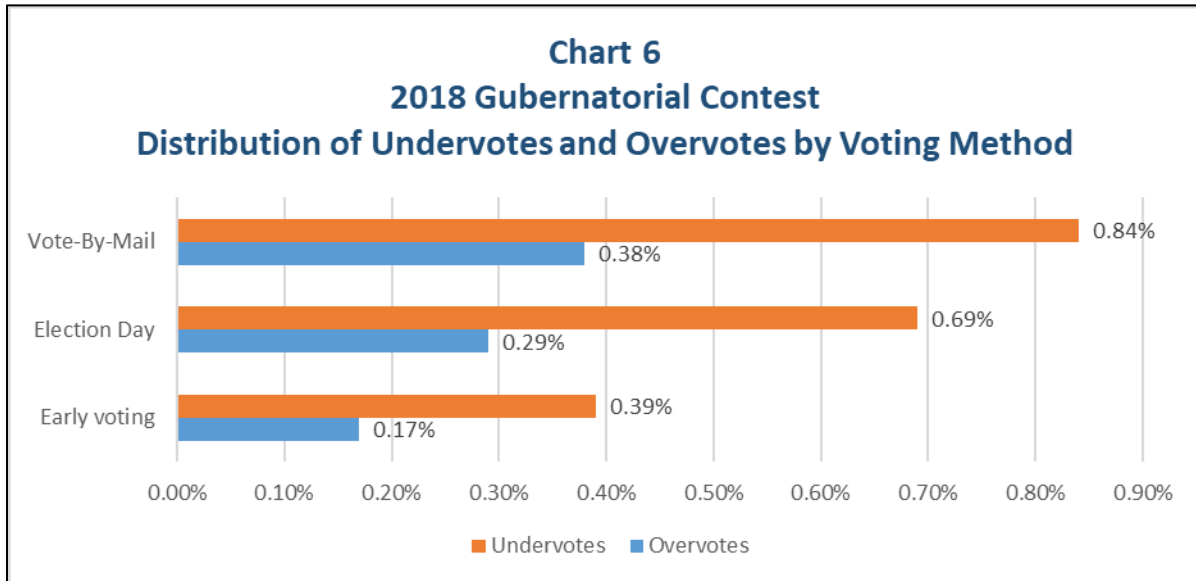
All Non-Valid Votes

Non-valid votes include all types of votes that do not count, such as overvotes, undervotes, and invalid write-ins. **Chart 7**, below, shows the non-valid vote rate for all general elections since 2010 to present. The non-valid vote rate had been generally trending upward since 2012. The 2018 General Election non-valid vote rate for the Gubernatorial contest decreased when compared to the 2016 General Election rate. There is not enough data to determine if this is the beginning of a downward trend or a decrease that is specific to this election.
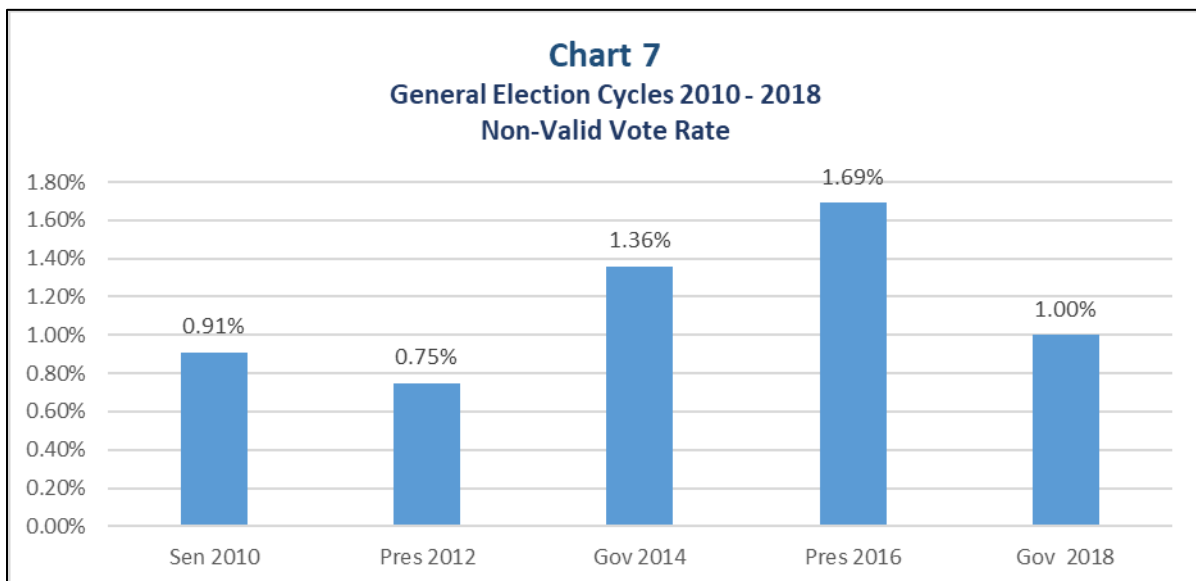
Ballot Design and Instructions

A historical overview of the overvote and undervote data consistently shows no demonstrable correlation that ballot design and/or instructions confused voters, or that the voting system manifested any anomalies.

Conclusion

The results of analysis of the overvotes and undervotes in the period between the 2010 General Election and the 2018 General Election show that the rate of undervotes decreased, along with invalid write-ins and all non-valid votes; and the rate of overvotes increased.

As mentioned in previous reports and illustrated again in this report, the method of casting a vote is a recurring factor in the overvote and undervote rates. Currently, there is no mechanism (statutory or procedural) to alert Vote-By-Mail voters that they have marked an overvote or undervote before their ballot is received in the Supervisor of Elections' office because such voters' ballot are deemed cast upon receipt and no opportunity exists to change an overvoted or undervoted ballot. In compliance with 101.5606(3), Fla. Stat., counties code their polling place tabulators to alert voters of a blank ballot or an overvoted contest. However, the law does not require a voter to be alerted to an undervoted contest, and therefore, in practice counties do not code their tabulators to alert voters of undervotes.[7] Nonetheless, numbers suggest that voters are still less likely to undervote in-person then when voting by mail. Therefore, although the method of casting a vote is a factor in the overvote and undervote rates, the presence of a mechanism to alert the voter is not a factor, at least in regard to undervotes as is evidenced in the data from the Gubernatorial contest.

An inherent bias continues to exist resulting in the underrepresentation of actual *overvote* rates (or conversely higher than actual *undervote* rates). The bias is attributable to the current procedural requirement in section 101.5614(5), Fla. Stat., for duplicating a ballot that is not otherwise tabulated at the precinct. County canvassing boards are required to duplicate a Vote-By-Mail ballot with an overvoted contest as a ballot that includes only valid votes. This process has the unintended effect of changing an overvoted contest into an undervoted contest. Since it is unknown how significant the bias is in the data set, evaluations of the data set can only be approximate.

This bias appears to be compounded by current polling place practices in some counties. In counties that use the ES&S DS200 or the Dominion ICE, the voter can override the tabulator to cast his or her overvoted ballot without assistance from the poll worker. However, in counties that use precinct tabulators such as the Sequoia Insight+ or GEMS AVOS, the poll worker must conduct the "override." Some counties do not permit their poll workers to override the tabulator, and instead, the poll worker places the overvoted ballot in the emergency bin. Consequently, those ballots are duplicated later without the overvoted contest in the same manner as the Vote-By-Mail ballots in accordance with duplication requirements with section 101.5614(5), Fla. Stat. This process results in overvotes being converted to undervotes when they were actually overvotes.

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[7] A requirement, however, to require this could substantially impact efficiencies at the polls.

To better evaluate the effect of this bias, it would be necessary for counties to manually keep detailed records of those ballots with overvotes in the first contest which are subsequently duplicated pursuant to section 101.5614(5), Fla. Stat. The Form DS-DE 40, General Election Report on Overvotes and Undervotes could be amended to solicit the number of overvoted ballots recorded during the duplication process into the overvoted category while subtracting the same number from the undervoted category. This would have to be a manual process and add another layer of administrative record keeping to the current requirements.

Nothing in the compiled Gubernatorial contest data from the counties indicates that there was voter confusion during the election as a result of ballot design and/or ballot instructions issues. Likewise, neither did the data suggest any anomalies with the voting equipment. Furthermore, a historical overview of the overvote and undervote data and reports consistently shows no demonstrable correlation that ballot design and/or instructions confused voters, or that the voting system manifested any anomalies.

Recommendations

Based on the findings and conclusion, the Department makes the following recommendations:

- To minimize the inherent bias in overvote and undervote data, the Supervisors of Elections must train pollworkers to allow a voter who chooses to vote an overvoted ballot on Election Day or during Early Voting to immediately cast the ballot in the precinct tabulator, in lieu of placing the overvoted ballot in the emergency bin for subsequent duplication and canvassing by the canvassing board.

- To provide a more integrated meaningful report that may better identify potential issues, if any, or correlation between ballot design and instructions, and/or voting system design, and impact on the voters, a statutory change is recommended combining into a single report data elements and information from the current overvote and undervote report and the conduct of elections report due at the same time (in lieu of two separate reports due at different times).

- To elicit more detailed information, the DS-DE 40 Form should be modified to include more specific questions related but not limited to likely reasons for overvotes and undervotes in a contest, and how voting system or ballot design and instructions may have contributed to voter confusion, if at all.

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