Voter Error Analysis

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Introduction

The Help America Vote Act (HAVA) of 2002 was passed to address widespread failures in the electoral process. Errors made by voters and voting machines, poor ballot design and procedural confusion among poll workers were the cause of many past election recounts and election concern (Herron & Wand, 2007; Wand et al., 2001; Tomz & van Houweling, 2003;MacManus, 2005). In the November 2000 election alone, an estimated four-to-six million votes were discarded nation-wide (Collett, Goodhue & Monroe, 2009). Wand and his colleagues concluded that the butterfly design generated "systematic biased voting errors" (p. 803) and played a key role in the 2000 presidential election results. In democratic societies, it is critical that voter preferences be accurately recorded and tabulated during the election (Herron & Wand, 2007). Researchers of electoral studies suggested that more research efforts and "vigilant testing" are required "to ensure the integrity of elections and to correct problems before they play a pivotal role in an election outcome" (Herron & Wand, 2007, p. 258).

Though improvements have been made, problems with accuracy, efficiency and integrity remain common in voting today. Various projects are developed and supported by HAVA in order to reduce voting errors and provide the best possible service on Election Day. The Vote Smart project conducted by University of the Pacific for San Joaquin County in California is one such project. The project is multi-faceted, and delves into voter errors, design of voter communications, precinct voting improvements and the Vote by Mail (VBM) system. The project was designed to implement voter education efforts, targeting balloting procedures for absentee voting and polling places, voter rights and responsibilities, distribution of sample ballots, and public service announcement.

The current study is a descriptive analysis with a focus on the need for improvement in voter information and poll worker performance, and optimism for the possibility of increasing voting accuracy, efficiency and integrity through education and structural reform. It is critical to develop a better understanding of what types of voting errors exist, and research on these voting errors "could and should have great practical impact" (Greene, Byrne & Everett, 2006, p. 1). One of the major objectives of this study is to examine the types of errors people tend to make on their VBM and Vote in Person (VIP) ballots, and the best means by which to reduce or eliminate those voting errors.

The study examines data collected for the Vote Smart project in San Joaquin County to measure effectiveness of the voter education effects by tracking voter errors in elections before and after implementation. Examining differences in voter errors by election type may also provide insight to unique voter habits and errors, as the primary, general and special election were used as data sources.

Voter Errors

Greene et al. (2006) identified usability as a crucial component of a voting system. In their investigative comparison of voting methods, they defined "usability" as encompassing three traits: effectiveness, efficiency and satisfaction. Effectiveness is based on the accuracy and completeness with which the system goal is achieved. When the goal is voting, accuracy means that a vote is cast for the intended candidate, without error. When the vote is actually finished and cast, it is complete. Efficiency measures whether a vote was cast without expending an inordinate amount of resources. Finally,

satisfaction is the user's subjective response to using the voting system, and overall satisfaction with the voting experience.

In their study, Greene, et al. (2006) pointed out two main issues affecting voting usability: the characteristics of the user population, and the characteristics of the task itself. The voting population is composed of people from diverse backgrounds of different ages, education levels and socioeconomic status. Additionally, there are a large number of voters who are visually impaired, physically disabled, illiterate, or who do not speak English. Greene et al. (2006) asserted voting systems should be usable by all voters: "A truly usable voting technology should be a walk-up-and-use system, enabling even first time voters to cast their votes successfully" (p. 2).

Characteristics of the task of voting differ depending on the method used to vote, and the technology involved in the process. The two dominant voting methods are in-person voting at designated precinct locations and Vote by Mail (VBM). The systemic differences between the two voting techniques suggest voters may face unique usability challenges with each method, and consequently make different errors.

In-person Voting

In-person voting or vote in person (VIP) presents opportunities for voting errors of human and mechanical natures. In the 2004 presidential election, Mahoning County, Ohio experienced these problems firsthand, leading to counts, in some contests, of negative 25 million votes ("Errors plague voting," 2004). Mark Munroe, chairman of the Mahoning County Board of Elections, attributed the discrepancies to machines malfunctioning, and problems with the personal electronic ballot cartridge placed into

machines before each vote to count the ballots. Other errors were of a human nature, specifically, “precinct officials getting nervous or overwhelmed by the number of people voting, and then failing to properly follow protocol to count the ballots in the machine” (“Errors plague voting,” 2004, p.1).

Common mechanical errors occurring in the voting technology are misvotes (counting a vote for a candidate other than the one voted for), incorrect tallies and equipment break down during the voting process. These are the fault of the technology, and typically lead to revotes, recounts or using paper ballots instead of more advanced voting technology.

The same human-based voter errors are possible on every type of voting method. Uncounted ballots (cast by voters but not counted by election officials) typically result from undervotes (a voter does not select a candidate for an office, either accidentally or intentionally) and overvotes (a voter selects too many candidates). These comprise the category of “residual votes,” which is the research term commonly used to encompass voter errors (Carrier, 2005).

The type of voting system used in precinct voting varies by state and county, but can include mechanical lever, optical scan and direct recording electronic (DRE) machines, as well as punch cards and paper ballots. HAVA provided funding to replace older, unreliable voting technology, thus optical scan and DRE machines are most popular today by a wide margin. Optical scan systems employ a paper ballot, upon which the voter records his or her vote by either filling in an oval or connecting the parts of a broken arrow next to the candidate of choice. The ballot is then fed into a computerized scanner, which reads the ballot and records the votes. The completed paper ballots are

retained in the machine in case a hand recount is needed. With DREs, the voter enters his or her candidate selections directly into a computer, often through a touch screen, without first creating a paper record. A handful of studies have examined error types and rates among the different voting methods and paper ballots, optical scans, DREs and lever machines consistently produce around two percent residual votes, while punch cards are typically between two and four percent higher (Carrier, 2005; Ansolabehere & Stewart, 2005; Traugott, et al., 2005). Not surprisingly, use of punch cards has been all but discontinued in the United States. However, in one previous study, the CalTech/MIT Voting Project (2001) found the residual rate among paper ballots, optical scanning devices and lever machines to be about 2%, while punch cards and DREs rated about three percent. The higher percentage of residual votes for DREs contradicts later research, perhaps because, with time, voters increase familiarity with the DRE technology, thus reducing errors. One reason optical scan, DRE, and lever machines may typically produce fewer voter errors is their ability to alert the voter to errors before the ballot is cast. Optical scanners immediately reject the ballot if it cannot be read, and DRE and lever machines can be similarly programmed. This way, a voter must go back and fix errors before finalizing the vote, thus reducing residual error rates among these technologies.

Herrnson, et al. (2008) conducted usability tests of optical scan and DRE machines, as well as different ballot designs, and measured voter accuracy on each system according to voter intent. Even when a ballot is technically error-free, it may not be an accurate representation of the voter's preferences. This is the most regrettable type of voting error to commit, because not only does the voter's preferred candidate lose a

vote, the opponent gains one. In the controlled experiment, each participant was given a voter guide and instructed to use both types of machine to vote for the choices circled in the guide. The baseline human error rate was then determined for each machine by comparing the actual voting record with the voter's intentions from the guide. On a standard office-bloc ballot, participants voted accurately over 97 percent of the time on both optical scan and DRE machines, though error rates plummeted when using ballots with a straight-party feature, which allows a voter to cast a same-party vote for all positions on the ballot. While two or three percent error rates may not seem like a grievous inaccuracy, it can make a big difference in the context of elections. Over 125 million people voted in the 2008 presidential election ("Election Center 2008: Results," 2008). With an error rate of 3%, approximately 3.7 million votes would not have been counted. Those uncounted ballots can, at the very least, affect the overall margin by which a candidate is victorious, and even have the potential to swing the decision in close races.

When using optical scan and DRE machines, voters commit specific errors that are unique to each system. They are few, but common. With DREs, voters may select the wrong candidate by accidentally touching the selection area onscreen for the candidate above or below the desired candidate. If the ballot is longer than one screen, voters may skip over entire sections when navigating the ballot. Both errors can be identified on the review screen, which displays the voter's selections for the entire ballot before it is cast. Completing a write-in vote is an area in which voters tend to have difficulty in both DRE and optical scan systems. DRE onscreen keyboards pose a challenge when trying to spell a candidate's name correctly, and voters completing paper ballots for optical scan

machines typically forget to shade in the oval next to the write-in option, so the scanner is not alerted to the vote. Paper optical scan ballots can be invalidated by any stray marks or tears on the ballot, or, most commonly, not filling in the ovals properly (Hernnson, et al., 2008).

Security is an issue of concern with any voting method. As Wallach (n.d.) points out, a system "must provide sufficient evidence to convince the losing candidate that he or she actually lost. Naming the winner is the easy part" (p. 3). Optical scan and DRE machines ensure similar security against voter bribery or coercion, as the voting process is private and controlled, and threatening parties have no way of verifying how someone actually voted. However, optical scanners are vulnerable to software errors, either in the form of program glitches or intentionally fraudulent programming (sometimes referred to as a Trojan horse), which can affect the vote counts registered in the machine. Fortunately, optical scan systems retain the actual ballots cast, providing the ultimate back-up if results are called into question. The biggest threat to the security of optical scanners occurs when the machines are not present at polling locations, but instead exist at a tabulation center, where ballots are sent to be counted. At this point, additional marks can be made by fraudulent officials on ballots so the scanner will reject them and they will not be counted (Wallach, n.d., p. 4).

DREs, on the other hand, may not leave behind physical evidence for a re-count, and the computer elements of the machines are more complex and susceptible to large-scale fraud. According to Carrier (2005), DRE fraud is possible at each stage of the voting process: "before the election (through physically unsecured machines), during voting (through smartcards that allow voters to gain unauthorized access), and after votes

have been cast (through votes that are misrecorded when registered or tabulated).” By altering the programming in DREs, organized persons with enough computer knowledge could make the screen display the voter’s intended selections on screen, while internally recording a different vote. This alteration can even be programmed to disappear and eliminate any traces of its presence after the votes have been changed, making it virtually undetectable (Wallach, n.d., p. 5). Herrnson, et al. (2008) illuminated two methods of protection against DRE fraud: parallel testing and vote verification systems. Parallel testing is done by having election officials cast votes and then check the machine tally for the accuracy of the recording. Vote verification systems provide an independent record of machine votes, which voters can visually inspect when casting their ballots. If the voter accepts the printed record as accurate, the vote is completed and the paper is deposited within the machine for use in the occurrence of a recount. The printed page is displayed behind a glass screen for voter inspection, so the ballot cannot be tampered with or removed. Currently, vote verification is not widely-used, as loading the paper and clearing jams pose challenges for poll workers, and the printed ballot can be hard for voters to read (Herrnson, et al., 2008). However, with further development and adoption, they could provide an added element of security to DRE voting.

Poll workers are an integral part of in-person voting, and are accountable for all aspects of the voting experience. Though they are hired to do a job that only occurs a few times per year, the responsibilities and demands of poll workers are intense, and, consequently, sometimes poorly executed. Poll workers are expected to set up and close down voting machines, provide voter assistance and education, decide whether a citizen can cast a ballot and in which instances a provisional ballot can be issued, maintain

security of the polling place and machines, keep machines functioning and manage the overall voting procedure (Schamber, 2008, p. 4). Undertrained or overwhelmed poll workers can commit a variety of mistakes, from forgetting to plug the voting systems into electrical outlets, to misplacing memory chips that store the cast ballots and forgetting to distribute access cards needed to activate some DRE machines (Herrnson, et al., 2008, p. 112). The importance of good poll worker training is obvious, and can lead to greater accuracy, efficiency and integrity of the voting process.

Regardless of voting method employed, in-person voting does offer some distinct benefits which support the effectiveness of the voting process. As Greene, et al (2006) pointed out, there are a considerable number of voters who are disabled or vision-impaired, unable to read, do not speak English, are first-time voters or unfamiliar with digital technology, and rely on the assistance of poll workers to help them effectively cast their votes. DRE voting technology provides the ability to present the ballot in a different language, enlarge text size on the screen for readability, and even offers audio guidance for voters with vision impairment. However, some factors of in-person voting also work to erode the effectiveness and efficiency of voting. Cost is commonly cited as an area of concern, in the form of time and effort expended by voters to vote in person, as well as the monetary cost to hire and train poll workers for Election Day. Voting machines themselves are expensive, costing around $3,000 for one DRE and $4,000 for an optical scanner, and each precinct typically requiring five to ten DREs or one optical scanner (Zetter, 2008). Additionally, the technical problems which occur in voting machines create errors in the count and slow down the voting process. The technical aspects of voting machines also present a challenge to some voters, especially those of the older

generations and first-time voters, who are unfamiliar with the mechanized voting systems, thus resulting in voting errors (Herrnson, et al., 2008).

In-person voting relies on the coordination of poll workers and election officials, ballot design and technology, and voters to achieve effectiveness and efficiency. Though technological advancements have made voting more accessible, problems still exist with the security of voting machines and accuracy with which people use them. Numerous studies have found the average voting error rate to be around 2-3%; however, even 98% accuracy allows for the corruptibility of election results. Action must be taken to significantly reduce error rates to maintain the integrity of the voting process.

Vote by Mail

Vote by Mail (VBM) has been mentioned widely as a way to streamline voting and alleviate some of the organizational and mechanical pitfalls of poll voting. To vote by mail, voters request a ballot to fill out and return, which will be fed into an optical scanner at a tabulation center. This allows voters to avoid missing work to stand in line at a precinct on Election Day, and provides the conveniences of choosing when to vote and taking as much time as needed to complete the task. However, many VBM ballots still go uncounted due to ballot errors and other problems.

In the 2004 presidential election in Trumbull County, Pennsylvania, election officials rejected 53 out of 13,000 VBM ballots, due to problems with signatures. Some were unsigned, while others had been signed by someone other than the person casting the ballot ("Errors plague voting, 2004). While many voting errors in VBM are unique to the system, it is still possible to commit similar overvoting and undervoting errors, as

seen in voting at the polls. Also, since VBM uses optical scan ballots, similar problems occur with regards to shading in ovals and making stray marks. When voting by mail, people do not have the option of re-voting if the counting machine rejects their ballot, like those who vote in person. Other common VBM mistakes include sending in the ballot late, failing to include adequate postage, not including adequate identifying information, or not signing in the right place (Alvarez, et. al., 2008).

Fraud is feasible in mail-in ballots, partly because the vote is not anonymous. This allows the possibility of people selling their votes, being bribed or coerced, and creates opportunities for interception while a ballot is on its way from election authorities to the voter, and back again. Tokaji (2008) points out that though Oregon has used all-mail elections for over a decade, with little-to-no history of corruption, Florida has experienced fraud with mail-in ballots. In 1997, a Miami mayoral election was tainted by officials paying citizens for their votes. Completed absentee ballots were found at the home of a local political boss. Seven years later, in 2005, an Orlando mayor paid other politicians to collect absentee votes. Wallach (n.d.) counters that VBM fraud is expensive to perform at a large scale, especially without being caught. Features of the ballot make tampering hard to disguise, though once the ballot reaches the tabulation center it is subject to the same vulnerabilities of the optical scan machine in similar circumstances.

Cost savings, in the form of time and money, is cited as a primary benefit of VBM (Monroe & Sylvester, 2008). Gronke, Galanes-Rosenbaum and Miller (2007) report the state of Oregon saved an estimated 17% of the costs of holding elections when it began conducting them entirely through the mail. VBM alleviates some costs to the county in the form of money saved on machines, poll workers and technical support on the day of

the election. High levels of procedural coordination are necessary in order for voters to complete a precinct vote in a timely fashion, and long lines put pressure on voters and poll workers to speed things along, sometimes at the cost of voting accuracy. VBM saves time by eliminating the need to recruit and train poll workers and maintain machines, and county businesses can avoid sacrificing productivity by letting employees leave the workplace to go vote. This efficiency translates to the voter by allowing him or her to vote at a convenient time and take as long as needed to fill out the ballot. However, a procedural burden also falls on voters in some counties, as they must be registered to vote well in advance of the election obtain and send in a form to request a VBM ballot ahead of time (provisional ballots are available through a request form filled out in person at the county elections office), and then be sure his or her ballot is completed and mailed in by a specific day.

A unique shortfall of VBM occurs in people who have moved or are homeless, visually impaired, illiterate, or do not speak English. These populations may be expected to have trouble with the VBM system, some of which could be alleviated with the assistance of a poll worker or DRE machine in precinct voting situations. States conducting all-mail elections typically allow voting in person at privacy booths at the county elections offices, though election office workers may not be as well-equipped as poll workers to assist these populations. On the other hand, those with limited mobility or demanding schedules will likely enjoy the convenience of voting by mail.

Initial Efforts to Reduce Voting Errors

HAVA funding is used at the discretion of the county to improve the accuracy, efficiency and integrity of the voting system. To devise effective solutions, some counties are collaborating with local institutions to gain a better understanding of voting problems through research. The Vote Smart project conducted by University of the Pacific for San Joaquin County in California is one such venture. The research focuses on various voting issues including reducing voter errors, education efforts to help voters be aware of common errors made on ballots, and precinct and non-precinct voting improvements. Departments within University of the Pacific worked together to implement voter education efforts to help San Joaquin County Registrar of Voters to increase the accuracy, efficiency and integrity of the voting system.

After conducting an assessment of poll worker training in San Joaquin County, Schamber (2008) recommended numerous improvements, suggesting the training instruction seemed "insufficient to insure that voters will fill out their ballots properly so they can be counted" (p. 4). He suggested the training classes be more interactive, especially in regard to teaching how to operate voting machines. Also, role playing and case study exercises, and a question-and-answer game with nominal prizes will better engage the workers, help trainers assess the progress of the trainees and better prepare them for real-life situations. It may be beneficial to pair experienced poll workers with first-time trainees for exercises, and take-home study materials will be most helpful to trainees if they contain specific notes, rather than solely vague materials, such as pictures, meant to supplement an oral lecture. Another observation made by Schamber showed telephone calls to the Call Center during Election Day indicated that many voting errors could be prevented with better training. Schamber recommends field inspectors and

machine specialists attend multiple, targeted training classes, and assessment questionnaires be used after training and Election Day to gauge and improve the effectiveness of classes.

Voter education was undertaken by Ray and Tromovitch (2008) through outreach in the form of advertising. A series of cable television commercials and public service announcements were developed to, "create an opportunity for every voter to feel invited into the conversation about voting effectively" (Ray & Tromovitch, 2008, p. 2). The process was guided by the concept of identification: if a voter identifies with the character portrayed, they are more likely to want to do what the character is doing. Because California is particularly noted for the diversity of its population, special attention was paid to costuming, casting and style of the ads produced. Another aim of the advertising efforts was to encourage use of VBM. An analysis led to the targeting of commuters as a key population likely to adopt and benefit from VBM. From this conclusion, it was decided the best way to reach commuters would be through billboard and radio advertisements. Newspaper advertising was also employed, but placements on news and radio station Web sites proved to be especially effective and cost-efficient.

In his recommendations to the San Joaquin County Registrar of Voters, Turpin (2009) emphasized the necessity for clear copywriting and graphic design in materials aimed to educate voters, specifically the Sample Ballot sent out for each election. By decreasing the information-processing cost to voters, as they make sense of the voting issues and procedure, it increases the likelihood they will choose to vote, and vote accurately (without committing errors). Deboer (2008) took on the project of re-designing the Sample Ballot Booklet, and polling place and voting booth signage to increase

accessibility and accuracy in voting. Accessibility was addressed by creating all materials in English and Spanish, and promoting VBM by creating a branded logo. Education to improve voting accuracy was communicated through revising clarity of the information, typographic variables, grouping and hierarchy of information, method of delivery, and sequence and frequency of information. Design standards were adopted from *The American Institute for Graphic Design (AIGA)* in affiliation with *HAVA* and *Design For Democracy*.

A related tactic for increasing efficiency is to send postcards to registered voters before the election, encouraging them to request a VBM ballot by signing the postcard and mailing it back with pre-paid postage. Monroe and Sylvester (2008) found that by doing this, more people signed up to Vote by Mail and actually voted in the election than those using traditional methods to request a VBM ballot. Using the VBM system eases the labor cost for election officials by allowing them to process the ballots over a longer period of time than in-person votes made on Election Day, thereby leading to greater accuracy in the process.

The current study is to illuminate the need for improvement in poll worker and voter information in order to increase voting accuracy, efficiency and integrity through education and structural reform. The remaining question, which this study seeks to answer, is: what types of errors people tend to make on ballots by either VBM or Vote in Person (VIP) and what are the best means through which to reduce those errors?

Summary and Research Questions

In reflecting upon in-person and VBM systems, each carries significant benefits and drawbacks. VBM alleviates some monetary and temporal costs to counties, and makes the act of voting more convenient for the voter. However, a procedural burden is transferred to the voter, in the form of multiple registrations to receive a VBM ballot, and managing deadlines for returning these forms and the ballot.

Fraud is always a concern in voting, and though both VBM and precinct voting promote safeguards against fraud, neither system is infallible. As a protection, in-precinct DRE machines produce voter-verifiable paper trails as a means for voters to visually confirm that the machine recorded her intended choices; they also provide a hard-copy record, in case the security of the computer system is called into question. For VBM, the procedures of the mail system make large-scale fraud difficult but there is greater opportunity for voter coercion and local election fraud than with in-person voting.

The general accessibility of in-person and VBM are high, though each offers contrasting benefits and restrictions for certain populations. The homeless, visually impaired, illiterate and non-English speaking populations will likely face challenges with an all-VBM system, while less mobile voters are apt to appreciate the ability to vote from home. Precinct voting offers the benefit of personalized assistance, while VBM provides personal convenience, with room to improve the efficiency of each.

There is obvious variation in the types of errors committed in precinct voting and VBM systems, though certain errors are possible on any ballot. Current average error rates are dangerously high, and threaten the integrity of the electoral process. Potential for error can be aggravated by unfamiliar or confusing ballot or machine design, unprepared poll workers, uninformed voters and anxiety from the stress of precinct

voting environments, which eventually result in conglomerated inefficiencies. These factors and error rates may differ according to election type. In order to successfully improve the accuracy, efficiency and integrity of the voting process, it is crucial to first understand the specific reasons and ways in which the problems occur. This study seeks to further that knowledge by determining the nature of voter error, and uncovering systemic, as well as educational solutions by answering the following research questions:

Research question 1: What frequencies of errors do voters make using Vote by Mail (VBM) and Voting in Person (VIP)? What are the major types of errors made by VBM and VIP?

Research question 2: What is the impact of types of election (early primary, primary and general) on voter errors?

Research question 3: What educational and/or structural reforms might reduce voter errors?

Method

Voter Population and Characteristics

In San Joaquin County, there were 434 precincts and 245,781 registered voters out of the 407,636 eligible voters[1]on January 22, 2008; 441 precincts and 253,148 registered voters in June; and 515 precincts and 268,476 registered voters in November. During the February 5, 2008 Early Primary Election, 131,964 people cast their ballots with 77,140 (58%) in-person voters and 54,824 (42%) Vote by Mail voters; during the Primary Election in June, 71,233 people cast their ballots with 25,963 (36%) in-person voters and 45,270 (64%) VBM voters; during the General Election in November, 212,214

[1] Voter statistics is obtained from website of the California Registrar of Voters.

people cast their ballots with 110,447 (52%) in-person voters and 101,767 (48%) VBM voters. The state-wide VBM average is 42% in the Early Primary Election, 59% in the Primary Election in June and 42% in General Election in November. *Voting Methods and Key Variables Conceptualization*

In San Joaquin County, California, the Diebold touch screen methods and paper ballots are used for both VBM and VIP. The county uses optical scan technology off-site. In other words, ballots are not scanned at the polling stations. This technology is applied when the ballots are received at the Registrar's office. According to the Registrar of Voters, Austin Erdman (2009), "We count ballots from each precinct on separate cards for each precinct back at the office. We count all precincts of Vote by Mail on a central count system that tallies them on the server" (A. Erdman, personal communication, November, 29, 2009).

Data for this study consist of error ballots from the three elections in San Joaquin County, California in 2008. The three elections include the Early Primary Election (Feb. 5, 2008), Primary Election (June 3, 2008) and General Election (Nov. 4, 2008). The San Joaquin County Registrar of Voters Office provided the error ballots to the researchers for this investigation. All error ballots were stored in the researcher's office, and only the researcher and research assistants had access to the ballots.

Three types of error ballots were examined during this investigation. The first type of ballots is called "duplicate ballots" which were rejected by the tabulation machine due to various issues. The voting officials made a copy of the error ballots, and the copied ballots were used for ballot counting for the election, while the original error ballots were

kept as a record and used for this study. The error ballots are expected to illustrate which type of vote (VBM or VIP) tends to make more errors and how the errors are distributed.

The second type of error ballots is "spoiled ballots." By definition, "spoiled ballots" are those on which voters make errors in filling out at the voting place." When ballot spoiled, a voter may return it to poll workers in exchange for a new one. Each voter may have three new ballots during Election Day. The "spoiled ballots" are not counted and they are returned to voting officials and used for this investigation. The third type of ballots is "surrendered ballots," which are stored in the "spoiled ballot" plastic bag by precinct. These "surrendered ballots" are Vote by Mail ballots which were brought to a polling location and surrendered by the voter, either because the voter does not wish to cast a ballot in the election, or was dissatisfied with how he or she filled out the ballot and wanted to instead vote in person. Surrendered ballots are not counted in the vote. In this investigation, the researchers only focused on an analysis of duplicate ballot errors between VBM and VIP[2].

Coding Procedures and Items

Before coders began coding the ballots, a pilot test was conducted to develop a preliminary understanding of the types of errors extant in the primary election. The pilot study included ballots containing all three types of errors, from 20 precincts. Based on the errors found within these precincts, a coding sheet was developed. The coding sheet included identification number, precinct group, number of spoiled ballots, number of

[2] Due to different reasons for people to return their spoiled ballots at the polling place and surrender their ballots, the researchers decided not to conduct a comparative analysis of these ballots, only using them for descriptive information in the study.

surrendered ballots, party affiliation[3], types of errors and surrendered ballots. The types of errors include "ovals not filled in completely," "ovals filled in with a check mark," "ovals filled in with an 'X' mark," "ovals not filled in clearly," "write-in overvoting," "other overvoting," "partially empty ballot," "completely empty ballot," "signed ballots," "cannot tell," "others" and "multiple errors" (A complete coding sheet can be found in Appendix B).

One of the critical variables in this study is "vote type," which is used to describe whether individuals cast their ballots at a polling place (Vote in Person) or through Vote by Mail (VBM). In operationalizing the vote type in "duplicate ballots," investigators followed the marks (VOTE BY MAIL or POLL) printed on the right top corner of each ballot to distinguish the two vote types. In operationalizing the vote type in "spoiled ballots," researchers used "spoiled ballots" (errors made by people at the polling place) and "surrendered ballots" (ballots surrendered by VBM voters to voting officials, due to various errors).

Five research assistants were involved in ballot error coding and content analysis for the three elections. Explanations and training on coding the ballots were explicitly provided before coding started. The coding procedures were supervised and answers to individual questions about the coding procedures were given to the coders throughout the coding process.

Data Analysis

[3] We initially recorded party affiliation for coding information. However, peer group members held different views for using this information for further analysis. Therefore, the coding item was dropped in later coding processes.

Data were entered into both Excel and SPSS (Statistical Package for Social Sciences) for data analysis. Descriptive analysis, as well as simple statistical testing were conducted, and results are used to provide answers to the research questions.

Results

Results were generated through frequency and cross-tabulation analysis, and are displayed in six tables and six graphs. Results were used to answer the three questions raised in the study.

Research question 1: What frequencies of errors do voters make using vote by mail (VBM) and voting in person (VIP)? What are the major types of errors made by VBM and VIP?

Based on an analysis of duplicate errors, results indicated that VBM voters made fewer errors than VIP voters during the 2008 three elections in San Joaquin County, California (Details can be found in Table 1). Results showed a statistically significant difference in duplicate errors between VBM and VIP voters. There were a total of 1,832 VBM error ballots over the three elections, which is 0.91% of the total VBM population in the county while there were 6,935VIP error ballots, which is 3.25% of the total vote in person population ($\chi^2(1) = 2750.23$, $p < .001$).

Data from Table 1 also showed VBM voters made significantly fewer errors than VIP voters in each of the three elections. In the Early Primary (February election), there were 324 VBM error ballots or 0.59% of the total VBM population, and 3,224 VIP error ballots or 4.18% of the total VIP population ($\chi 2(1) = 1,577.29$, $p < .001$). In other words, the VBM voters had seven times fewer error ballots than VIP voters. In the Primary

Election (June election), there were 536 VBM error ballots or 1.18% of the total VBM population, and 488 VIP error ballots or 1.88% of the VIP population ($\chi 2(1) = 56.35$, $p < .001$). In the General Election (November election), there were 972 VBM error ballots or 0.96% of the total VBM population, and 3,223 error ballots or 2.92% of the total VIP population ($\chi 2(1) = 1053.29$, $p < .001$).

In short, results suggested that VIP voters tend to make more errors than VBM voters, though it is important to point out that additional factors should be considered in further confirming the differences[4]. The results also showed the top three types of errors include "ovals not filled in completely," "ovals not filled in clearly," and "partially empty ballot" (See Tables and graphs 4, 5 and 6 for details of the errors types). Results showed that VBM voters made fewer errors in the top three types of errors than VIP voters across all three elections, except one error in the June election ("Partially empty ballot").

Table 1 - Trends of Duplicate Errors by Vote Type

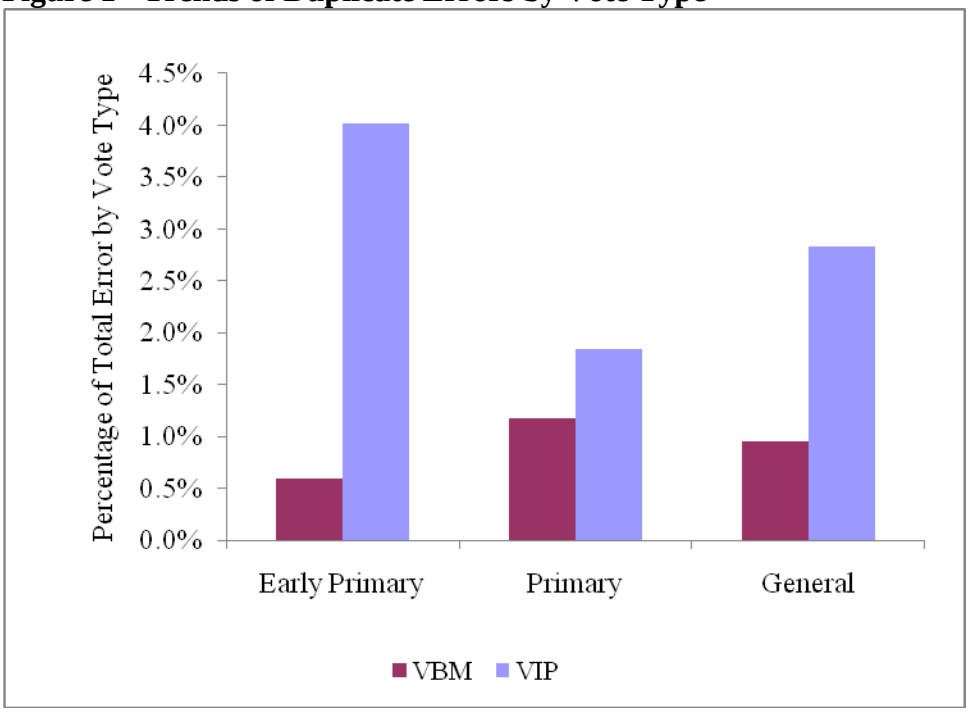
Total	*Error Ballots*	*Total*	*Error %*	
VBM	1832	201861	0.91%	***
VIP	6935	213550	3.25%	
Sum	8767	415411	2.11%	
Early Primary	*Error*	*Total*	*Error %*	
VBM	324	54824	0.59%	***
VIP	3224	77140	4.18%	
Sum	3548	131964	2.69%	
Primary	*Error*	*Total*	*Error %*	
VBM	536	45270	1.18%	***
VIP	488	25963	1.88%	
Sum	1024	71233	1.44%	

[4] Individual-level characteristic differences may play an important role in observed differences between VBM and VIP. Due to the absence of these variables in this study, the findings of the study are only based on vote type differences.

General	*Error*	*Total*	*Error %*	
VBM	972	101767	0.96%	***
VIP	3223	110447	2.92%	
Sum	4195	212214	1.98%	

*** Chi Square is significant at the 0.001 level

Figure 1 - Trends of Duplicate Errors by Vote Type



In terms of spoiled ballots, there were 2,833 error ballots over the three elections, which is 1.31% of the total VIP population. Specifically, there were 1431 (1.82%) error ballots in the February Election, 216 (0.83%) in the June Election and 1,186 (1.07%) in the November Election (See Table 2 and Figure 2 in Appendix A for further information). For surrendered ballots, there were 1,486 error ballots over the three elections, which is 0.74% of the VBM population. Specifically, there were 596 (1.09%) error ballots in the February Election, 140 (0.31%) in the June Election and 750 (0.74%)

in the November Election (See Table 3 and Figure 3 in Appendix A for further information).

Research question 2: What is the impact of types of election (early primary, primary and general) on voter errors?

Results showed that the Early Primary (February Election) has the highest percentage of duplicate error ballots (2.62%, or 3,548 ballots), compared to either the Primary (June Election, 1.44% or 1,024) or the General (November Election, 1.98% or 4,195) (See Table 1 for details). Similarly, the February Election also had the highest percentage of spoiled ballots (1.82% or 1,431) when compared to the June Election (0.83% or 216) and the November Election (1.07% or 1186) (See Tables 2 for details). The February Election also saw the highest percentage of surrendered ballots (1.09% or 596), when compared to both the June (0.31% or 140) and November Elections, respectively (0.73% or 750) (See Table 3 for details).

In the Primary Election (June 2008), there was a relatively higher "duplicate errors" in VBM, compared to the other two elections (See Table 1 for details). One explanation for this high occurrence of duplicate VBM errors is that this error may result from the low turnout rate, as well as a high VBM rate in the election (63.5%, versus February 41.5% and November 47.9%). This high increase in VBM may result from education efforts by the Pacific Research team and the County Registrar's Office of Voters.

In the General Election (November Election), there were a smaller percentage of duplicate error ballots (1.98%) than that of the February Election (2.69%) in both VBM and VIP (See Table 1 for further information). November voters also made fewer spoiled

ballots (1.06% or 1186 vs Feb. 1.82% or 1,431) and had fewer surrendered ballots (0.73% or 750 versus Feb. 1.08% or 596) as well (See Tables 1 & 2 for more information). These changes for better are expectedly due to education efforts by University of the Pacific research team.

It is interesting to note that the November Election may have a significant improvement in both VBM and VIP when compared to that of the February Election. However, when compared with the June Election, November voters produced more spoiled ballots (1.06% vs June 0.83%), as well as more surrendered ballots (0.73% versus June 0.31%). One interpretation of this result is that it may be caused by the low turnout rate in the June Election and the high turnout rate in the November presidential election.

In terms of specific errors, there was not a significant difference across the three elections, except multiple errors showed a higher rate by VBM in the General Election (11.9% or 116 ballot errors) than the Primary Election VBM (3.6% or 19 ballot errors)) and Early Primary VBM (4% or 13 ballot errors). One result is interesting and should be further investigated: the Early Primary showed a high number of signature problems, while very few occurred in the Primary and none in the General Election.

Research question 3: What educational and/or structural reforms might reduce voter error?

As shown in Tables 1-3, combined voter error for duplicate errors (2.11%) and surrendered and spoiled ballot errors (1.03%) totals over 3%, on average. However, even 97% accuracy is insufficient to prove a winning candidate, especially in a close race. Increasing Vote by Mail usage may increase overall voting accuracy because, as shown

in Tables 1-3, VBM error rates were consistently and significantly lower than in-person voting error rates for this study.

The data for this study were originally gathered as part of the University of the Pacific Vote Smart project, to test voter behavior before and after implementation of a voter education and poll worker training campaign. Conclusions about the effectiveness of such efforts can be extracted from Tables 1-3, which show a significant reduction in voter errors between the February primary election, before the program launched, and November, after all elements had been executed. The program consisted of poll worker training, voter literacy education, and VBM education and recruitment[5]. A pilot study revealed the primary types of ballot errors committed by voters, which the education efforts specifically addressed. A complete inventory of these errors can be seen in Tables 4-6 as well as in Appendix C.

Discussion

Analyzing the types and frequencies of voting errors in actual elections introduces a new arena in voting research, especially in the context of evaluating a specific voter and poll worker education campaign. This study found an overall voting error rate of around 3%. Errors of this magnitude have the ability to markedly affect the outcome of an election, and it is necessary to strengthen efforts to improve the accuracy, efficiency and integrity of the voting system. This study provides evidential grounds for achieving such improvements through increasing use of VBM, and targeted and comprehensive voter and poll worker training efforts. Results show VBM consistently produces significantly fewer voting errors than in-person voting. Increasing VBM use will predictably lead to

[5] A comprehensive description of the Vote Smart project will be published in 2010, and is currently available upon request from the researchers.

greater accuracy and efficiency overall. Decreasing the number of people voting at polling places will necessitate fewer poll workers and voting machines, and shorter lines to vote at precincts. With greater assistance available from poll workers and less pressure to vote quickly because of long lines, accuracy of in-person voting will likely improve

This study also revealed specific types of errors committed on VBM ballots and in-person ballots, and the prevalence of such errors threatens the integrity of the voting system. Based on the success of the Vote Smart project in reducing the occurrence of errors in VBM and in-person voting, it is highly recommended to employ targeted voter education and poll worker training methods as elections approach. Vote Smart focused on increasing VBM use and voter literacy through advertisements on television, the Internet, radio and newspapers. Poll worker recruitment and training efforts were analyzed and augmented. Efforts also focused on improved precinct signage and ballot design, and a program for increasing VBM turnout was tested and proven effective. In most of the aforementioned tactics, the common error types were considered and incorporated, especially in education through voter outreach.

The researchers noted differences in possible causes of voter errors in VBM and Vote in Person. Though not included as a variable in the data, it was observed that a large number of VBM ballot errors were postmarked close to the submission deadline, or surrendered at polling places. Rushing while trying to vote causes errors, and voter education campaigns should encourage voters to complete their ballots early. In-person voting errors were mostly attributable to problems with voter literacy, and can be improved through voter education campaigns targeting specific error types.

Limitations and Suggestions for future research

The study, though robust and significant, has limitations. A project like this has not been previously undertaken, and the design of content analysis procedures may benefit from further replication. Also, conducting research solely on San Joaquin County limits the comparison frame, which could be expanded by comparing findings to data in other counties.

One of the major limitations of the study is the lack of individual-level characteristic variables such as age, education and party affiliation, which tend to help offer additional information to explain the observed differences in VBM. Researchers should factor their variables into future analysis. Another limitation of the study is that there were a large number of unanswered questions which were raised through this study, including, 'Why did people make those errors?" "Why did people surrender their ballots?" "How did election officials deal with those "duplicate ballots?" For future study, other types of scientific approach, including focus group and experimental design, should be used to discover why there are still these ballots errors and what are the best ways to address these errors by voter themselves. Future research should also focus on the accessibility and peripheral effects of using specific voting systems, so counties can optimize accuracy, efficiency and integrity in devising voting methods to best serve their individual electorates.

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Appendix A

Table 2 - Trends of Surrendered Ballots Over Three Elections

	Surrendered	Total	Error %
Earlier Primary	596	54824	1.08%
Primary	140	45270	0.31%
General	750	101767	0.73%
Total	1486	201861	0.73%

Figure 2 - Trends of Surrendered Ballots Over Three Elections

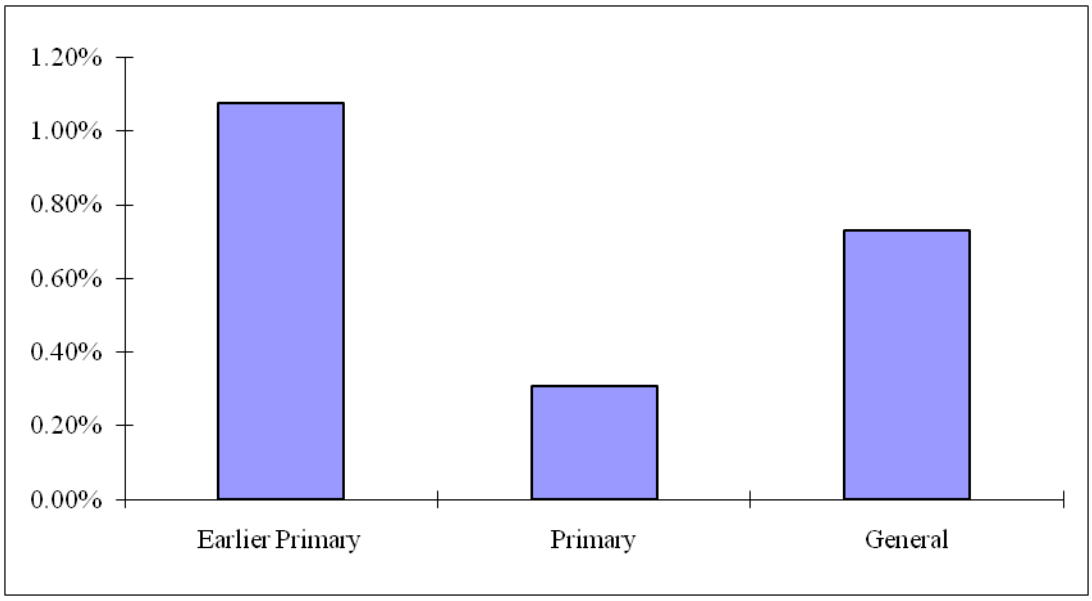

Table 3 - Trends of Spoiled Ballots Over Three Elections

	Spoiled	Total	Error %
Earlier Primary	1431	77140	1.82%
Primary	216	25963	0.83%
General	1186	110447	1.06%
Total	2833	213550	1.31%

Figure 3 - Trends of Spoiled Ballots Over Three Elections

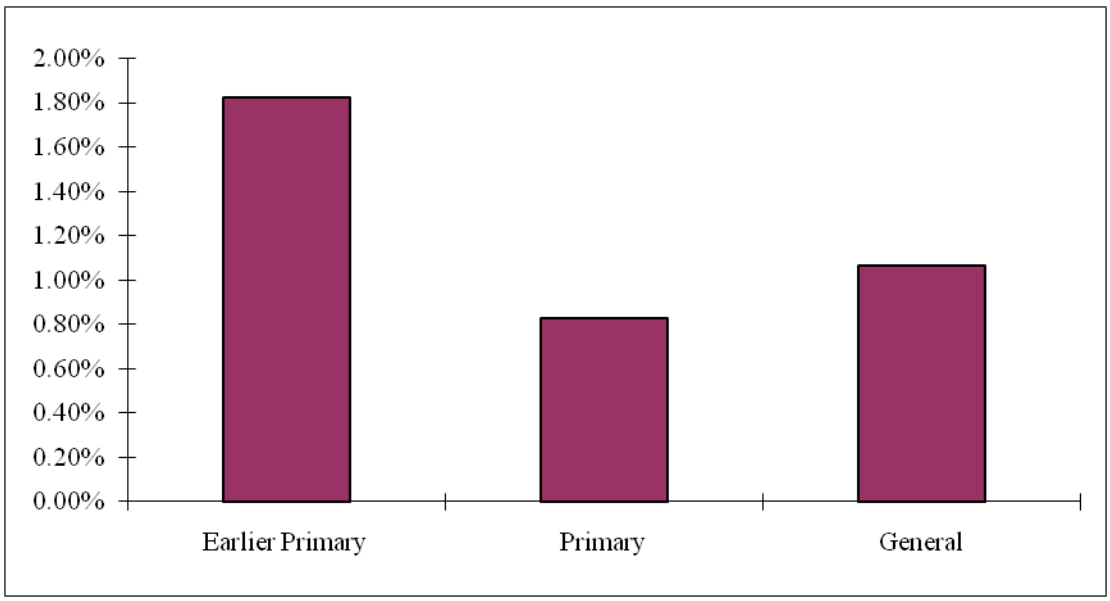

Table 4 - Early Primary Election Duplicate Error

	VIP		VBM		Total	
	n	%	n	%	n	%
Ovals not filled in completely	1518	47.1%	150	46.3%	1668	47.1%
Cannot tell	580	18.0%	34	10.5%	614	17.3%
Ovals not filled in clearly	401	12.5%	28	8.6%	429	12.1%
Partially empty ballot	235	7.3%	19	5.9%	254	7.2%
Torn ballot	185	5.7%	17	5.2%	202	5.7%
Others	95	3.0%	44	13.6%	139	3.9%
Multiple errors	75	2.3%	13	4.0%	88	2.5%
Ovals filled in with an x mark	63	2.0%	10	3.1%	73	2.1%
Ovals filled in with a check mark	42	1.3%	4	1.2%	46	1.3%
Other over voting (except writing in)	10	0.3%	5	1.5%	15	0.4%
Writing-in over voting	12	0.4%	0	0.0%	12	0.3%
Complete empty ballot	4	0.1%	0	0.0%	4	0.1%
Total	3220		324		3544	

Figure 4 - Early Primary Election Duplicate Error

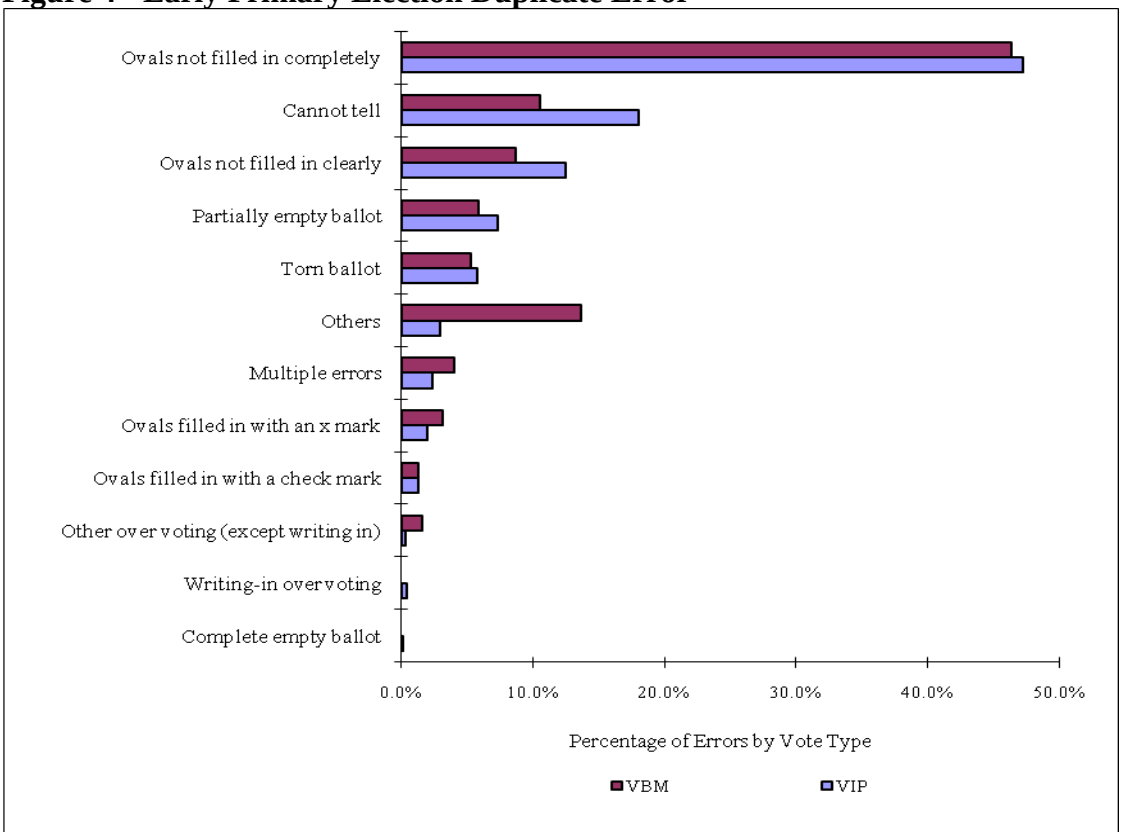

Table 5 - Primary Election Duplicate Error

	VIP		VBM		Total	
	n	%	n	%	n	%
Ovals not filled in completely	171	35.1%	136	25.5%	307	30.1%
Ovals not filled in clearly	90	18.5%	66	12.4%	156	15.3%
Partially empty ballot	44	9.0%	51	9.6%	95	9.3%
Others	18	3.7%	68	12.7%	86	8.4%
Writing-in over voting	16	3.3%	64	12.0%	80	7.8%
Torn ballot	43	8.8%	30	5.6%	73	7.1%
Ovals filled in with an x mark	35	7.2%	25	4.7%	60	5.9%
Other over voting (except writing in)	17	3.5%	41	7.7%	58	5.7%
Cannot tell	17	3.5%	27	5.1%	44	4.3%
Multiple errors	10	2.1%	19	3.6%	29	2.8%
Ovals filled in with a check mark	18	3.7%	5	0.9%	23	2.3%
Complete empty ballot	8	1.6%	2	0.4%	10	1.0%
Total	487		534		1021	

Figure 5 - Primary Election Duplicate Error

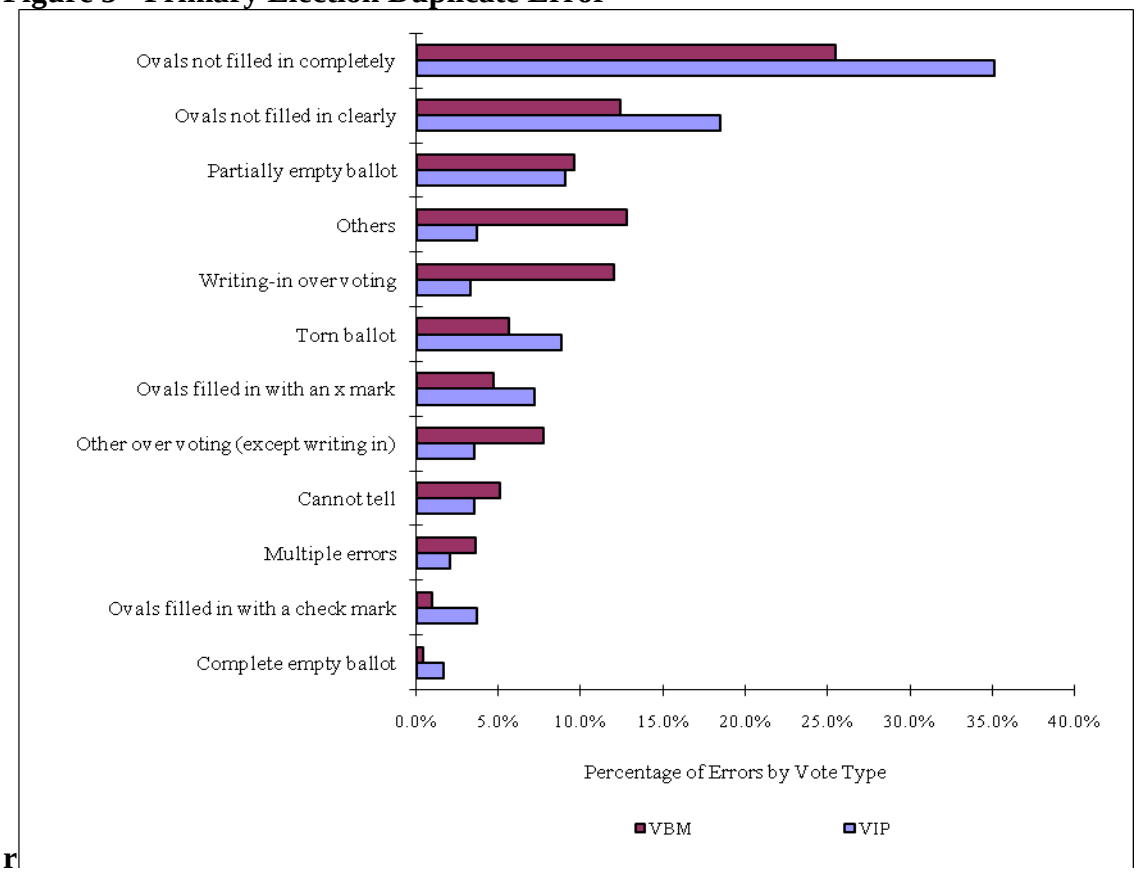

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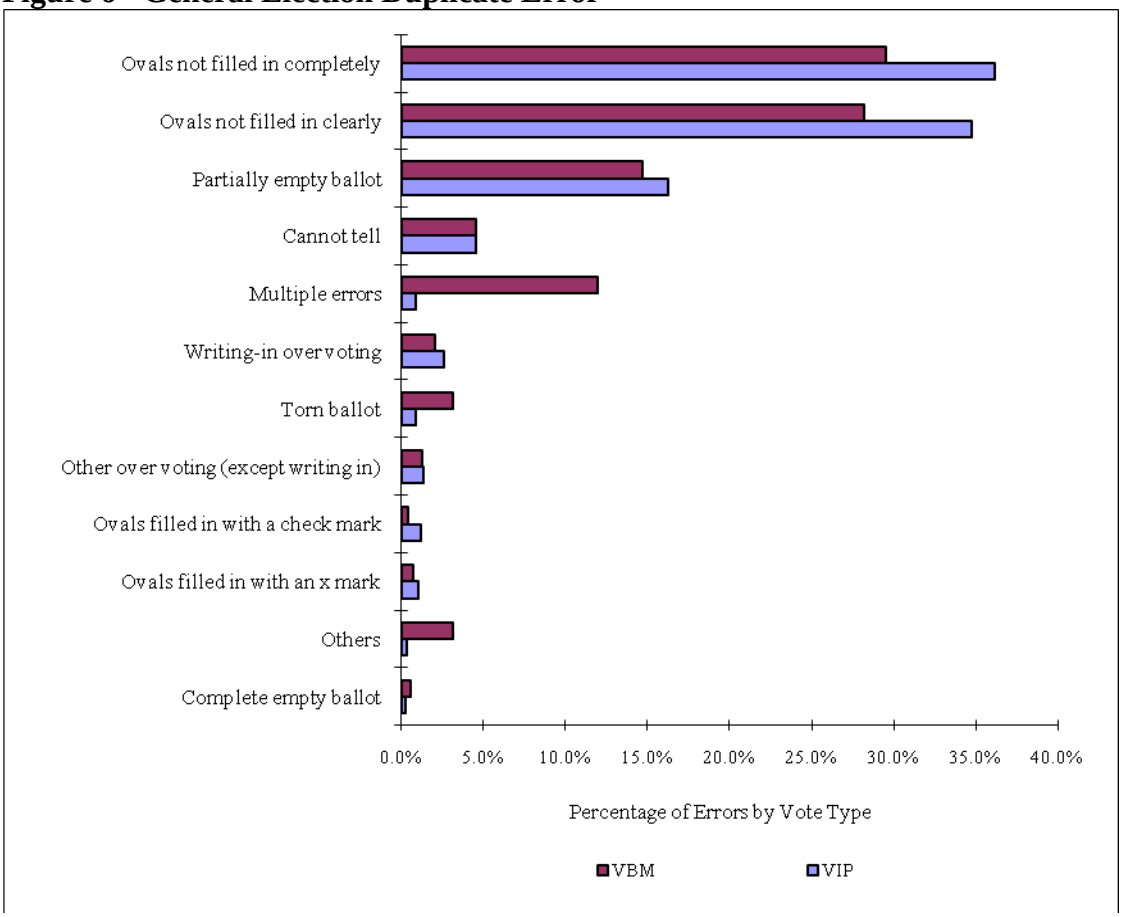
Table 6 -General Election Duplicate Errors

	VIP		VBM		Total	
	n	%	n	%	n	%
Ovals not filled in completely	1164	36.1%	287	29.5%	1451	34.6%
Ovals not filled in clearly	1120	34.8%	274	28.2%	1394	33.3%
Partially empty ballot	523	16.2%	143	14.7%	666	15.9%
Cannot tell	145	4.5%	44	4.5%	189	4.5%
Multiple errors	27	0.8%	116	11.9%	143	3.4%
Writing-in over voting	82	2.5%	20	2.1%	102	2.4%
Torn ballot	27	0.8%	30	3.1%	57	1.4%
Other over voting (except writing in)	44	1.4%	12	1.2%	56	1.3%
Ovals filled in with a check mark	38	1.2%	4	0.4%	42	1.0%
Ovals filled in with an x mark	33	1.0%	7	0.7%	40	1.0%
Others	9	0.3%	30	3.1%	39	0.9%
Complete empty ballot	8	0.2%	5	0.5%	13	0.3%
Total	3220		972		4192	

Figure 6 - General Election Duplicate Error



Appendix B
Coding Sheet

Coding sheet (spoiled and surrendered ballots)

1 Identification number
2 Group (precinct group)
3 Precinct number
4 Number of spoiled ballots
5 Number of surrendered ballots
6 Party affiliation
7 Type of errors
8 Surrender ballots

Party affiliation 1= Dem; 2=Rep; 3=Non-partisan; 4=Ind; 5=Peace; 6=Green; 7=Libertarian

Type of errors
1 'Ovals not filled in completely'
2 'Ovals filled in with a check mark'
3 'Ovals filled in with an x mark'
4 'Ovals not filled in clearly'
5 'Writing-in over voting'
6 'Other over voting (except writing in)'
7 'Complete empty ballot'
8 'Signature problems'
9 'Cannot tell'
10 'Others'
11 'Partially empty ballot'
12 'Multiple errors'/
Vote type 1 'VIP' Vote in person; 2 'VBM'. Vote by mail

Coding sheet (Duplicate ballots)

Identification number
1 Precinct numbers
2 Party affiliation
3. Type of errors

Party affiliation 1= Dem; 2=Rep; 3=Non-partisan; 4=Ind; 5=Peace; 6=Green; 7=Libertarian

Type of errors
1 'Ovals not filled in completely'
2 'Ovals filled in with a check mark'
3 'Ovals filled in with an x mark'
4 'Ovals not filled in clearly'
5 'Writing-in over voting'
6 'Other over voting (except writing in)'
7 'Complete empty ballot'
8 'Partially empty ballot'
9 'Torn ballot'
10 'Cannot tell'
11 'Others'
12 'Multiple errors'/
Vote type 1 'VIP' Vote in Person; 2 'VBM' Vote by mail

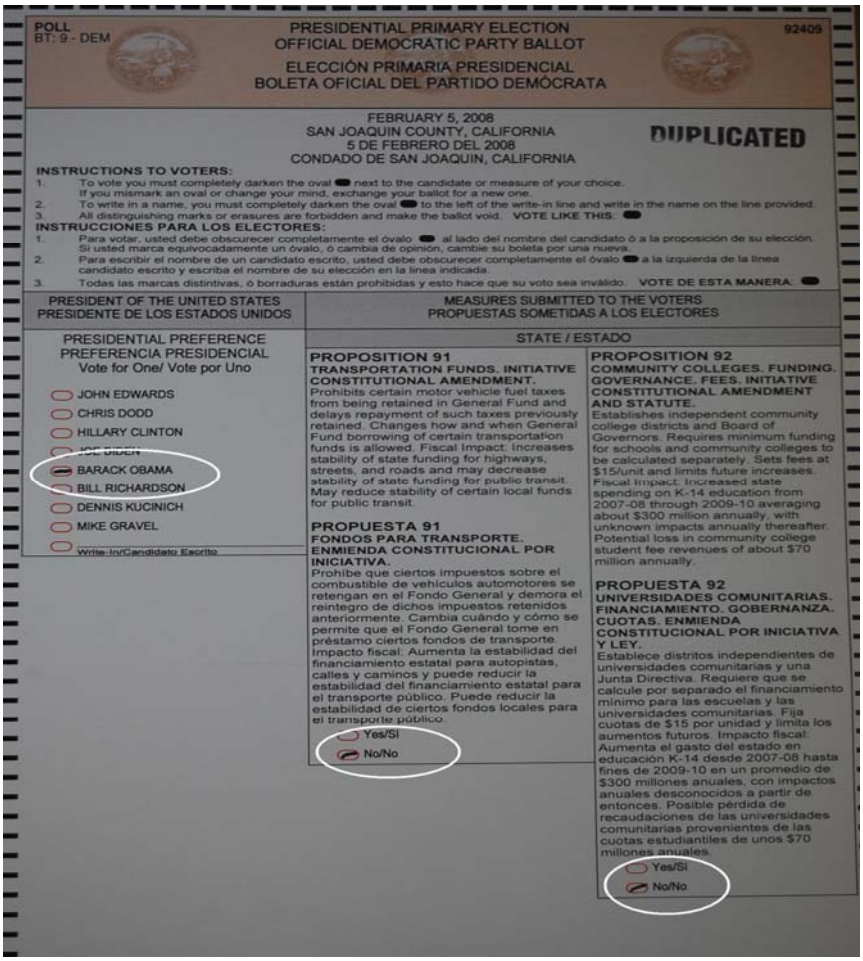
Appendix C

Photos of Error Ballots – See Attached File

Appendix C

“Ovals not fill in completely”

(Long shot)


POLL
BT: 9 - DEM

PRESIDENTIAL PRIMARY ELECTION
OFFICIAL DEMOCRATIC PARTY BALLOT
ELECCIÓN PRIMARIA PRESIDENCIAL
BOLETA OFICIAL DEL PARTIDO DEMÓCRATA

92409

FEBRUARY 5, 2008
SAN JOAQUIN COUNTY, CALIFORNIA
5 DE FEBRERO DEL 2008
CONDADO DE SAN JOAQUIN, CALIFORNIA

DUPLICATED

INSTRUCTIONS TO VOTERS:
1. To vote you must completely darken the oval next to the candidate or measure of your choice. If you mismark an oval or change your mind, exchange your ballot for a new one.
2. To write in a name, you must completely darken the oval to the left of the write-in line and write in the name on the line provided.
3. All distinguishing marks or erasures are forbidden and make the ballot void. VOTE LIKE THIS.

INSTRUCCIONES PARA LOS ELECTORES:
1. Para votar, usted debe obscurecer completamente el óvalo al lado del nombre del candidato ó a la proposición de su elección. Si usted marca equivocadamente un óvalo, ó cambia de opinión, cambie su boleta por una nueva.
2. Para escribir el nombre de un candidato escrito, usted debe obscurecer completamente el óvalo a la izquierda de la línea candidato escrito y escriba el nombre de su elección en la línea indicada.
3. Todas las marcas distintivas, ó borraduras están prohibidas y esto hace que su voto sea inválido. VOTE DE ESTA MANERA:

PRESIDENT OF THE UNITED STATES
PRESIDENTE DE LOS ESTADOS UNIDOS

PRESIDENTIAL PREFERENCE
PREFERENCIA PRESIDENCIAL
Vote for One/ Vote por Uno

- JOHN EDWARDS
- CHRIS DODD
- HILLARY CLINTON
- JOE BIDEN
- BARACK OBAMA
- BILL RICHARDSON
- DENNIS KUCINICH
- MIKE GRAVEL
- Write-In/Candidato Escrito

MEASURES SUBMITTED TO THE VOTERS
PROPUESTAS SOMETIDAS A LOS ELECTORES

STATE / ESTADO

PROPOSITION 91
TRANSPORTATION FUNDS. INITIATIVE CONSTITUTIONAL AMENDMENT.
Prohibits certain motor vehicle fuel taxes from being retained in General Fund and delays repayment of such taxes previously retained. Changes how and when General Fund borrowing of certain transportation funds is allowed. Fiscal Impact: Increases stability of state funding for highways, streets, and roads and may decrease stability of state funding for public transit. May reduce stability of certain local funds for public transit.

PROPUESTA 91
FONDOS PARA TRANSPORTE. ENMIENDA CONSTITUCIONAL POR INICIATIVA.
Prohíbe que ciertos impuestos sobre el combustible de vehículos automotores se retengan en el Fondo General y demora el reintegro de dichos impuestos retenidos anteriormente. Cambia cuándo y cómo se permite que el Fondo General tome en préstamo ciertos fondos de transporte. Impacto fiscal: Aumenta la estabilidad del financiamiento estatal para autopistas, calles y caminos y puede reducir la estabilidad del financiamiento estatal para el transporte público. Puede reducir la estabilidad de ciertos fondos locales para el transporte público.

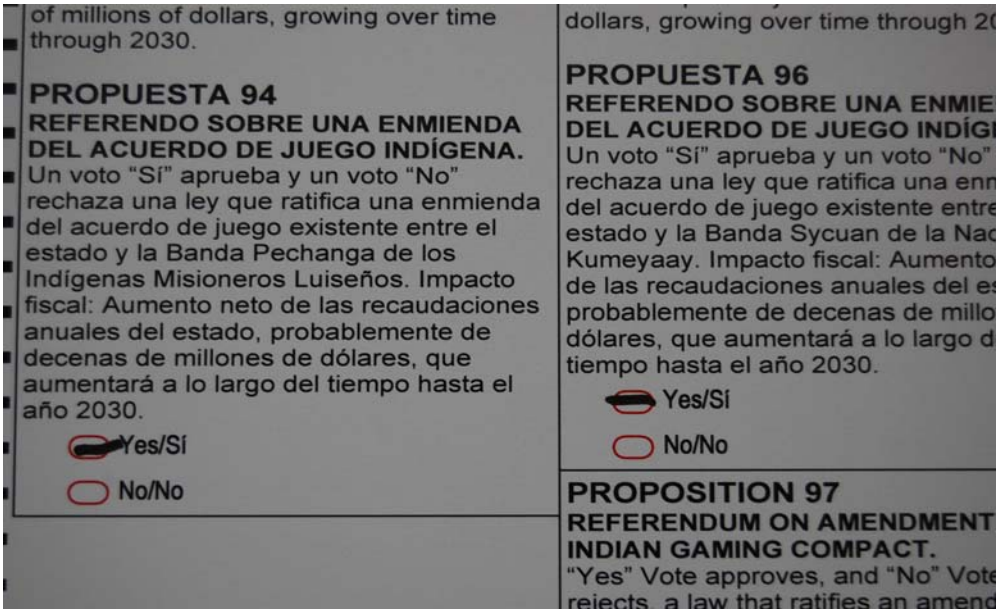
- Yes/Sí
- No/No

PROPOSITION 92
COMMUNITY COLLEGES. FUNDING. GOVERNANCE. FEES. INITIATIVE CONSTITUTIONAL AMENDMENT AND STATUTE.
Establishes independent community college districts and Board of Governors. Requires minimum funding for schools and community colleges to be calculated separately. Sets fees at $15/unit and limits future increases. Fiscal Impact: Increased state spending on K-14 education from 2007-08 through 2009-10 averaging about $300 million annually, with unknown impacts annually thereafter. Potential loss in community college student fee revenues of about $70 million annually.

PROPUESTA 92
UNIVERSIDADES COMUNITARIAS. FINANCIAMIENTO. GOBERNANZA. CUOTAS. ENMIENDA CONSTITUCIONAL POR INICIATIVA Y LEY.
Establece distritos independientes de universidades comunitarias y una Junta Directiva. Requiere que se calcule por separado el financiamiento mínimo para las escuelas y las universidades comunitarias. Fija cuotas de $15 por unidad y limita los aumentos futuros. Impacto fiscal: Aumenta el gasto del estado en educación K-14 desde 2007-08 hasta fines de 2009-10 en un promedio de $300 millones anuales, con impactos anuales desconocidos a partir de entonces. Posible pérdida de recaudaciones de las universidades comunitarias provenientes de las cuotas estudiantiles de unos $70 millones anuales.

- Yes/Sí
- No/No

(Close shot)


of millions of dollars, growing over time through 2030.

PROPUESTA 94
REFERENDO SOBRE UNA ENMIENDA DEL ACUERDO DE JUEGO INDÍGENA.
Un voto “Sí” aprueba y un voto “No” rechaza una ley que ratifica una enmienda del acuerdo de juego existente entre el estado y la Banda Pechanga de los Indígenas Misioneros Luiseños. Impacto fiscal: Aumento neto de las recaudaciones anuales del estado, probablemente de decenas de millones de dólares, que aumentará a lo largo del tiempo hasta el año 2030.

- Yes/Sí
- No/No

dollars, growing over time through 20

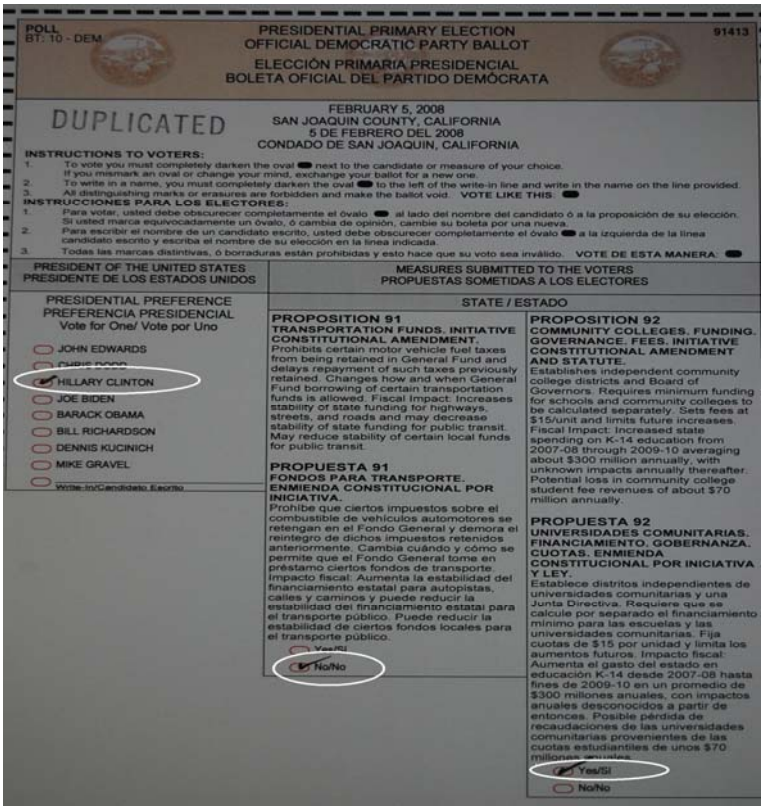
PROPUESTA 96
REFERENDO SOBRE UNA ENMIE
DEL ACUERDO DE JUEGO INDÍGI
Un voto “Sí” aprueba y un voto “No” rechaza una ley que ratifica una enn del acuerdo de juego existente entre estado y la Banda Sycuan de la Nac Kumeyaay. Impacto fiscal: Aumento de las recaudaciones anuales del es probablemente de decenas de millo dólares, que aumentará a lo largo d tiempo hasta el año 2030.

- Yes/Sí
- No/No

PROPOSITION 97
REFERENDUM ON AMENDMENT INDIAN GAMING COMPACT.
“Yes” Vote approves, and “No” Vote rejects a law that ratifies an amend

"Oval filled in with a check mark"

(Long shot)



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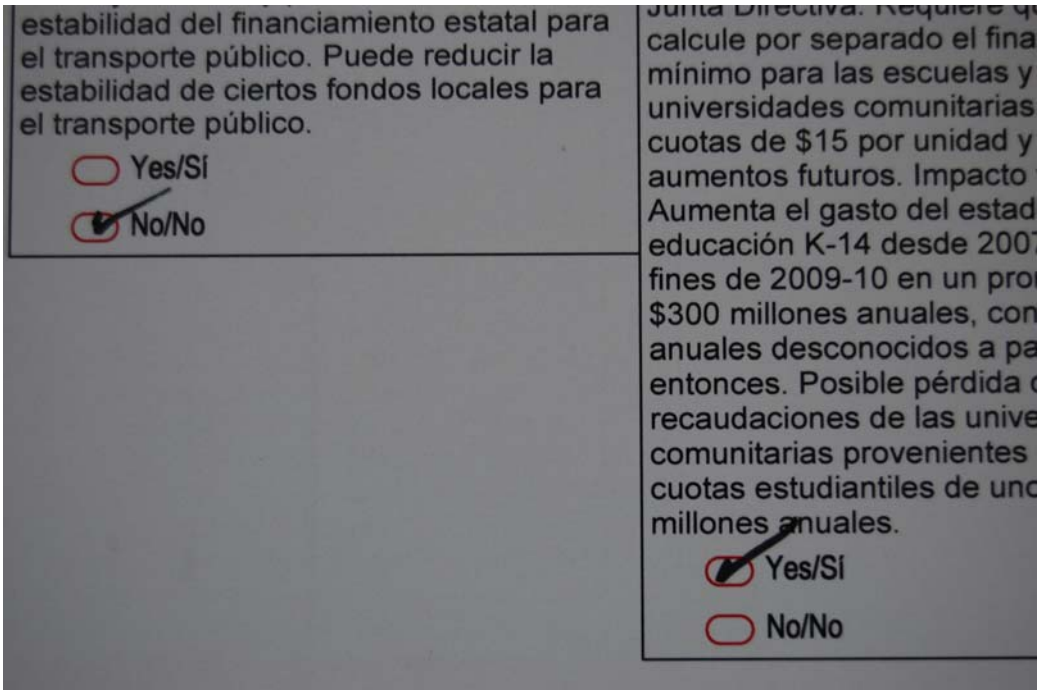
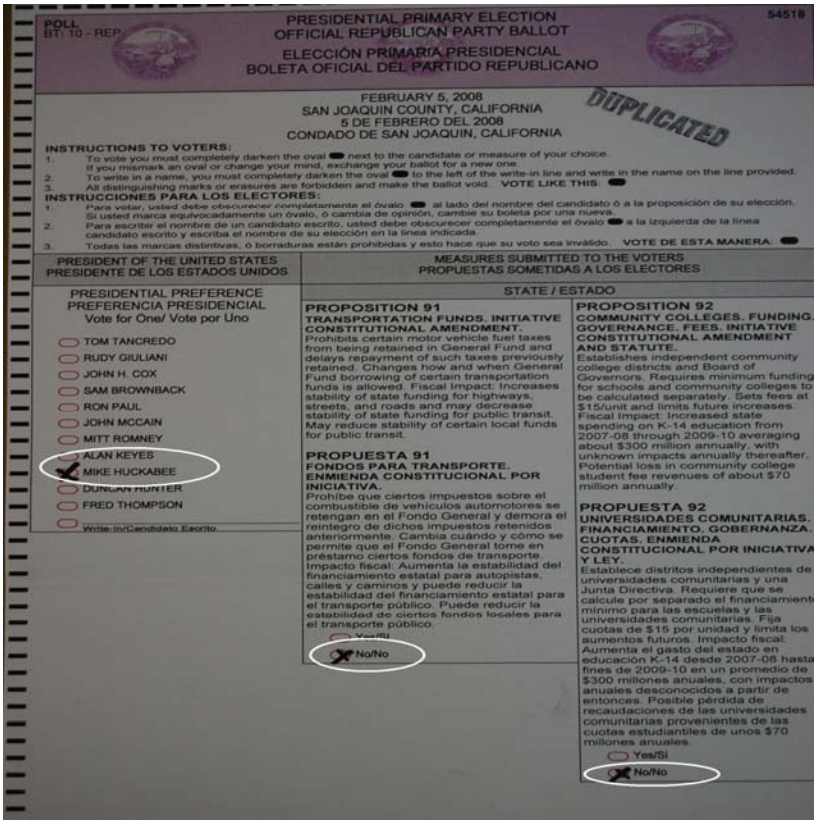


"Oval filled in with X mark"

(Long shot)



POLL
BT: 10 - REP

54518

PRESIDENTIAL PRIMARY ELECTION
OFFICIAL REPUBLICAN PARTY BALLOT

ELECCIÓN PRIMARIA PRESIDENCIAL
BOLETA OFICIAL DEL PARTIDO REPUBLICANO

FEBRUARY 5, 2008
SAN JOAQUIN COUNTY, CALIFORNIA
5 DE FEBRERO DEL 2008
CONDADO DE SAN JOAQUIN, CALIFORNIA

DUPLICATED

INSTRUCTIONS TO VOTERS:
1. To vote you must completely darken the oval ⬬ next to the candidate or measure of your choice.
2. If you mismark an oval or change your mind, exchange your ballot for a new one.
3. To write in a name, you must completely darken the oval ⬬ to the left of the write-in line and write in the name on the line provided.
4. All distinguishing marks or erasures are forbidden and make the ballot void. VOTE LIKE THIS: ⬬

INSTRUCCIONES PARA LOS ELECTORES:
1. Para votar, usted debe obscurecer completamente el óvalo ⬬ al lado del nombre del candidato ó a la proposición de su elección.
2. Si usted marca equivocadamente un óvalo, ó cambia de opinión, cambie su boleta por una nueva.
3. Para escribir el nombre de un candidato escrito, usted debe obscurecer completamente el óvalo ⬬ a la izquierda de la línea candidato escrito y escriba el nombre de su elección en la línea indicada.
4. Todas las marcas distintivas, ó borraduras están prohibidas y esto hace que su voto sea inválido. VOTE DE ESTA MANERA: ⬬

PRESIDENT OF THE UNITED STATES
PRESIDENTE DE LOS ESTADOS UNIDOS

PRESIDENTIAL PREFERENCE
PREFERENCIA PRESIDENCIAL
Vote for One/ Vote por Uno

- ◯ TOM TANCREDO
- ◯ RUDY GIULIANI
- ◯ JOHN H. COX
- ◯ SAM BROWNBACK
- ◯ RON PAUL
- ◯ JOHN MCCAIN
- ◯ MITT ROMNEY
- ◯ ALAN KEYES
- ✗ MIKE HUCKABEE
- ◯ DUNCAN HUNTER
- ◯ FRED THOMPSON
- ◯ Write-in/Candidato Escrito

MEASURES SUBMITTED TO THE VOTERS
PROPUESTAS SOMETIDAS A LOS ELECTORES

STATE / ESTADO

PROPOSITION 91
TRANSPORTATION FUNDS. INITIATIVE CONSTITUTIONAL AMENDMENT.
Prohibits certain motor vehicle fuel taxes from being retained in General Fund and delays repayment of such taxes previously retained. Changes how and when General Fund borrowing of certain transportation funds is allowed. Fiscal Impact: Increases stability of state funding for highways, streets, and roads and may decrease stability of state funding for public transit. May reduce stability of certain local funds for public transit.

PROPUESTA 91
FONDOS PARA TRANSPORTE. ENMIENDA CONSTITUCIONAL POR INICIATIVA.
Prohíbe que ciertos impuestos sobre el combustible de vehículos automotores se retengan en el Fondo General y demora el reintegro de dichos impuestos retenidos anteriormente. Cambia cuándo y cómo se permite que el Fondo General tome en préstamo ciertos fondos de transporte. Impacto fiscal: Aumenta la estabilidad del financiamiento estatal para autopistas, calles y caminos y puede reducir la estabilidad del financiamiento estatal para el transporte público. Puede reducir la estabilidad de ciertos fondos locales para el transporte público.

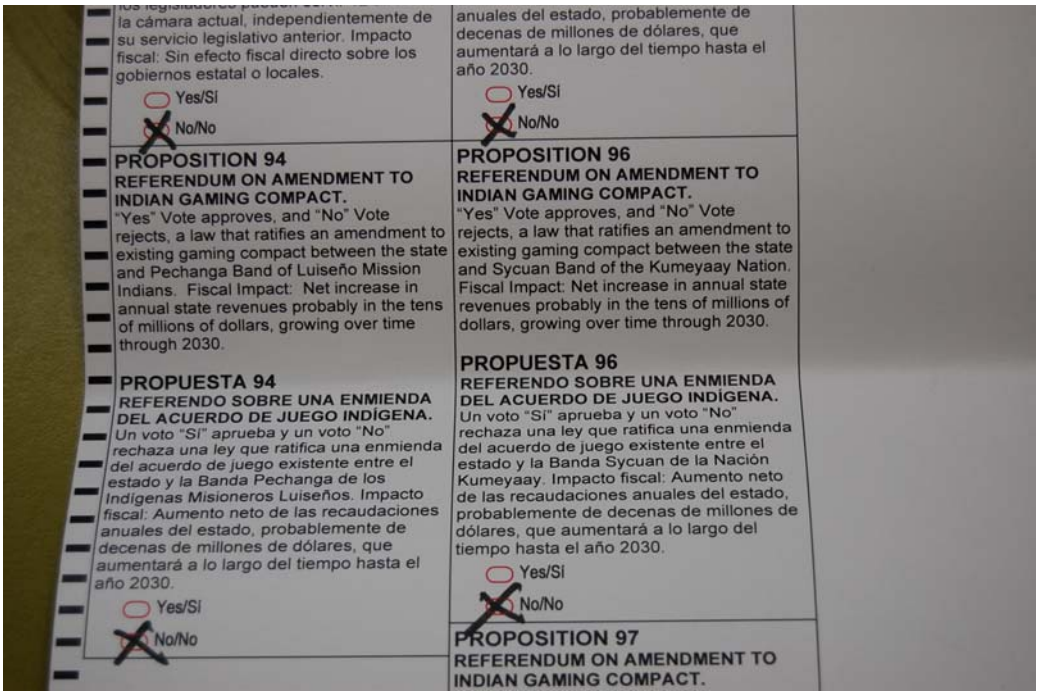
- ◯ Yes/Sí
- ✗ No/No

PROPOSITION 92
COMMUNITY COLLEGES. FUNDING. GOVERNANCE. FEES. INITIATIVE CONSTITUTIONAL AMENDMENT AND STATUTE.
Establishes independent community college districts and Board of Governors. Requires minimum funding for schools and community colleges to be calculated separately. Sets fees at $15/unit and limits future increases. Fiscal Impact: Increased state spending on K-14 education from 2007-08 through 2009-10 averaging about $300 million annually, with unknown impacts annually thereafter. Potential loss in community college student fee revenues of about $70 million annually.

PROPUESTA 92
UNIVERSIDADES COMUNITARIAS. FINANCIAMIENTO. GOBERNANZA. CUOTAS. ENMIENDA CONSTITUCIONAL POR INICIATIVA Y LEY.
Establece distritos independientes de universidades comunitarias y una Junta Directiva. Requiere que se calcule por separado el financiamiento mínimo para las escuelas y las universidades comunitarias. Fija cuotas de $15 por unidad y limita los aumentos futuros. Impacto fiscal: Aumenta el gasto del estado en educación K-14 desde 2007-08 hasta fines de 2009-10 en un promedio de $300 millones anuales, con impactos anuales desconocidos a partir de entonces. Posible pérdida de recaudaciones de las universidades comunitarias provenientes de las cuotas estudiantiles de unos $70 millones anuales.

- ◯ Yes/Sí
- ✗ No/No

(Close shot)



la cámara actual, independientemente de su servicio legislativo anterior. Impacto fiscal: Sin efecto fiscal directo sobre los gobiernos estatal o locales.

- ◯ Yes/Sí
- ✗ No/No

anuales del estado, probablemente de decenas de millones de dólares, que aumentará a lo largo del tiempo hasta el año 2030.

- ◯ Yes/Sí
- ✗ No/No

PROPOSITION 94
REFERENDUM ON AMENDMENT TO INDIAN GAMING COMPACT.
"Yes" Vote approves, and "No" Vote rejects, a law that ratifies an amendment to existing gaming compact between the state and Pechanga Band of Luiseño Mission Indians. Fiscal Impact: Net increase in annual state revenues probably in the tens of millions of dollars, growing over time through 2030.

PROPUESTA 94
REFERENDO SOBRE UNA ENMIENDA DEL ACUERDO DE JUEGO INDÍGENA.
Un voto "Sí" aprueba y un voto "No" rechaza una ley que ratifica una enmienda del acuerdo de juego existente entre el estado y la Banda Pechanga de los Indígenas Misioneros Luiseños. Impacto fiscal: Aumento neto de las recaudaciones anuales del estado, probablemente de decenas de millones de dólares, que aumentará a lo largo del tiempo hasta el año 2030.

- ◯ Yes/Sí
- ✗ No/No

PROPOSITION 96
REFERENDUM ON AMENDMENT TO INDIAN GAMING COMPACT.
"Yes" Vote approves, and "No" Vote rejects, a law that ratifies an amendment to existing gaming compact between the state and Sycuan Band of the Kumeyaay Nation. Fiscal Impact: Net increase in annual state revenues probably in the tens of millions of dollars, growing over time through 2030.

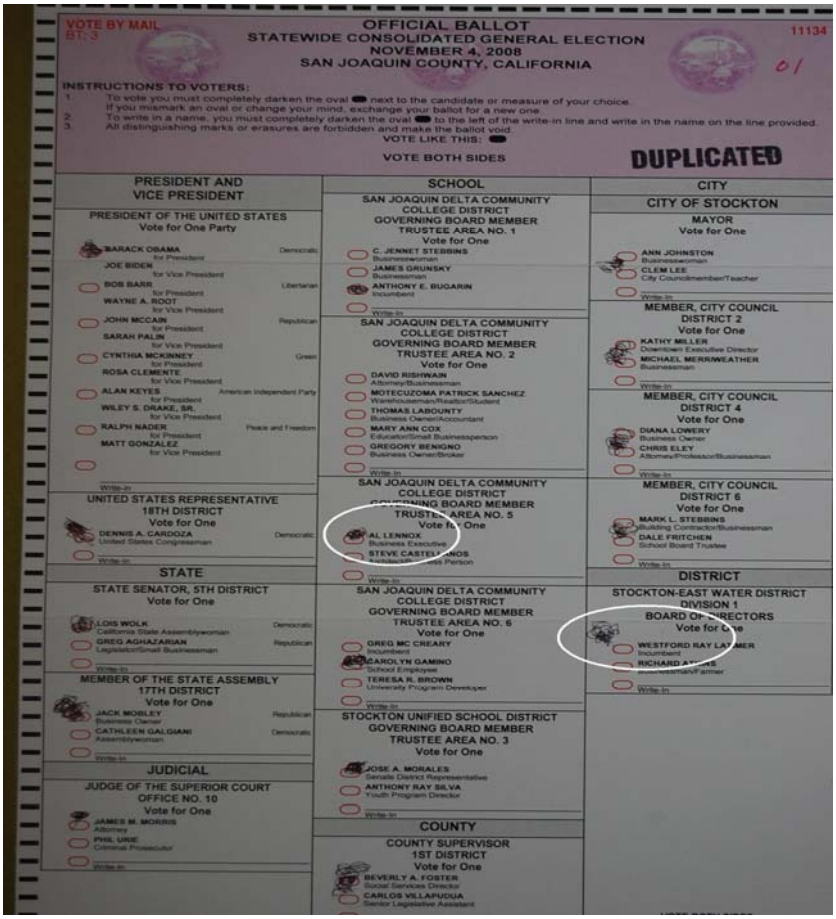
PROPUESTA 96
REFERENDO SOBRE UNA ENMIENDA DEL ACUERDO DE JUEGO INDÍGENA.
Un voto "Sí" aprueba y un voto "No" rechaza una ley que ratifica una enmienda del acuerdo de juego existente entre el estado y la Banda Sycuan de la Nación Kumeyaay. Impacto fiscal: Aumento neto de las recaudaciones anuales del estado, probablemente de decenas de millones de dólares, que aumentará a lo largo del tiempo hasta el año 2030.

- ◯ Yes/Sí
- ✗ No/No

PROPOSITION 97
REFERENDUM ON AMENDMENT TO INDIAN GAMING COMPACT.

“Ovals not filled in clearly”

(Long shot)



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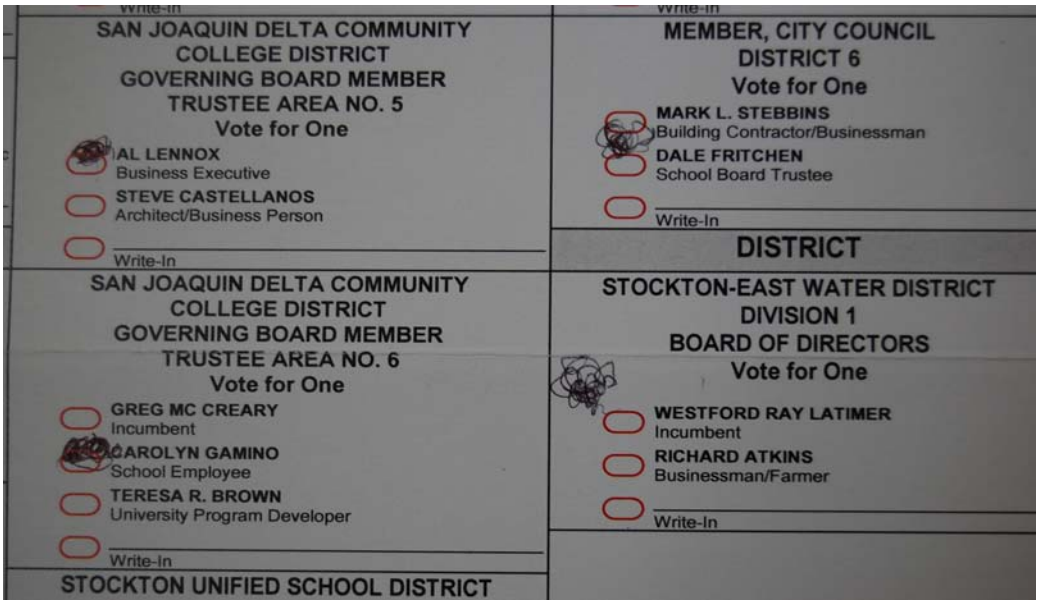
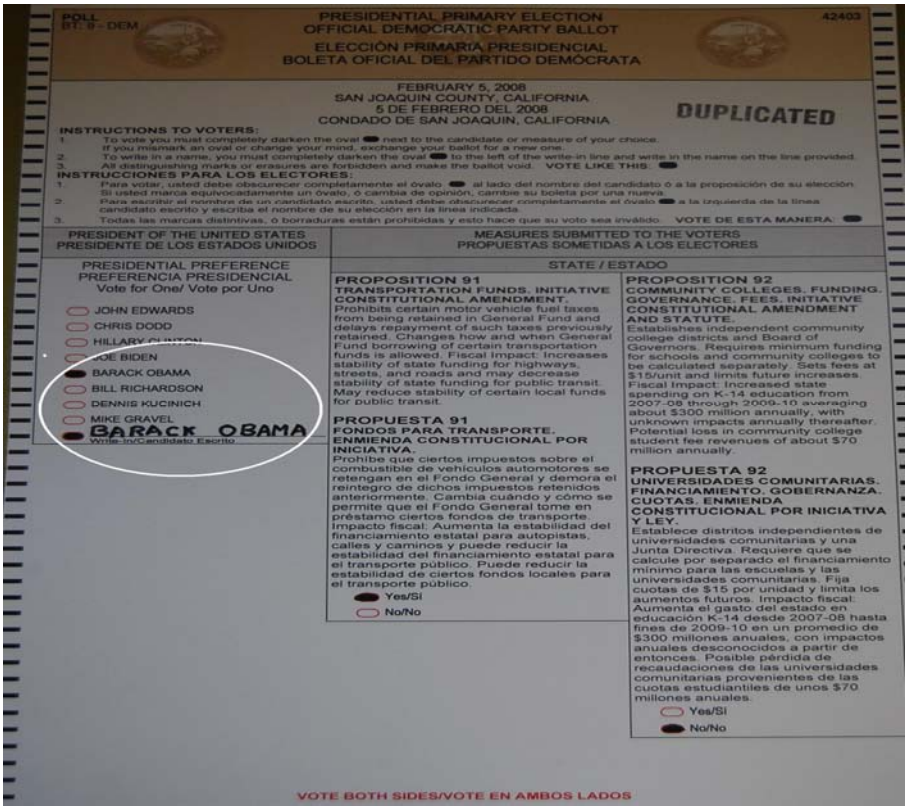


“Writing-in over voting”

(Long shot)



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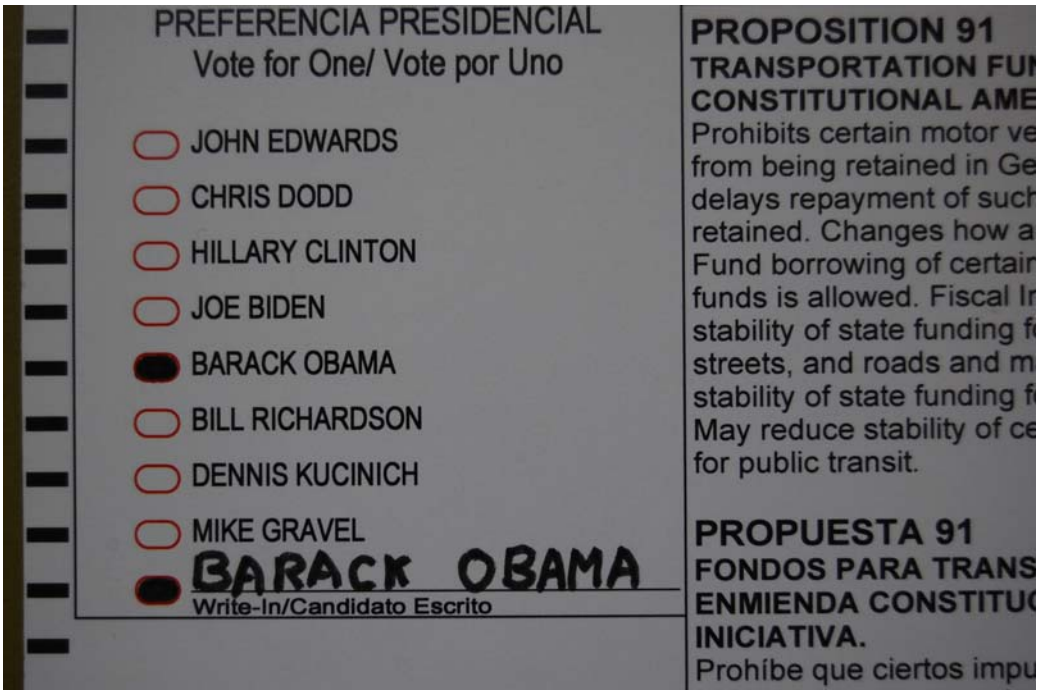
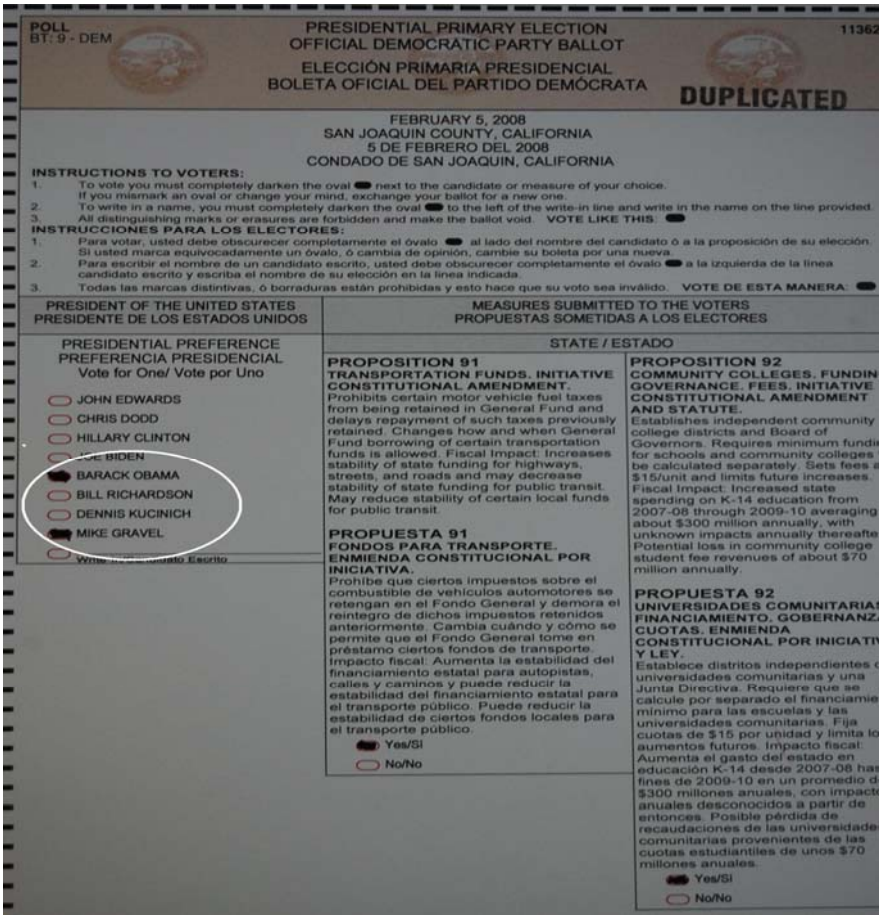


“Other over vote” (other areas)

(Long shot)



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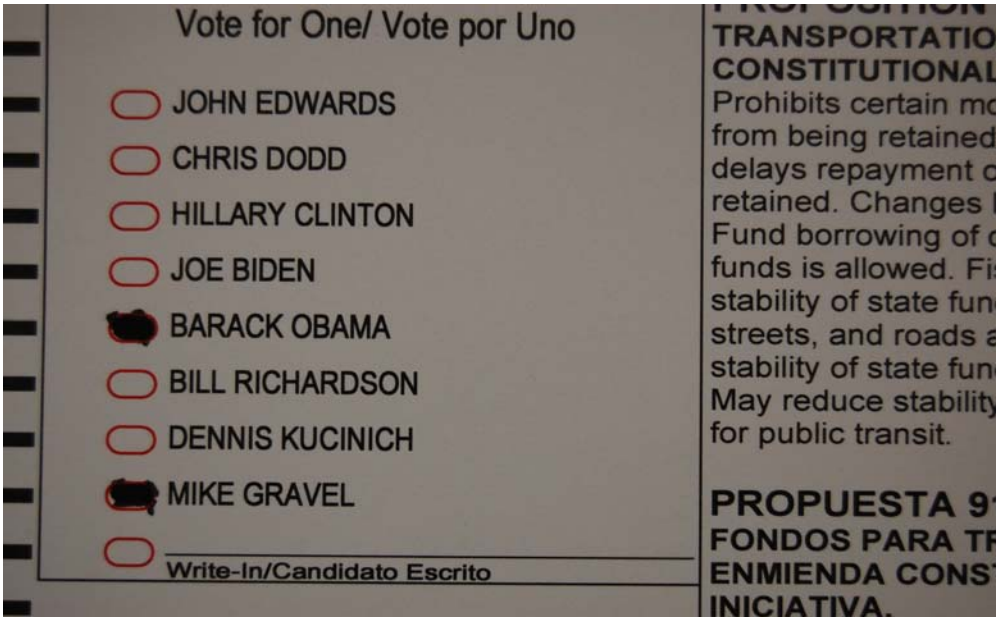
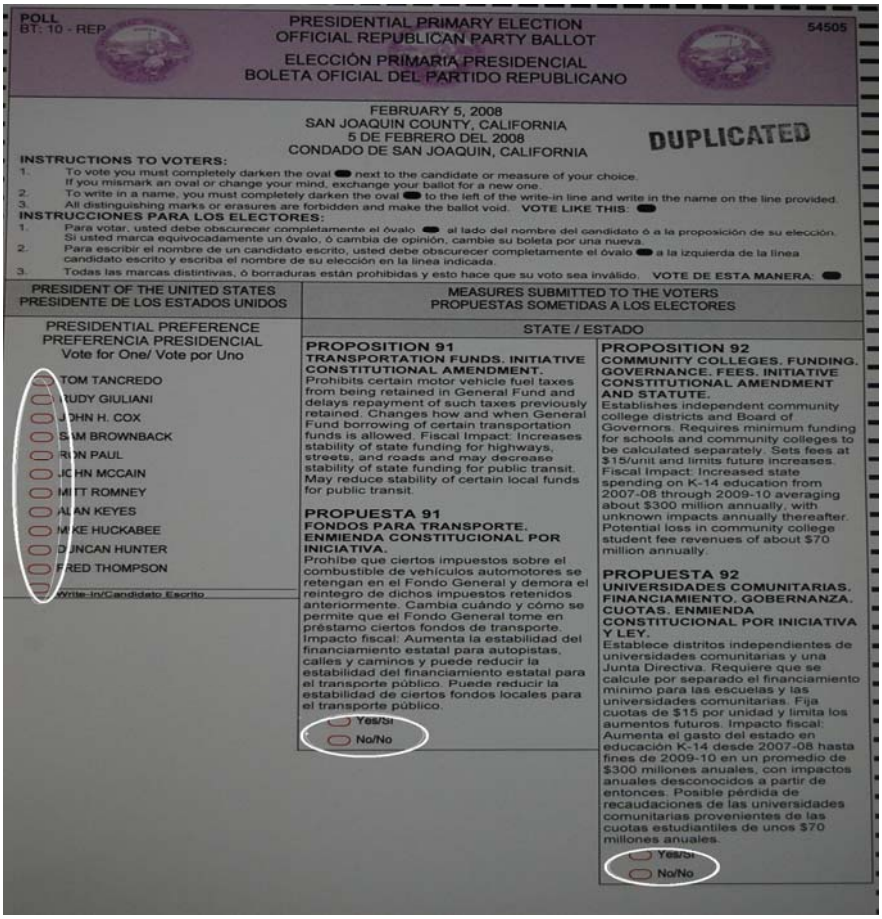


“Completely empty ballot”

(Long shot)


POLL
BT: 10 - REP

PRESIDENTIAL PRIMARY ELECTION
OFFICIAL REPUBLICAN PARTY BALLOT
ELECCIÓN PRIMARIA PRESIDENCIAL
BOLETA OFICIAL DEL PARTIDO REPUBLICANO

54505

FEBRUARY 5, 2008
SAN JOAQUIN COUNTY, CALIFORNIA
5 DE FEBRERO DEL 2008
CONDADO DE SAN JOAQUIN, CALIFORNIA

DUPLICATED

INSTRUCTIONS TO VOTERS:
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INSTRUCCIONES PARA LOS ELECTORES:
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2. Para escribir el nombre de un candidato escrito, usted debe obscurecer completamente el óvalo ⬬ a la izquierda de la línea candidato escrito y escriba el nombre de su elección en la línea indicada.
3. Todas las marcas distintivas, ó borraduras están prohibidas y esto hace que su voto sea inválido. VOTE DE ESTA MANERA: ⬬

PRESIDENT OF THE UNITED STATES
PRESIDENTE DE LOS ESTADOS UNIDOS

PRESIDENTIAL PREFERENCE
PREFERENCIA PRESIDENCIAL
Vote for One/ Vote por Uno

- TOM TANCREDO
- RUDY GIULIANI
- JOHN H. COX
- SAM BROWNBACK
- RON PAUL
- JOHN MCCAIN
- MITT ROMNEY
- ALAN KEYES
- MIKE HUCKABEE
- DUNCAN HUNTER
- FRED THOMPSON
- Write-In/Candidato Escrito

MEASURES SUBMITTED TO THE VOTERS
PROPUESTAS SOMETIDAS A LOS ELECTORES

STATE / ESTADO

PROPOSITION 91
TRANSPORTATION FUNDS. INITIATIVE CONSTITUTIONAL AMENDMENT.
Prohibits certain motor vehicle fuel taxes from being retained in General Fund and delays repayment of such taxes previously retained. Changes how and when General Fund borrowing of certain transportation funds is allowed. Fiscal Impact: Increases stability of state funding for highways, streets, and roads and may decrease stability of state funding for public transit. May reduce stability of certain local funds for public transit.

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FONDOS PARA TRANSPORTE. ENMIENDA CONSTITUCIONAL POR INICIATIVA.
Prohíbe que ciertos impuestos sobre el combustible de vehículos automotores se retengan en el Fondo General y demora el reintegro de dichos impuestos retenidos anteriormente. Cambia cuándo y cómo se permite que el Fondo General tome en préstamo ciertos fondos de transporte. Impacto fiscal: Aumenta la estabilidad del financiamiento estatal para autopistas, calles y caminos y puede reducir la estabilidad del financiamiento estatal para el transporte público. Puede reducir la estabilidad de ciertos fondos locales para el transporte público.

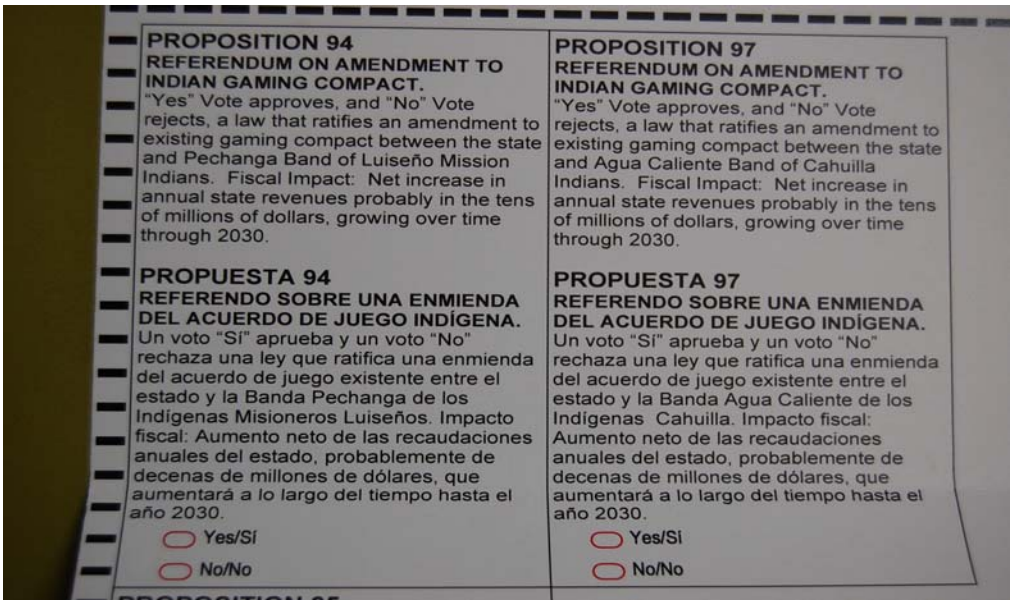
- Yes/Sí
- No/No

PROPOSITION 92
COMMUNITY COLLEGES. FUNDING. GOVERNANCE. FEES. INITIATIVE CONSTITUTIONAL AMENDMENT AND STATUTE.
Establishes independent community college districts and Board of Governors. Requires minimum funding for schools and community colleges to be calculated separately. Sets fees at $15/unit and limits future increases. Fiscal Impact: Increased state spending on K-14 education from 2007-08 through 2009-10 averaging about $300 million annually, with unknown impacts annually thereafter. Potential loss in community college student fee revenues of about $70 million annually.

PROPUESTA 92
UNIVERSIDADES COMUNITARIAS. FINANCIAMIENTO. GOBERNANZA. CUOTAS. ENMIENDA CONSTITUCIONAL POR INICIATIVA Y LEY.
Establece distritos independientes de universidades comunitarias y una Junta Directiva. Requiere que se calcule por separado el financiamiento mínimo para las escuelas y las universidades comunitarias. Fija cuotas de $15 por unidad y limita los aumentos futuros. Impacto fiscal: Aumenta el gasto del estado en educación K-14 desde 2007-08 hasta fines de 2009-10 en un promedio de $300 millones anuales, con impactos anuales desconocidos a partir de entonces. Posible pérdida de recaudaciones de las universidades comunitarias provenientes de las cuotas estudiantiles de unos $70 millones anuales.

- Yes/Sí
- No/No

(Close shot)


PROPOSITION 94
REFERENDUM ON AMENDMENT TO INDIAN GAMING COMPACT.
"Yes" Vote approves, and "No" Vote rejects, a law that ratifies an amendment to existing gaming compact between the state and Pechanga Band of Luiseño Mission Indians. Fiscal Impact: Net increase in annual state revenues probably in the tens of millions of dollars, growing over time through 2030.

PROPUESTA 94
REFERENDO SOBRE UNA ENMIENDA DEL ACUERDO DE JUEGO INDÍGENA.
Un voto "Sí" aprueba y un voto "No" rechaza una ley que ratifica una enmienda del acuerdo de juego existente entre el estado y la Banda Pechanga de los Indígenas Misioneros Luiseños. Impacto fiscal: Aumento neto de las recaudaciones anuales del estado, probablemente de decenas de millones de dólares, que aumentará a lo largo del tiempo hasta el año 2030.

- Yes/Sí
- No/No

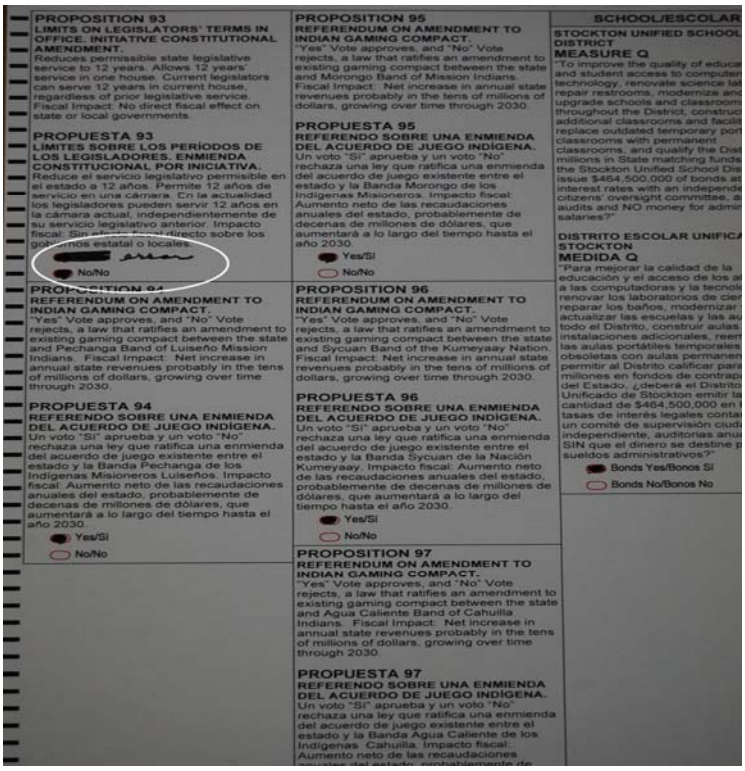
PROPOSITION 97
REFERENDUM ON AMENDMENT TO INDIAN GAMING COMPACT.
"Yes" Vote approves, and "No" Vote rejects, a law that ratifies an amendment to existing gaming compact between the state and Agua Caliente Band of Cahuilla Indians. Fiscal Impact: Net increase in annual state revenues probably in the tens of millions of dollars, growing over time through 2030.

PROPUESTA 97
REFERENDO SOBRE UNA ENMIENDA DEL ACUERDO DE JUEGO INDÍGENA.
Un voto "Sí" aprueba y un voto "No" rechaza una ley que ratifica una enmienda del acuerdo de juego existente entre el estado y la Banda Agua Caliente de los Indígenas Cahuilla. Impacto fiscal: Aumento neto de las recaudaciones anuales del estado, probablemente de decenas de millones de dólares, que aumentará a lo largo del tiempo hasta el año 2030.

- Yes/Sí
- No/No

“Signed ballots” (1)

(Long shot)



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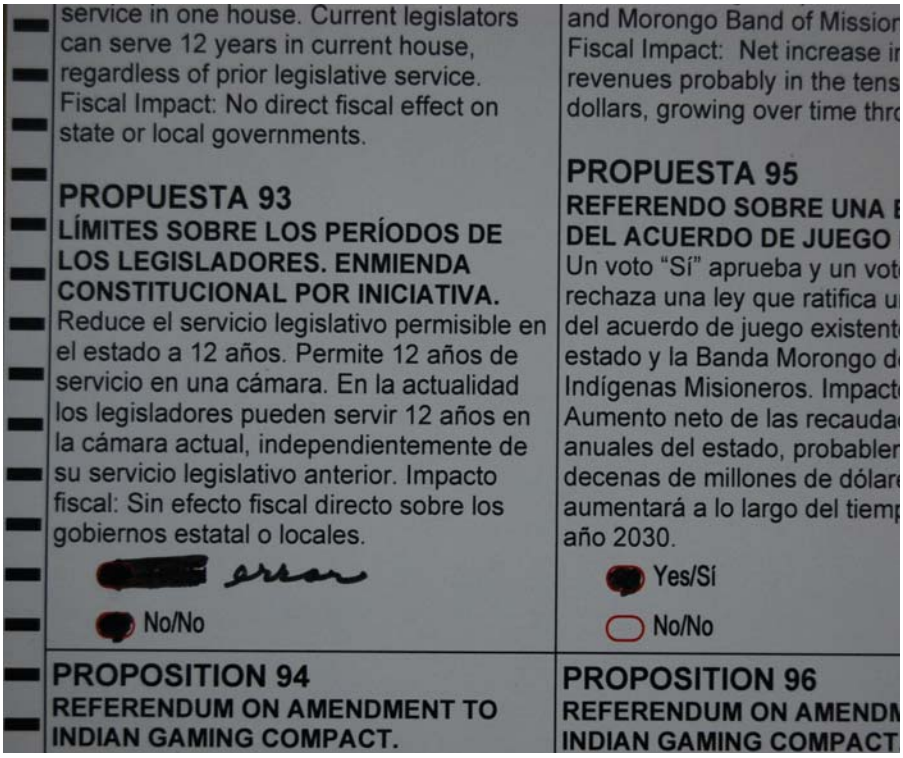
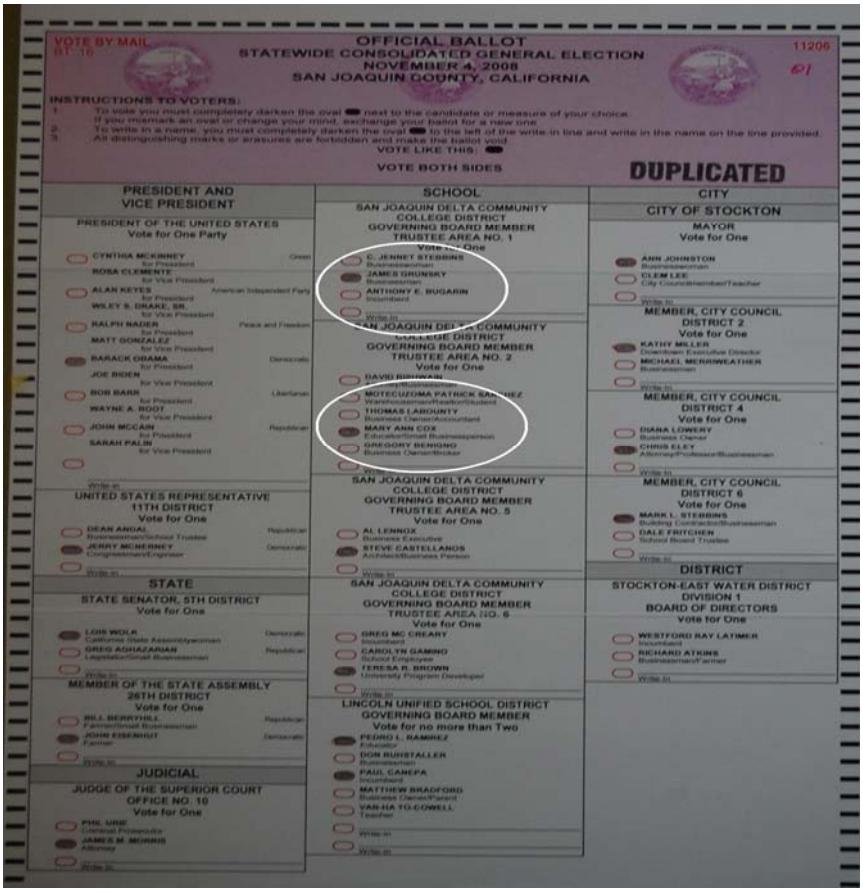


"Cannot tell"

(Long shot)



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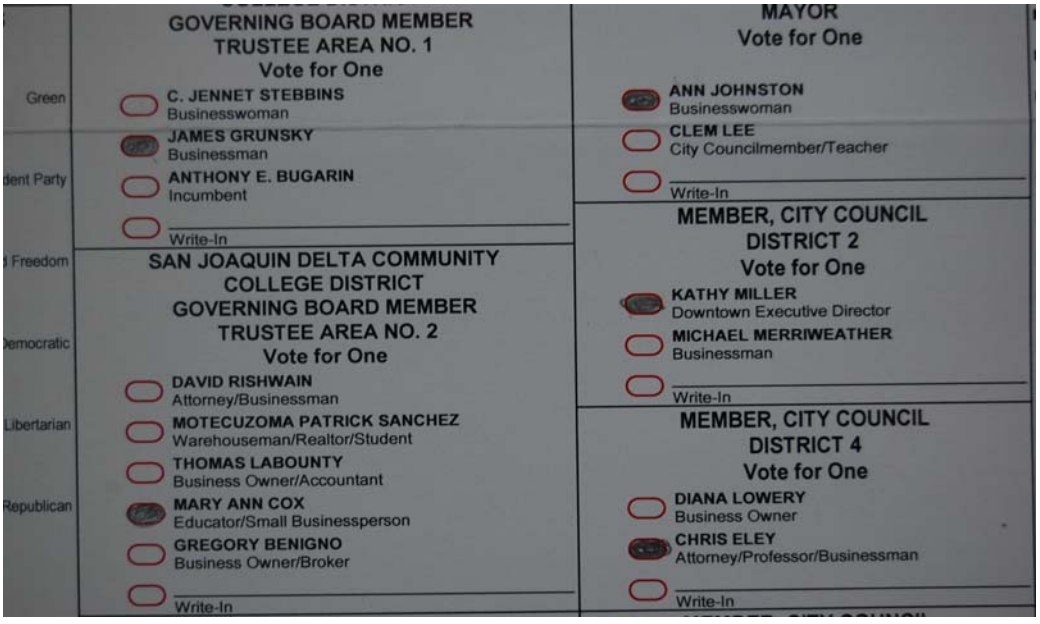
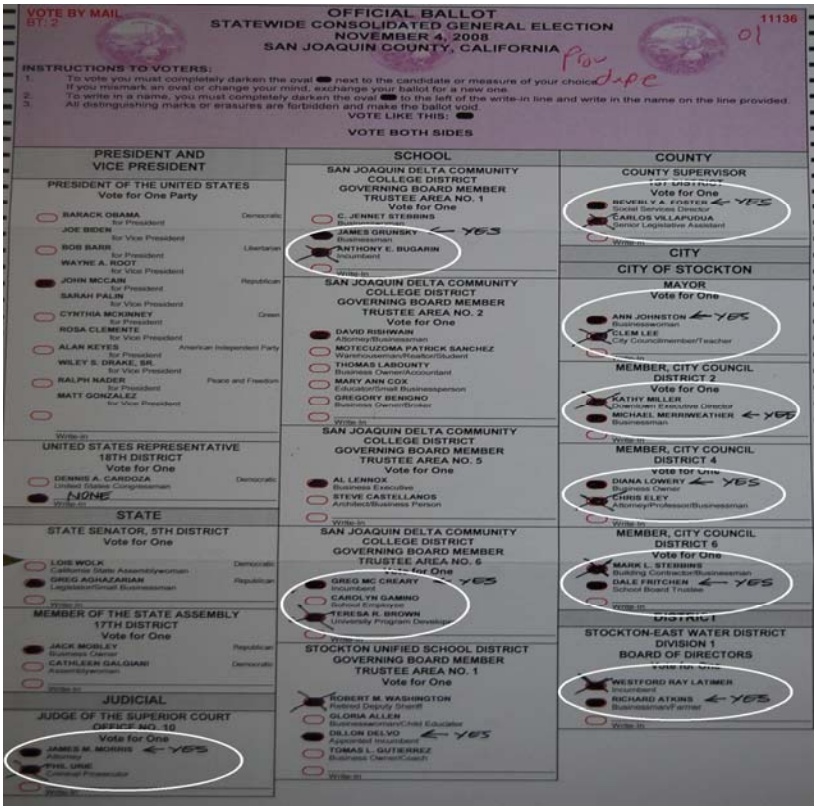


"Others"

(Long shot)



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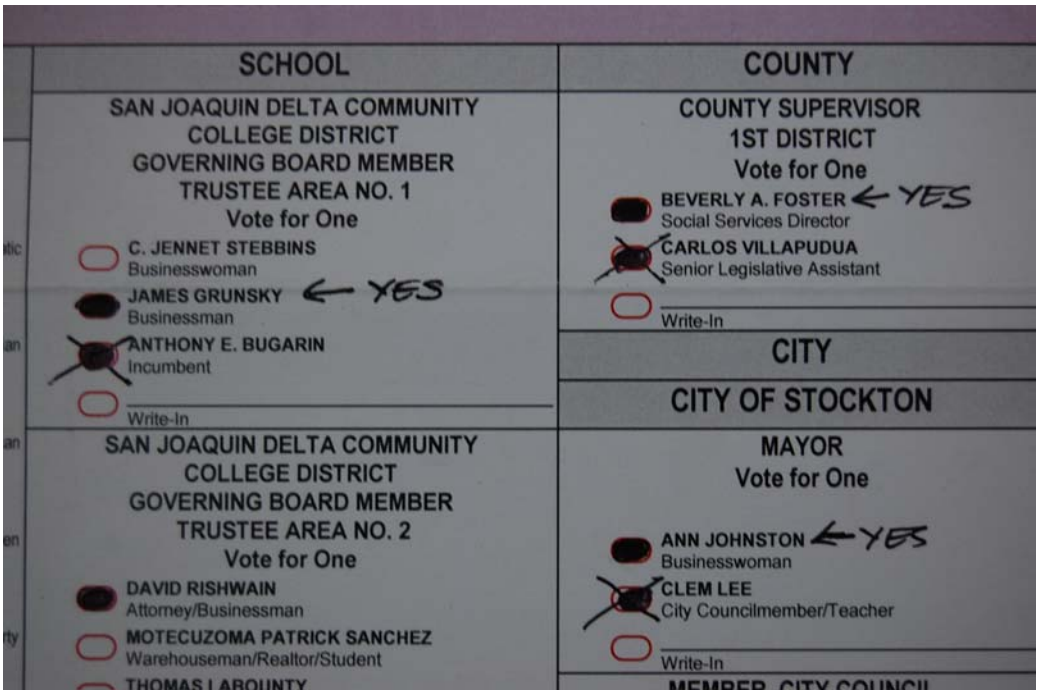
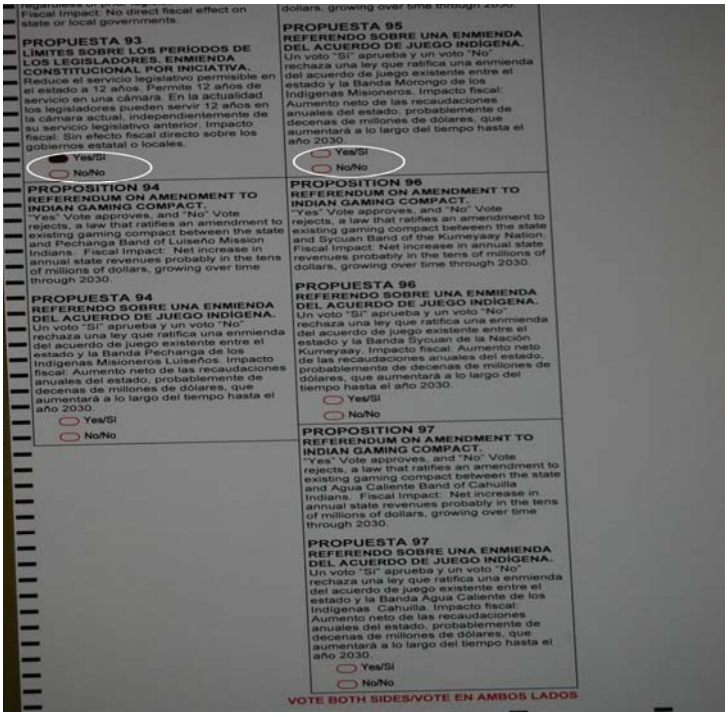


“Partially empty ballot”

(Long shot)



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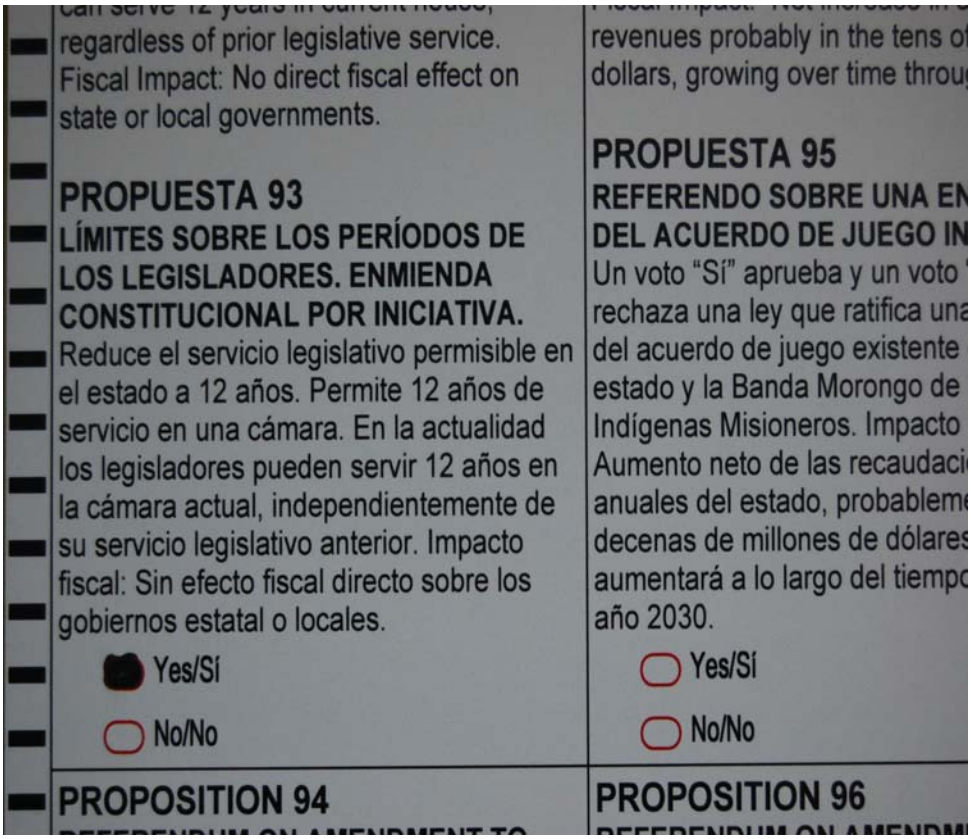


"Torn ballot"

(Long shot)

PROPOSITION 93
LIMITS ON LEGISLATORS' TERMS IN OFFICE. INITIATIVE CONSTITUTIONAL AMENDMENT.
Reduces permissible state legislative service to 12 years. Allows 12 years' service in one house. Current legislators can serve 12 years in current house, regardless of prior legislative service. Fiscal Impact: No direct fiscal effect on state or local governments.

PROPUESTA 93
LIMITES SOBRE LOS PERÍODOS DE LOS LEGISLADORES. ENMIENDA CONSTITUCIONAL POR INICIATIVA.
Reduce el servicio legislativo permisible en el estado a 12 años. Permite 12 años de servicio en una cámara. En la actualidad los legisladores pueden servir 12 años en la cámara actual, independientemente de su servicio legislativo anterior. Impacto fiscal: Sin efecto fiscal directo sobre los gobiernos estatal o locales.

Yes/Sí
No/No

PROPOSITION 94
REFERENDUM ON AMENDMENT TO INDIAN GAMING COMPACT.
"Yes" Vote approves, and "No" Vote rejects, a law that ratifies an amendment to existing gaming compact between the state and Pechanga Band of Luiseño Mission Indians. Fiscal Impact: Net increase in annual state revenues probably in the tens of millions of dollars, growing over time through 2030.

PROPUESTA 94
REFERENDO SOBRE UNA ENMIENDA DEL ACUERDO DE JUEGO INDÍGENA.
Un voto "Sí" aprueba y un voto "No" rechaza una ley que ratifica una enmienda del acuerdo de juego existente entre el estado y la Banda Pechanga de los Indígenas Misioneros Luiseños. Impacto fiscal: Aumento neto de las recaudaciones anuales del estado, probablemente de decenas de millones de dólares, que aumentará a lo largo del tiempo hasta el año 2030.

Yes/Sí
No/No

PROPOSITION 95
REFERENDUM ON AMENDMENT TO INDIAN GAMING COMPACT.
"Yes" Vote approves, and "No" Vote rejects, a law that ratifies an amendment to existing gaming compact between the state and Morongo Band of Mission Indians. Fiscal Impact: Net increase in annual state revenues probably in the tens of millions of dollars, growing over time through 2030.

PROPUESTA 95
REFERENDO SOBRE UNA ENMIENDA DEL ACUERDO DE JUEGO INDÍGENA.
Un voto "Sí" aprueba y un voto "No" rechaza una ley que ratifica una enmienda del acuerdo de juego existente entre el estado y la Banda Morongo de los Indígenas Misioneros. Impacto fiscal: Aumento neto de las recaudaciones anuales del estado, probablemente de decenas de millones de dólares, que aumentará a lo largo del tiempo hasta el año 2030.

Yes/Sí
No/No

PROPOSITION 96
REFERENDUM ON AMENDMENT TO INDIAN GAMING COMPACT.
"Yes" Vote approves, and "No" Vote rejects, a law that ratifies an amendment to existing gaming compact between the state and Sycuan Band of the Kumeyaay Nation. Fiscal Impact: Net increase in annual state revenues probably in the tens of millions of dollars, growing over time through 2030.

PROPUESTA 96
REFERENDO SOBRE UNA ENMIENDA DEL ACUERDO DE JUEGO INDÍGENA.
Un voto "Sí" aprueba y un voto "No" rechaza una ley que ratifica una enmienda del acuerdo de juego existente entre el estado y la Banda Sycuan de la Nación Kumeyaay. Impacto fiscal: Aumento neto de las recaudaciones anuales del estado, probablemente de decenas de millones de dólares, que aumentará a lo largo del tiempo hasta el año 2030.

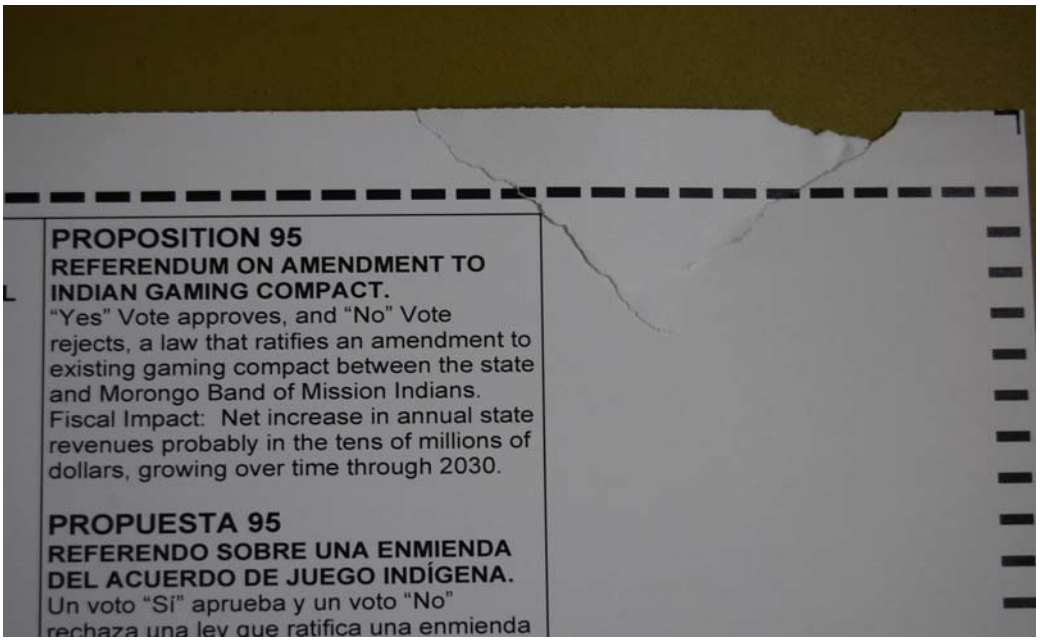
Yes/Sí
No/No

PROPOSITION 97
REFERENDUM ON AMENDMENT TO INDIAN GAMING COMPACT.
"Yes" Vote approves, and "No" Vote rejects, a law that ratifies an amendment to existing gaming compact between the state and Agua Caliente Band of Cahuilla Indians. Fiscal Impact: Net increase in annual state revenues probably in the tens of millions of dollars, growing over time through 2030.

PROPUESTA 97
REFERENDO SOBRE UNA ENMIENDA DEL ACUERDO DE JUEGO INDÍGENA.
Un voto "Sí" aprueba y un voto "No" rechaza una ley que ratifica una enmienda del acuerdo de juego existente entre el estado y la Banda Agua Caliente de los Indígenas Cahuilla. Impacto fiscal: Aumento neto de las recaudaciones anuales del estado, probablemente de decenas de millones de dólares, que aumentará a lo largo del tiempo hasta el año 2030.

Yes/Sí
No/No

(Close shot)



PROPOSITION 95
REFERENDUM ON AMENDMENT TO INDIAN GAMING COMPACT.
"Yes" Vote approves, and "No" Vote rejects, a law that ratifies an amendment to existing gaming compact between the state and Morongo Band of Mission Indians. Fiscal Impact: Net increase in annual state revenues probably in the tens of millions of dollars, growing over time through 2030.

PROPUESTA 95
REFERENDO SOBRE UNA ENMIENDA DEL ACUERDO DE JUEGO INDÍGENA.
Un voto "Sí" aprueba y un voto "No" rechaza una ley que ratifica una enmienda