How Does Vote By Mail Affect Voters?
A natural experiment examining individual-level turnout

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Executive Summary

In California's last election on May 19, 2009, a record 62.19% of voters in the state cast their ballots by mail. Across the nation, twenty-four states allow No Excuse Absentee Voting. Voters appear to be latching on to the relaxation of laws giving them access to the new mode of voting. However, it is important to note that in all but two states, voting by mail is optional. As much as officials and proponents of the change to all-mail elections would like to use the high participation rate of vote by mail as positive indicators regarding a mode change, the reality is that these data are based on self-selected behavior. In other words, a majority of California voters chose to cast their ballot by mail. What would happen if voting by mail became compulsory? What would happen to the 37.81% who expressed no desire for voting by mail when they are required to change over to a new system? We answer that question in this paper. In this study we take advantage of a natural experiment following the same voters to ascertain the individual-level effects on turnout when voters are assigned to mandatory mail-ballot precincts. In analyzing the behavior of 97,381 individual voters across four recent elections in California we find that:

> When a mandatory vote-by-mail system is implemented, the estimated odds of an individual voter voting decreases by 13.2%.

> Communicating with voters about mandatory vote-by-mail matters a great deal and can eventually overcome the negative effect of being forced to vote by mail. This occurs when at least 4 pieces of communication are sent out by elections officials.

> Across voter stratifications, being forced to vote by mail has negative effects on the turnout of urban and minority (Hispanic and Asian) populations. For a mail ballot precinct and fixed election characteristics, the estimated odds of voting **decreases:**
>   o   50% for urban voters;
>   o   30.3% for Asian voters;
>   o   27.3% for Hispanic voters

> Party effects show Democratic voter odds **increase** 5.99% over Republicans.

> Age estimated odds of voting **increase** 3.80% for each additional year a voter ages.

How Does Vote By Mail Affect Voters? A natural experiment examining individual-level turnout

What is the impact of vote by mail on individual voter turnout? This is a question election officials and policymakers alike are grappling with across the country as more and more states consider moving to some form of vote-by-mail system. For now, Oregon remains alone in conducting all elections by mail only, though a handful of states have taken steps in that direction. Signature gatherers in Idaho are working to qualify an initiative that would move that state to full vote by mail.[1] All but one of Washington's 39 counties vote by mail; Pierce County still maintains poll sites.[2] Montana allows vote by mail for municipal elections.[3] In New Jersey, a "Vote by Mail" act awaits gubernatorial approval.[4] California and Colorado allow Permanent No Excuse Absentee ballots, and twenty-four states allow No Excuse Absentee Voting.[5]

Voters appear to be latching on to the relaxation of laws giving them access to the new mode of voting. In California's last election on May 19, a record 62.19% of voters in the state cast their ballots by mail.[6] However, it is important to note that in all but Oregon and Washington, voting by mail is optional. As much as officials and proponents of the change to mail only elections would like to use the high participation rate of vote by mail as positive

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[1] "Initiative would let Idaho voters sign up for permanent absentee ballots" *The Spokesman-Review* Retrieved June 24, 2009. http://www.spokesman.com/blogs/boise/2009/jun/18/initiative-would-let-idaho-voters-sign-permanent-absentee-ballots/

[2] "King Co's all-mail voting gets a thumbs-up." http://blogs.secstate.wa.gov/FromOurCorner/index.php/2009/02/kingcos-all-mail-voting-gets-a-thumbs-up/ Retrieved June 24, 2009.

[3] O'Connell, Sue. 2007. "HJR 46: Revision of Election Laws Your Ballot's in the Mail: An Overview of Vote-by-Mail Issues. http://leg.mt.gov/content/committees/interim/2007_2008/st_admin_vet_affairs/assigned_studies/hj46overview11202007.pdf Retrieved. June 24, 2009.

[4] Paul Gronke post, "Changes in no-excuse absentee coming in NJ?" 19 June 2009. http://electionupdates.caltech.edu/ Retrieved June 24, 2009.

[5] Vote by Mail in Your State. http://www.votebymailproject.org/votebymailinyourstate.html Retrieved June 24, 2009.

[6] Voter Participation Statistics by County. http://www.sos.ca.gov/elections/sov/2009-special/3-voter-participation-stats-ss09.pdf. Retrieved June 29, 2009.

indicators regarding a mode change, the reality is that these data are based on self-selected behavior. In other words, 62.19% of voters in California wanted to cast their ballot by mail. What would happen if voting by mail became compulsory? What would happen to the 37.81% who expressed no preference for voting by mail when they have to change over to a new system? The answer is that we do not know, save for the oft-cited example of Oregon, a state without the challenges posed by population demographics, high density, or language diversity. That is the question we sought to answer in this study; what happens to the individual precinct voter when the mode of voting is changed to all-mail balloting?

We conducted the most comprehensive research to-date on the impact of vote-by-mail systems to individual voter turnout. As Kousser and Mullin (2007) point out, an ideal research design would randomly assign a group of voters to vote by mail. Arguably, such a design occurs in California where any of 58 county election officials can assign voters to mandatory mail precincts in any election - within precinct size limitations that are addressed in the next section – effectively creating natural variation in the use of mail balloting. We collected individual-level data from 5 of 58[7] counties in California and then studied all mandatory mail voters in those counties. We examined the behavior of more than 97,381 individual voters across four elections from 2006 through 2008 to ascertain whether vote by mail (VBM) increases individual voter participation. Our hypothesis is that being required to change ones mode of voting, what we refer to as "mandatory" VBM, lowers the cost of voting and increases turnout. We test our hypothesis through a design that holds the electoral context constant and naturally assigns voters to the treatment, in-person or mail ballot precinct, thereby allowing us to assess the impact of mandatory VBM on turnout.

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[7] We selected counties in Northern California because of geographic proximity to the researchers, project resource limitations, and access to diverse voter populations. Certainly, researchers would do well to study more than the five counties we covered.

As noted, our individual panel data of mandatory VBM voters spanned five California counties. Panel data is the best way to examine the individual behavior of voters, but such studies are rare due to the cost of acquiring validated voter records from local elections offices (Berinsky 2005:479).[8] Using weighted least squares logit models for analysis of the validated records of *all* mandatory VBM voters in the study counties, we estimated the impact of VBM across voter stratifications while removing the self-selection bias inherent to permanent absentee voters. Individual level work using panel data has not been conducted since Berinsky et al (2001) did so using Oregon data from 1994-1996; in that study the sample was 811 voters.

Our findings indicate that when a mandatory vote-by-mail system is implemented, the estimated odds of an individual voter voting decreases by 13.2%. However, election officials can play a role in ameliorating that effect in the number of communications they send to voters informing them of upcoming changes; we find four mailings to be critical to overcoming negative effects.

This report briefly recaps the recent research on vote by mail to-date. We then turn to a discussion of our data and methods. We then discuss findings and implications.

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[8] We are referring to records containing the voters voting history as maintained in the jurisdiction of registration – in the case of California, the registering jurisdiction is the county. Per HAVA, voter registration must be verified. To do this, files go from the County office to the Secretary of State's (SOS) office to be matched against the CA DMV files to verify that the voter driver's license matches in order to validate the registration of the voter. LEO's send files to the SOS from new registrants every day during an election season. The SOS matches the data and sends back the file. Those people whose registration data does not match the data in the SOS databases get put in the "pending" file and don't become active until their information is verified via a mailing to them. Only voters whose registration has been validated in this way are eligible to vote.

I. Much Discussion, Some Clarity: What do we know about switching to vote-by-mail systems?

Proponents of alternative methods to traditional in-person precinct-based elections argue that voters will be more likely to participate in elections when they have more flexibility in casting their ballot. Opponents argue that broadening election parameters opens the door to fraud and may limit civic engagement (Thompson 2004). Scholarly findings are equally diverse. On the threat to civic engagement, Richey (2005) reports that mail ballot voters have more political discussion than in-person voters.

With respect to turnout impacts specifically, scholars find both negative and positive effects from vote by mail. Recent work (Kousser and Mullin 2007, Richey 2008) indicates that vote by mail has some negative effect (2-3%) on turnout in statewide general elections but a stronger positive effect (8%) in local elections, and a large (10%) positive effect in national elections. Other studies (Barreto et al 2006, Gronke 2005, Karp and Banducci 2000, Southwell and Burchett 1997) find insignificant effects from vote-by-mail on turnout and the composition of the electorate. Berinsky, Burns and Traugott (2001) find no effect on the partisan composition of the electorate but do find VBM advantages resource-rich (i.e. older, educated, interested) members of the electorate.

In California, where legislation (AB867 and AB1654) to expand mail ballot elections has recently failed to garner sufficient votes in Sacramento, the opposition argued that mail ballot elections could decrease turnout, especially among low-income and minority voters; however, opponents acknowledge during testimony that "there is no definitive research on the impact of mail-only elections on minority voter turnout."[9] Ironically, researchers (Barreto, Marks, Woods

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[9] Page 9, text of AB1654 retrieved October 9, 2007, from: http://www.leginfo.ca.gov/pub/07-08/bill/asm/ab_1651-1700/ab_1654_cfa_20070416_111314_asm_comm.html.

2004) have found that poor polling place quality decreases voter turnout; a situation low-income and minority communities often experience and something VBM could address.

Returning for a moment to the most recent state-level work, Kousser and Mullin (2007: 429) point out that much of the scholarship in the vote by mail sub-field "cannot be used" in attempting to understand the impact on voters of the move to mail ballot elections because it focuses on people who have chosen to vote absentee or by mail and are by definition a high propensity voter group. Likewise, these researchers noted problems with studies that derive results from all-mail Oregon as that work largely failed to control for campaign saliency. Kousser and Mullin bring new methodological rigor to the field but acknowledge "it is individual factors that matter the most in explaining turnout," (430) and their design does not account for individuals over time. Their data does not follow the *same* voters across elections. Furthermore, within the confines of one election, the treatment is observed on different voters thus resulting in a voter turnout comparison of different groups of voters. Mean turnout values of mail precincts (the treatment) are compared with mean turnout of matched in-person precincts (non-treatment). Matching mail and in-person precincts based on covariates might reduce some voter differences, however, the voters are still not the same voters.

In this study we advance the existing research with a natural experiment using panel data that randomly assigns individuals to different election rules – an ideal design because it holds constant the election context (Kousser and Mullin 2007:432). Panel data allows us to assess the cost of voting to individuals *because* the mode of voting is changed. County voting records allow us to track the same voter across four elections when the mode of voting was altered by election officials in at least one of those four elections.

This is possible because California law[10] allows local election officials (LEOs) to designate any precinct with less than 250 voters as a mail ballot precinct. This precinct threshold gives the LEO flexibility in managing the myriad of elections with changing geographic boundaries that can occur in any given year in California and that determine what ballot a voter must receive. Every election contains either a single item or multiple items that each registered voter is asked to make a choice on - these issues determine ballot type. Each item may be something that is voted on by everyone in the county or it may be something that pertains only to a specific area or district. Each district has legal boundaries that sometimes split down the middle of a street or between next-door-neighbors. Prior to each election the LEO in each county reviews what districts are affected by each item to be voted on.

Every residence is assigned a "home precinct" number that is determined by all the voting districts the property resides in. Once the LEO has determined all of the home precincts that are within the affected districts, they "consolidate" or group together all of the home precinct numbers that will vote on the same issues. These groups of home precinct numbers are given a "consolidated precinct" number. Factors that are considered when joining home precincts into consolidated precincts include; 1) the number of registered voters at the time of consolidation, 2) the legal limitations for maximum size (number of voters) of a polling place, 3) any special legal considerations (like language requirements stipulated by federal law), 4) distance the voter must travel, 5) geographic accessibility (i.e. distance might be short but could involve crossing busy streets or passing other polling places, or could involve difficult mountain roads), 6) accessibility

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[10] California Elections Code Section 3005: Whenever, on the 88th day before the election, there are 250 or less persons registered to vote in any precinct, the elections official may furnish each voter with a vote by mail ballot along with a statement that there will be no polling place for the election. The elections official shall also notify each voter of the location of the two nearest polling places in the event the voter chooses to return the ballot on election day. The voter shall not be required to file an application for the vote by mail ballot and the ballot shall be sent as soon as the ballots are available. No precinct shall be divided in order to conform to this section.

to the elderly and voters with a disability, 7) history of consolidations from past elections (to maintain consistency of polling places whenever possible), and more recently 8) the cost of conducting an election (e.g. special elections where state reimbursement is not available). LEOs generally try to send the same voters to the same polling places in every election to maintain consistency in polling places as long as the ballot style is the same (i.e. ballots have the same candidates and measures). However, this is not always possible because of ballot variation; in those instances when it is not, a voter who voted in-person in a prior election may be assigned to vote by mail in the next election. Thus, the mode change, from in-person voting to mandatory mail balloting, is imposed by the LEO and not a function of voter choice.

Scholars (Arceneaux, Kousser, and Mullin 2009, Meredith and Malhotra 2008, Kousser and Mullin 2007) have documented how the assignment of voters to mail only precincts in California provides a unique experimental context. In addition, such assignment does not sacrifice voter diversity for two reasons, first, because individuals do not self-select into precinct type, and second, though like persons may flock together in small residential locations, those we would most associate within rural areas, small mail ballot precincts exist as a function of multi-jurisdiction ballot needs and are frequently nested in larger metropolitan areas. Indeed, Aistrup (2004) notes that urban jurisdictions are generally more diverse than rural ones. Furthermore, due to changing ballot requirements, LEOs may redraw precinct boundaries for every election, so voting groups may not remain static or homogeneous and likely fluctuate.

We expect that mode change from in-person polling place voting to mandatory vote by mail will increase turnout. Explanations for this might include the repeated nature of the mode change experience over time, necessarily involving more contact with the election system. Such contact can include mailings that mandatory mail ballot voters receive from election

administrators. The literature (Gerber, Kessler, and Meredith 2008) says direct mail can increase turnout up to three percent; mail also serves the important functions of making voters aware and educating them about process, factors proven to lower the cost of voting and increase turnout (Wolfinger and Rosenstone 1980). This study addresses the impact on turnout of mode change controlling for political context. We also address variation across population segments and voter stratifications in five California counties from 2006 to 2008. In addition to answering key questions about vote by mail turnout, this research design overcomes the ecological inference problems experienced by previous researchers where individual behavior is extrapolated based on aggregated group level data.

II. Data and Methods: the California Experiment

We obtained data from county election offices in five California counties. Study county demographics are shown in Table 1.

Table 1. Demographic Information: California and Select Counties

	Pop.	% White*	% Black*	% Asian*	% Hispanic**
Alameda	1,457,169	47.3	12.9	24.6	21.4
Fresno	895,357	61.3	5.1	8.7	48.2
Marin	246,985	81.2	3.2	5.6	13.6
San Mateo	703,730	61.3	3.1	23.7	23.1
Santa Clara	1,734,756	52.2	2.6	30.3	25.6
California	36,418,499	60.9	6.2	12.3	36.1

*One race
** Of any race

[Source: U.S. Census Bureau, 2006-2008 American Community Survey.]

The data for this project are 2,093,647 individual records of registered voters in the study counties.[11] Table 2 shows the number of voter records received per county and the number of records utilized in our analysis. Of these registered voters, we identified 126,309 as mandatory mail voters who were used in our analysis.

Table 2. Study Sample

County	Registered Voters	Mandatory Mail Voters
Alameda	809,624	37,390
Fresno	384,113	10,506
Marin	7,199	2,572
San Mateo	93.575	14,063
Santa Clara	799,136	45,928
TOTAL	**2,093,647**	**126,309**

A common perception associated with vote-by-mail precincts is that they are located in rural areas. However, according to the U.S. Census Bureau definition, only Marin and Fresno counties would qualify as rural[12]; the three other counties are urban, with Alameda at a density of 2,069 persons per square mile, followed by San Mateo at 1,633 and Santa Clara at 1,401.[13] Furthermore, the number of mandatory mail precincts in a particular county was not skewed in a given election year but fairly evenly distributed across years. Table 3 shows the number of mail ballot precincts by county in a given election year. Overall, individual voter records were extracted for more than 700 mail ballot precincts per election year; 75% of mandatory mail ballot precincts in the study were urban area precincts in 2008.

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[11] It is worth noting that the validated voter data files received from County election officials was not uniform or consistent. There is no uniform standard, either across the nation or within California, for gathering, storing, updating, or validating this information. While HAVA legislation required funded states to update their voter registration databases, that mandate does not extend to validated voter records or post-election files. This is an important distinction for both researchers and policymakers as it poses a challenge for data analysis, cross jurisdiction comparisons, and other assessments.

[12] Source: US Census; rural is a population density less than 1000 people per square mile.

[13] Source: RAND California: Wed Oct 21 09:26:12 2009.

Table 3. Number of Mail Ballot Precincts by County and Election Year

| | 2006 | | 2008 | |
	June	Nov	June	Nov
Alameda	373	394	395	210
Fresno			142	277
Marin	17	15	17	14
San Mateo	36	36	54	54
Santa Clara	310	440	348	357
Total	736	885	956	912

We tracked all registered voters assigned to a mandatory mail precinct at any time during the study period, 2006 through 2008, to ascertain whether or not they voted by mail in any of the four elections, the June 2006 primary election, November 2006 general election, June 2008 primary election, and the November 2008 general election, under examination.

In addition to election, voting mode, and frequency of voting data on each voter, the voter files have age and party information. Other data necessary to the project are not contained in the validated vote records as election officials do not collect this information, so we appended additional data to every individual record based on the appropriate parameters (e.g. Assembly District based on address) that applied to the individual voter.

Race and ethnicity are also not available in county voter files. We appended ethnicity to the individual voter records using a process developed by the US Census (Word and Perkins 1996), and used by scholars (Atkeson, Bryant, Hall, Saunders and Alvarez 2009 and Barreto, Segura and Woods 2004)), for "estimating" data when the respondent does not supply data on a census form. The inference of ethnicity is accomplished through surname matching. Approximately 20 percent of the Spanish surnamed population in the United States is concentrated in a dozen names, furthermore, about 95 percent of householders possessing the 12 most frequently occurring Spanish surnames identify as Hispanic. We use the top 12 names from

the 1990 Census SOR[14] file. A similar method is used for matching Asian surnames in the voter records (Lauderdale and Kestenbaum 2000), and we coded the top 10 Chinese and top 10 Japanese surnames. Surname matching has been shown (Bullock, Hood and Gonzalez 2007) to underestimate Hispanic voters, and we assume the same effects could exist for Asian voters, so we weighted the ethnicity data based on the proportion of those populations per county.[15]

Political context control variables include an indicator for the number of mailings a voter received from county election officials and measures for political competition. A description of each of these follows. "Mailings" includes information sent out by each county for all voters (typically the State Ballot Information Guide and a Sample Ballot) and the actual Ballot for all mail voters (including mandatory mail and absentee voters). Additionally, some counties send out reminder letters to mandatory mail voters containing information on returning ballots and the location of nearby precincts (see Appendix B for samples). For example, of the five counties in the study, San Mateo sends out the most mail; first voters get a letter notifying them of the change in mode of voting, then at a subsequent date they get a reminder letter which also lists the two closest polling places, should they opt to return their ballots in person. In contrast, Santa Clara sends out only the notification letter, combining the mode change information and listing the voter's closest precincts.

We hypothesize that these mailings have a significant impact on individual voter turnout because of both the repeated nature of the communications, as well as their official source.[16] There is some basis for such a hypothesis as Kousser and Mullin (2007) presented anecdotal

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[14] Spanish Origin.
[15] Kousser and Mullin (2007) calculate racial (including Hispanic) composition as a percentage of a precincts voting age population (VAP). While VAP is a more restrictive measure than proportion of population, the ACS of the Census does not combine age and ethnic classifications in data, only disaggregated data is available. Thus, we recognize that our weighting is somewhat inaccurate as it includes 0 to 17 year-olds who would not be part of VAP.
[16] Official communication vs. campaign mailings.

evidence from California that demonstrated the importance of a public information campaign when a new voting system is implemented. Table 4 shows the number of mailings sent to mandatory mail voters by each election official in the study counties. In three of the five counties, mandatory mail voters received more mailed communication than absentee voters. We would argue that there is likely a reason for the differing number of communications. Perhaps it indicates an understanding or experience on the part of election officials regarding the need or effectiveness of such communication with this different group of voters. However, that is speculation as we did not survey election officials.

Table 4. - Mailings Sent by County to Voters

County	Absentee Voters	Mandatory Mail Voters
Alameda	3	3
Fresno	4	5
Marin	3	4
San Mateo	3	5
Santa Clara	4	4

We created two variables to measure political competition; a variable based on the margin of victory per relevant Assembly District related to where the voter resided expressed as the percentage difference between the two major party candidates or "1.00" where there was no competition in the election;[17] the other variable based on the amount of money spent in an Assembly race calculated by combining the funds raised by all candidates in both the primary and general elections of a particular Assembly District in a given year.[18] Finally, we created an interactive variable to account for the number of elections covered. The interaction is the treatment over time: TRT x Time.

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[17] Source: California Statement of Vote
[18] Source: www.followthemoney.org

A logit model for repeated measures was fit to the voter data. The response modeled is the probability of a voter voting, denoted as $\pi(x)$. The model for the ith treatment group (mandatory mail versus not mandatory mail) and the gth election (November 2008, June 2008, November 2006 versus June 2006) is

$$\ln\left(\frac{\pi(i,g,\mathbf{x})}{1-\pi(i,g,\mathbf{x})}\right) = \alpha + \beta_i^T + \beta_g^C + \beta'\mathbf{x} + \gamma_{ig}\nu_g \qquad (1)$$

where $\beta'\mathbf{x}$ are any additional covariates being controlled for in the model, γ_{ig} represents the interaction between the ith treatment and the gth election, and ν_g represents the number of years between the gth election and the first election. The research design for this project allows us to test whether voter turnout is affected by the switch from in-person precinct voting to mandatory vote by mail and vice versa. We also investigate whether the effect of voting by mail varies across election type; primary, general, mid-term, and presidential. Furthermore, the model allows us to not only obtain predicted probabilities and their asymptotic standard errors for each treatment-election combination, but also the estimated odds of voter turnout for various treatments, elections, and values of the covariates incorporated into the model. Yang, Goldstein and Heath (2000) worked with a similar model using panel data from constituencies to model voting over three elections.

III. Results: the Effects of Vote by Mail on Turnout

A. Sample Transformations

Individual voting history records were collected for registered voters in five Northern California counties: Alameda, Fresno, Marin, San Mateo, and Santa Clara. All voters who were permanent absentee voters were removed from the data set. We also removed voters designated

as military or UOCAVA from the sample.[19] Of the remaining voters, only the cases that were required to vote by mail at any time over the four elections were kept for the analysis. These remaining voters were monitored during June 2006, November 2006, June 2008, and November 2008; elections encompassing two primaries, a gubernatorial/midterm election, and a presidential election. The dependent variable of interest was whether or not the mail voter returned their ballot by mail – if the voter returned their ballot in-person at a polling place, they were dropped from the sample.[20] Independent variables included those discussed in the previous section. With these panel data there is no attempt at creating a randomized sample as all non-permanent absentee mail voters had the opportunity to be included in the study.[21]

B. Model & Results

A logistic regression model for repeated measures using a logit link, as described by equation (1), was used to analyze the data. The outcome is the log-odds of voting for mail ballot precinct voters versus voting for "regular" (i.e. polling place) precinct voters. We find a 13.2% reduction in the odds of voting by mail for a voter exposed to the mandatory mail treatment.

Factors included in the model were the treatment (mail ballot precinct versus regular precinct), election (November 2008, June 2008, November 2006, June 2006), an interaction effect of treatment over time (in years), voter demographics (urban, Hispanic, Asian, Democrat,

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[19] The Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA) of 1986 stipulates that these citizens are allowed to vote absentee. As such, they would not have the option to vote in person at a polling place, nor be assigned to a mandatory mail ballot precinct. Therefore, these voters would not qualify according to the parameters of our study.

[20] The reason for this is that the "treatment" is voting by mail (i.e. returning the ballot by mail not in-person). However, we did run the model retaining those mandatory mail voters who delivered their ballot to a polling place; results of that model indicate that this treatment effect is not significantly different from the treatment effect reported in Table 6 (Z=0.4898, p-value=0.6243).

[21] "Opportunity" means that we strove to include every possible case, however, some cases dropped out of the model due to missing values or corrupt data. This explains the difference in our starting sample of 126,309 versus our ending sample of 97,381. Arguably, excluded cases are random.

Republican, age in years), and election characteristics (competitiveness of campaign, money spent on campaign – in millions of dollars, number of communications).

Tables 5a through 5e show the number of voters that fell into each treatment-election combination. The numbers come from the actual panel data for each county before the logistic regression models were run. These results include voters with missing and inaccurate age data in the data sets; such values caused problems in the metafile merges so these voters were ultimately excluded from the model.[22]

Table 5a: Count Data for Alameda County

Precinct	Vote	June 2006	November 06	June 2008	November08
Mail Ballot	Yes	645	1474	788	3684
	No	1128	945	2109	165
Regular	Yes	11841	19397	9832	31851
	No	23776	15574	24661	1690

Table 5b: Count Data for Fresno County

Precinct	Vote	June 2006	November06	June 2008	November08
Mail Ballot	Yes	1033	2199	1305	6474
	No	353	3	0	2357
Regular	Yes	92	116	184	144
	No	9028	8188	9017	1531

Table 5c: Count Data for Marin County

Precinct	Vote	June 2006	November06	June 2008	November08
Mail Ballot	Yes	56	185	754	983
	No	219	350	1307	610
Regular	Yes	121	73	0	0
	No	2176	1964	511	979

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[22] Because these cases amounted to a small number ($< 5\%$) of the cases in the combined dataset and were randomly excluded, we do not sacrifice analytic capability.

Table 5d: Count Data for San Mateo County

Precinct	Vote	June 2006	November06	June 2008	November08
Mail Ballot	Yes	577	963	4375	11109
	No	797	478	7561	2659
Regular	Yes	2451	3551	217	83
	No	10238	9071	1910	212

Table 5e: Count Data for Santa Clara County

Precinct	Vote	June 2006	November06	June 2008	November08
Mail Ballot	Yes	519	1798	4778	20542
	No	4872	7870	29366	13237
Regular	Yes	7653	12482	1294	7263
	No	32884	23778	10490	4886

C. Voting By Mail and the Effect on Voter Turnout

Interpretation of Table 6 will focus mainly on Alameda, San Mateo, and Santa Clara counties. The low cell counts in Table 5b and Table 5c for Fresno and Marin counties may lead to some rather suspect interpretations of variable effects. The metric for interpreting these effects with the model used is the odds ratio; let π_1 be the probability that a mail ballot precinct voter actually votes and $1-\pi_1$ be the probability that they do not vote. Similarly, let π_2 be the probability that a non-mail ballot precinct voter actually votes and $1-\pi_2$ is the probability that they do not vote. The odds ratio of a mail ballot precinct voter voting versus a non-mail ballot precinct voter votes is $(\pi_1/1-\pi_1)/(\pi_2/1-\pi_2)$. Looking at Table 5c, the odds of a mail ballot precinct voter voting in June 2008 is

$$\frac{754/2061}{1307/2061} \div \frac{0/511}{511/511} = \infty \ ^{23}$$

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[23] This is an undefined value for the odds ratio.

times the odds of a regular precinct voter voting in June 2008. The odds ratio for Marin County in 2009 would have the same exact value. Even small "cell" counts may eventually lead to faulty interpretations over the entire analysis. Looking at Table 5b, the odds of mail ballot precinct voter in Fresno County voting in November 2006 is

$$\frac{2199/2202}{3/2202} \div \frac{116/8304}{8188/8304} = 51,739.69$$

times the odds of a regular precinct voter voting in November 2006. Because of these zero values in Tables 5b and 5c, Fresno and Marin counties are excluded from the logistic regression model.

Table 6: VBM and Time on Voter Turnout – Alameda, San Mateo, and Santa Clara

Parameter	Estimate	Std. Error	p-value
Intercept	-3.3607	0.0372	< 0.0001
Mail Ballot Precinct	-0.1416	0.0218	< 0.0001
November 2008	2.9280	0.0155	< 0.0001
June 2008	-0.2715	0.0114	< 0.0001
November 2006	1.1275	0.0105	< 0.0001
Time (yrs.) × Mail Ballot Precinct	0.0047	0.0112	0.6738
Alameda County	0.5820	0.0316	< 0.0001
Santa Clara County	-0.3718	0.0183	< 0.0001
Urban	-0.6947	0.0286	< 0.0001
Political Competitiveness	0.4929	0.0169	< 0.0001
Number of Communications	0.0386	0.0061	< 0.0001
Money Spent on Campaign (millions of dollars)	0.4300	0.0122	< 0.0001
Hispanic	-0.3189	0.0504	< 0.0001
Asian	-0.3614	0.0460	< 0.0001
Democrat	0.6769	0.0123	< 0.0001
Republican	0.6187	0.0153	< 0.0001
Age (yrs.)	0.0373	0.0003	< 0.0001
Sample Size: 97,381 mail voters			

The estimated odds of a mail ballot voter voting, given a fixed point of time (i.e. year equals any fixed value), election characteristics, and voter demographics, is exp(-0.1416)=0.8680 times the odds of a voter who is not required to vote by mail voting in an election. With 95%

confidence, the odds of a mail ballot voter voting, given a fixed point of time, election characteristics, and voter demographics, is exp(-0.1416±1.96×0.0218)=0.8317 to 0.9059 times the odds of a voter who is not required to vote by mail voting in an election; equating to a 9.41% to 16.8% decrease in the odds of a voting, or 13.2% (1-0.8680).

For each additional year and assuming fixed election characteristics and voter demographics, the estimated odds of a mail ballot voter voting is exp(0.0047)=1.005 times the odds of that voter voting the previous year. With 95% confidence, for each additional year the odds of a mail ballot voter voting is exp(0.0047±1.96×0.0112)=0.9829 to 1.0270 times the odds of a mail ballot voter voting in the previous year, assuming fixed election characteristics and voter demographics. Since the odds ratio of 1 falls in this confidence interval, the effect of voting by mail on voter turnout over time (for each additional year) is insignificant for a significance level of 0.05. Of greater interest is the estimated probability of this effect over time when taking into consideration a specific election's effect on voter turnout. It can be estimated that a mail ballot voter was 5.60% more likely to vote in the November 2006 election compared to the June 2006 election. This can be computed by taking the difference of:

exp(-3.3607-0.1416+1.1275+0.0047×5/12)/(1+ exp(-3.3607-0.1416+1.1275+0.0047×5/12))-exp(-3.3607-0.1416)/(1+exp(-3.3607-0.1416).

 Similarly, it can be estimated that a mail ballot voter was 6.26% less likely to vote in the June 2008 election versus the November 2006 election. It is also estimated that a mail ballot voter was 34% more likely to vote in the November 2008 election versus the June 2008 election. These estimated probabilities are mainly due to the magnitude and direction of the relationship between actual election and voting instead of the insignificant effect of voting by mail over time, in years.

Using the same structure of a confidence interval for the odds ratio as in the preceding paragraphs, a comparison can be made between Alameda and Santa Clara counties versus San Mateo County. With 95% confidence, given a mail ballot precinct, a given election, and fixed levels of election and demographic characteristics, the odds of a voter in Alameda County voting is 1.682 to 1.904 times the odds of a voter in San Mateo County voting, amounting to a 68.2% to 90.4% increase in the odds of voting. With the same level of confidence and parameters, the odds of a voter in Santa Clara County voting is 0.6652 to 0.7147 times the odds of a voter in San Mateo County voting, amounting to a 28.54% to 33.54% decrease in the odds of voting between the two counties. We suspect this is due in large part to the larger proportions of Hispanic and Asian populations in San Mateo county as compared to Santa Clara and Alameda counties (refer to Table 1). The impact of demographics are addressed in the next section.

D. Voting By Mail and the Effect on Voter Turnout – Demographics

To interpret the estimates in Table 6, one should assume a fixed level of treatment and election characteristics. In this case, all of the interpretations will be conditional on the voter being in a mail-ballot precinct and voting in the same election. These results are summarized in Table 7.

Table 7: Demographics – Given Mail Ballot Precinct & Fixed Election Characteristics

Variable	Odds Ratio		Difference in Odds	
	Estimate	95% CI	Estimate	95% CI
Urban	0.4992	(0.4720, 0.5280)	-50.0%	(-47.2%, -52.8%)
Asian	0.6967	(0.6366, 0.7624)	-30.3%	(-23.8%, -36.3%)
Hispanic	0.7269	(0.6586, 0.8024)	-27.3%	(-19.8%, -34.1%)
Democrat vs, Republican	1.0599	(1.0289, 1.0919)	5.99%	(2.89%, 9.19%)
Age (in years)	1.0380	(1.0374, 1.0386)	3.80%	(3.74%, 3.86%)

Assuming a mail ballot precinct with fixed election and demographic characteristics for all of the independent variables, we can say the estimated odds of an urban voter voting is 0.4992 times the odds of a non-urban voter voting. We are 95% confident, under these fixed conditions, that the odds of an urban voter voting is 0.4720 to 0.5280 times the odds of a rural voter voting. This amounts to a 47.2% to 52.8% decrease in the odds of voting for urban voters. Following the same procedure, for a Hispanic voter this amounts to a 19.8% to a 34.1% decrease in the odds of voting. Likewise, for an Asian voter this amounts to a 23.8% to 36.3% decrease in the odds of voting. Across party, we see the Democratic voter has a 2.89% to 9.19% increase in the odds of voting versus a Republican voting. By age the odds of voting increase 3.74% to 3.86% for each additional year a voter ages.

E. Competitiveness, Communication, and Money – Effect on Voting

Interpreting the estimates in Table 6 will be conditional on the treatment ("given a mail-ballot precinct") and fixed values of voter demographics. The political context results are summarized in Table 8.

Table 8: Campaign Characteristics – Given Mail Ballot Precinct & Fixed Demographics

Variable	Odds Ratio		Difference in Odds	
	Estimate	95% CI	Estimate	95% CI
Communication	1.0394	(1.0270, 1.0519)	3.94%	(2.70%, 5.19%)
Competitiveness	1.6371	(1.5837, 1.6922)	63.71%	(58.37%, 69.22%)
Money (in millions)	1.5373	(1.5009, 1.5745)	53.73%	(50.09%, 57.45%)

We first discuss the impact of official communications sent from the appropriate Registrar of Voters to the voter. These communications are always written, there are no phone calls. As counties differ in the content and timing of their mailings, we cannot summarize or generalize about these communications. (For more county-by-county information see Appendix A, Section 6.) Our measurement was solely based on counting the number that a voter received.

The estimated impact of one additional communication improves the odds of voting 1.0394 times over a voter who did not; this amounts to a 2.70% to 5.19% increase in the odds of voting for each additional communication received.

Next we discuss our findings in relation to our theory that communications had an impact on mandatory mail voters; we surmised that more mailings would increase turnout. There is no specifically "official" political communication literature that we could find to address this theory, though there is an extensive literature addressing the topic of "campaign" communication in politics. From the political campaign literature, scholars have estimated the effects of direct mail on voters, however, it is our contention that campaign mail is not the same as government mail. Therefore, our hypothesis is one with limited theoretical support. Nevertheless, the findings about mailing information to the studied group of voters can certainly be taken at face value in terms of its effectiveness in the situation we examined.

For a given county, election characteristics, and voter demographics, the estimated odds of a mail ballot precinct voter who received a communication voting is 0.9021 times the odds of a regular voter who received no communications voting. Under these fixed conditions, with 95% confidence, the odds of a mail ballot precinct voter who received a communication voting is 0.8640 to 0.9419 times the odds of a regular voter who received no communications voting. Looking at the general form for this estimated odds ratio, $\exp(-0.1416+0.0386x)$, where x represents the number of communications, the estimated odds is first greater than one when the number of communications sent out is four. In other words, for a given county, election characteristics, and voter demographics, the estimated odds of a mail ballot precinct voter who received four communications voting is 1.0129 times the odds of a regular voter who received no communications voting. Under these fixed conditions, with 95% confidence, the odds of a mail

ballot precinct voter who received four communications voting is 0.9736 to 1.0537 times the odds of a regular voter who received no communications voting. Since one falls inside of this confidence interval, both types of voters could be equally likely to vote. Five communications ensures that both limits to a 95% confidence interval will be greater than one. For a given county, election characteristics, and voter demographics, with 95% confidence the odds of a mail ballot precinct voter who received five communications voting is 1.0132 to 1.0938 times the odds of a regular voter who received no communications voting. In other words, there is a 1.32% to 9.38% increase in the odds of voting for a mail ballot precinct voter receiving five communications versus a regular voter who receives zero pieces of communication.

Lastly, we address political competition, measured in two variables: margin of victory and money spent on the campaign. With respect to the former, we find a 58.37% to 69.22% increase in the odds of voting for each additional point increase in the margin of victory in a State Assembly race. This result is somewhat counter-intuitive because the positive sign on the variable, as well as its increasing magnitude, indicates less competitive races. A small percentage difference between candidates would indicate a close, competitive race; likewise, .80 would indicate a landslide win – and a "1" would indicate no challenger in the race at all. We suspect the result obtained is likely due to the nature of California legislative districting which creates safe partisan seats where the most competitive races occur in the primaries among co-partisans not the general elections. In perusing the data files we note that many Assembly District races had no challengers during the primaries, and that these turned into partisan landslides in the general election.

With respect to money spent during the campaign, there is a 50.09% to 57.45% increase in the odds of voting for each additional million dollars spent on the race.

IV. Discussion

Our analysis of individual voter behavior across four elections provides some interesting revelations. First, perhaps not surprisingly, the type of election has the biggest positive impact on voter turnout. Though this is not new information, the magnitude of the impact on this particular set of voters is new. Mandatory mail voter turnout was estimated by be 34% higher in the November 2008 presidential election than in the June 2008 primary, and 6.26% higher in the November 2006 gubernatorial midterm election than in the June 2006 primary.

Second, election officials have a role to play in mitigating and possibly reversing the negative effect switching to mail-only systems has on voter turnout through repeated communication with voters. Incumbent to any successful election system changes would be efforts to increase communication with voters, specifically communication targeted at informing voters about vote by mail systems. Also, given the language diversity in California,[24] the requirements of Section 203 of the Voting Rights Act in four of the study counties,[25] and the strong negative impact of mandatory mail on Hispanic and Asian voters, it is likely that multi-lingual mailings would have an impact with these populations, though we did not test that in this study.

Third, we have a robust model where every variable is highly significant, though not all are in the hypothesized direction. Only the time interaction had no significant effect in our model. Initially, we hypothesized that after repeated experience with mandatory mail voters would manifest acceptance over time and turnout rates would go up among the same voters with

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[24] 43% of the Latino population in the state is limited-English proficient (LEP), and 39% of the Asian population is LEP.
[25] There are 25 counties in California subject to Section 203 that require election materials in a language other than English, of those four are study counties, including: Alameda (Chinese, Spanish), Fresno (Spanish), San Mateo (Chinese, Spanish), and Santa Clara (Spanish, Chinese, Filipino, Vietnamese).

repeated mail voting experience. That was not the case as voters forcibly exposed to mail balloting did not become converts with each succeeding election. Other counter-intuitive findings were the directional sign differences between Alameda and Santa Clara counties. It is not uncommon, however, in observational (non-controlled) studies to find that an empirical (statistical) model yields one or more parameter estimates that seem counter-intuitive. There could be any number of strange interactions or unobserved effects going on in the background that cause this to happen, as such, we recognize that further modeling analyses might very well be warranted.

While the series of California elections described in this study is far from a full implementation of mail ballot elections in the state, we present data and evidence regarding the likely impact of such an implementation at the individual level in the electorate. From a research perspective we have taken an important step in moving beyond the problems resulting from ecological inference of group results to individual voter behavior. Further research will need to examine the impact of vote by mail on other minority populations (e.g. African American, American Indian) that were not part of this study.

From a policy perspective this research offers lawmakers and election officials information important to both the content and method of any reform efforts. We offer a few modest recommendations:

- Official communication sent to voters that specifically address vote by mail procedures and deadlines are effective (i.e. these mailings are in addition to a voter guide and sample ballot).

- Recognize communication challenges in linguistically diverse settings:

    o Language-appropriate mailings (e.g. Spanish, Chinese) in Voting Rights Act, Section 203 jurisdictions.
        ▪ For Asian-Americans in California, postcards in English had modest effects (Wong 2005).

- For Latinos, community-based information campaigns conducted by coethnics and copartisans have been shown to be the most effective (Michelson 2005).

Appendix A

FIELDS APPENDED TO EACH COUNTY DATA FILE:

1. **Election**: each record was coded with an associated election code. Selected fields were suffixed with a code representing the specific election in order to uniquely identify the data. For example, the "Election" column is labeled as "elect66" to represent the election of June, 2006.

Election	Code Value	Suffix	Example
June, 2006	606	66	Elect66
November, 2006	1106	16	Elect16
June, 2008	608	68	Elect68
November, 2008	1108	18	Elect18

2. **Assembly District** was added as a political context control variable based on Assembly District listings and the voter's Zip Code. There are 80 Assembly Districts in California numbered 1 through 80, those values were kept as appropriate.

3. **Political Competition** is a political context control variable added for each election (variable names are appended with the election suffix noted above), expressed as the percentage difference between the two major party candidates or as "1.00" where there was no competition in the election (Statement of Vote).

4. **Money** is a political context control variable added for each election (variable names are appended with the election suffix noted above), representing the dollar amount of money spent in each Assembly race. The amounts are calculated by combining the funds raised by all candidates in both the primary and general elections of a given year. Source: www.followthemoney.org

5. **Urban** variable codes each voter with a "1" for urban or a "0" for rural based on the voter's address (specifically their city and zip code) and its corresponding location on Census density maps. According to the U.S. Census Bureau, a rural area has a population density less than 1000 people per square mile. Source: http://www.census.gov/geo/www/ua/ua_2k.html, retrieved January 6, 2009.

For example, voters living in El Granada and La Honda in San Mateo County are coded as rural, while voters in Burlingame, Daly City, and Redwood City were coded as urban. This coding is an approximation as it is based on visually matching two maps. In the example of San Mateo County, the census density map's low level of density represents 464-1488 persons per square mile and was considered as rural for this project.
Maps from U.S. Census San Mateo, source:
http://factfinder.census.gov/servlet/ThematicMapFramesetServlet?_bm=y&-geo_id=05000US06081&-tm_name=PEP_2006_EST_M00090&-ds_name=PEP_2006_EST&-

tree_id=806&-_lang=en#?284,263, retrieved January 6, 2009. And www.calvoter.org Assembly District maps retrieved January 6, 2009.

6. **Communications** lists the number of mailings sent out to voters by the election official in each county, including the basic information mailed to all voters, such as a Sample Ballot and the State Election guide. Each county also sent out letters and postcards reminding voters to return their mail ballots. Sample mailings were obtained for three of the five counties; Alameda and Fresno declined to provide these.

This data field contains the total number of communications between the county and its voters. All absentee voters receive at least 3 pieces of mail (sample ballot, state guide, and official ballot) and some counties also send more, especially for mandatory mail voters. A county-by-county summary follows:

Alameda:
-   Absentee and mandatory mail ballot get three (3) items (there are no additional mailings, no differences between Vote-by-Mail and Mail Ballot).
Fresno:
-   Absentee gets four (4) – including a "pre-notice" flyer with information on voting by mail.
-   Mandatory mail ballot voters get five (5) – including the same flyer that VBM gets as well as a letter listing their closest polling places.
Marin:
-   Absentee gets three (3) items only (nothing beyond what all voters receive)
-   Mandatory mail ballot voters get four (4) – including a letter listing their closest polling places
San Mateo:
-   Absentee gets three (3) items only (nothing beyond what all voters receive)
-   Mandatory mail ballot voters get five (5) – including a "pre-notice" flyer with information on voting by mail and a letter listing their 2 closest polling places.
Santa Clara:
-   Absentee gets four (4) – including a "pre-notice", a reminder of an upcoming election, information on when to expect the ballot, and how to return it.
-   Mandatory mail ballot voters get four (4) – including a letter listing their two (2) closest polling places.

7. **County** codes were added to identify the specific county each voter is associated with:

County	Code
Marin	1
San Mateo	2
Fresno	3
Santa Clara	4
Alameda	5

8. **Race/Ethnicity** Race data is not collected by California election officials. The cost of appending race data to the files was prohibitive for the size of the data files in this project, and exceeded project budget constraints. We appended ethnicity to the individual voter records using a process developed by the US Census for "estimating" data when the respondent does not supply data on a census form. The inference of ethnicity is accomplished through surname matching. Approximately 20 percent of the Spanish surnamed population in the United States is concentrated in a dozen names (Word and Perkins 1996), furthermore, about 95 percent of householders possessing the 12 most frequently occurring Spanish surnames identify as Hispanic. We use the top 12 names from the 1990 Census SOR[26] file. A similar method is used for matching Asian surnames in the voter records (Lauderdale and Kestenbaum 2000), and we coded the top 10 Chinese and top 10 Japanese surnames.

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[26] Spanish Origin.

Appendix B

Sample Voter Mailings

1. June 2006 Informational Letter from San Mateo County

2. March 2009 Mail Ballot Letter from Santa Clara County

Warren Slocum

Chief Elections Officer &
Assessor-County Clerk-Recorder

40 Tower Road
San Mateo, CA 94402-4098
phone 650.312.5222
fax 650.312.5348

* * * IMPORTANT   ELECTION   NOTICE * * *

Informational Only - No Response Necessary

Dear Mail Ballot Voter:

I am writing to let you know that we will be mailing you an absentee ballot for the upcoming June 6, 2006 Gubernatorial Primary Election; it will arrive the week of May 8th.

When a precinct has 250 registered voters or less, California law allows the Chief Elections Officer to provide all the voters in that precinct an absentee ballot to vote by mail instead of opening a polling place on Election Day. This is the case for your precinct; therefore, no polling place will be established to cast a ballot in person. (*California Elections Code 3005*)

If you have never voted by mail before, please know that your voted ballot must be returned to our office **by 8:00 PM, Tuesday, June 6, 2006 - Election Day.** We provide a postage paid envelope along with your absentee ballot just for your convenience.

Please make sure that you put your voted ballot in the mail in time for the Elections Office to receive it before Election Day. **Postmarks are not accepted.** You may also drop off your voted ballot during regular business hours between May 8 and June 6th at any of the following locations:

- The Elections Office, 40 Tower Road, San Mateo
- 555 County Center, 1st Floor, Redwood City
- Your local City Hall, during regular business hours

On Election Day – June 6:

- At Any Polling Place in San Mateo County

Universal Voting Center - May 22 through June 5

- Please check our web site at www.shapethefuture.org or call our office at (650) 312-5222 for a center nearby center

If you have questions or want the location of a nearby polling place to drop off your ballot, please do not hesitate to call our office at 650.312.5222 or visit our web site at www.shapethefuture.org.
We are happy to help in any way we can. *Thank you for your attention!*

Respectfully,

Narda M. Garcia
Elections Specialist
Voter Registration – Absentee Units

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County of Santa Clara

Registrar of Voters

1555 Berger Drive, Building 2
San Jose, California 95112
Mailing Address: P.O. Box 1147, San Jose, CA 95108
(408) 299-VOTE (8683) (866) 430-VOTE (8683) FAX (408) 998-7314
www.sccvote.org

January 2009   Pct

Subject: March 3, 2009 Special San Jose City Council District #7 Election

Dear Voter,

California Election Code 3005 states "on the 88th day before the election, if there are 250 or less persons registered to vote in any precinct, the elections official may furnish each voter with a vote by mail ballot along with a statement that there will be no polling place for the election. The elections official shall also notify each voter of the location of the two nearest polling places in the event the voter chooses to return the ballot on election day. The voter shall not be required to file an application for the vote by mail ballot and the ballot shall be sent as soon as the ballots are available."

For the March 3, 2009 Special Election, you have been designated as a Mail Ballot Precinct Voter and there will be no polling place in your precinct. However, if you prefer to vote in person, options are provided below. Your ballot for the election will be mailed the week of February 2, 2009.

In order for your ballot to be counted, it must be received at the Registrar of Voters' Office or returned to any polling place in Santa Clara County by **8:00 p.m. on Election Day, March 3, 2009**. Mailing your ballot early will be greatly appreciated.

Your Return Voted Ballot Options:

- You may mail your ballot. No postage is required to return the green Mail Ballot envelope.
- **You may deliver your voted ballot in your completed return envelope to any polling place on Election Day**. Two polling places near your home are provided at the end of this letter.
- You may deliver your voted ballot to the Registrar of Voters' Office "Drop Box" located near the flagpole at 1555 Berger Drive, San Jose, CA 95112 or to the City of San Jose, 200 East Santa Clara Street, San Jose, CA 95113.
- If you can't return your ballot, complete and sign the "authorized agent" section on the back of the return envelope. You can only authorize a family member, or any person living in the same household, to return your ballot.

If You Prefer to Vote in Person:

- Go to the ROV Office at Berger Drive and request a replacement ballot to vote at the ROV Office. Early voting is available starting on February 2, 2009 through Election Day.
- Vote provisionally on Election Day at any voting precinct.
- Go to any voting precinct on Election Day and ask to use one of the voting booths to vote on your Mail Ballot, placing it in the return envelope, signing the envelope, and giving it to one of the precinct officers.

If you have any questions about voting by mail, please call our Vote by Mail Division at (408) 299-VOTE [8683] or toll free at (866) 430-VOTE [8683].

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Nearby Polling Place	Polling Place Address	City

Please keep this letter for reference.

Sincerely,

Elaine Larson, Assistant Registrar of Voters

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