Appendix D2

Secretary of State's Office Summary

California Voter's Choice Act: Los Angeles County Evaluation of the November General 2020 Election

The Secretary of State's office commissioned research from the California Institute of Technology (Caltech) to provide an analysis of Los Angeles County's performance in the 2020 General Election. Caltech's report, *California Voter's Choice Act, Los Angeles County Evaluation of the November General 2020 Election,*[1] includes an overview of the Voter's Choice Act (VCA) and Los Angeles County's implementation of the VCA in the November 2020 General Election. Data sources for this research include the Secretary of State's VoteCal database, which collects voter registration and participation data, and county data. Additional data sources include academic survey data and other qualitative data.

Background

The statutory framework for the analysis in this report derives from Section 4005(g)(1)(A)(i)-(xii) of the California Elections Code.[2] This statute obligates the state to report on voter registration and the various methods voters can use to participate in an election. Los Angeles County accounted for more than half of all VCA county voters in the November 2020 General Election and was analyzed separately due to its size.

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[1] Alvarez, R.M., Cao, J., Ebanks, D., Li, Y. (2021, June 23). *California Voter's Choice Act: Los Angeles County November General 2020 Evaluation*. California Institute of Technology.

[2] Elections Code Section 4005(g)(1)(A)(i)-(xii) provides: (i) Voter turnout. (ii) Voter registration. (iii) Ballot rejection rates. (iv) Reasons for ballot rejection. (v) Provisional ballot use. (vi) Accessible vote by mail ballot use. (vii) The number of votes cast at each vote center. (viii) The number of ballots returned at ballot dropoff locations. (ix) The number of ballots returned by mail. (x) The number of persons who registered to vote at a vote center. (xi) Instances of voter fraud. (xii) Any other problems that became known to the county elections official or the Secretary of State during the election or canvass.

The November 2020 General Election occurred during the COVID-19 pandemic and brought unique challenges with outreach, administering the election, staffing, and meeting state and local health pandemic response requirements.

Findings

Caltech's research showed four major conclusions.[3] First, voters in Los Angeles County reported positive voting experiences regardless of method used and were confident that ballots were counted as intended. Second, connectivity issues from the 2020 Primary Election did not occur in the 2020 General Election, showing the county's successful resolution of those issues. Third, this election was Los Angeles County's first full implementation of the VCA and first presidential election where the county's new voting systems were used, and research found it to be successful. Finally, Caltech's research shows that Los Angeles County successfully handled the challenges brought on by the pandemic.

Additional findings include higher rates of voter registration among eligible voters in Los Angeles County than in the rest of the state, part of an upward trend beginning in 2008.[4] Voters in Los Angeles County conditionally registered to vote more than in other counties, and younger voters as well as those unaffiliated with the Democratic or Republican parties conditionally registered to vote most.[5]

While turnout among registered voters in Los Angeles County is lower than statewide participation rates, the turnout rate of eligible voters in Los Angeles County has been similar to the statewide participation rate in recent general elections.[6] Use of vote by mail (VBM) ballots continues to increase but has not surpassed statewide use, and most VBM ballots were dropped off within the week prior to the General Election at vote centers, drop boxes and other locations.[7] Caltech's research found that Democrats and Republicans had the highest turnout rates and a positive correlation between age and voter turnout,[8] consistent with the Secretary of State's analysis of VoteCal data.

With the resolution of technology issues in the Primary Election, fewer provisional ballots were cast in the November 2020 General Election.[9] Those who voted

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[3] California Voter's Choice Act: Los Angeles County November General 2020 Evaluation (P. 7)
[4] California Voter's Choice Act: Los Angeles County November General 2020 Evaluation (P. 28)
[5] California Voter's Choice Act: Los Angeles County November General 2020 Evaluation (P. 29)
[6] California Voter's Choice Act: Los Angeles County November General 2020 Evaluation (P. 39)
[7] *Id.*
[8] *Id.*
[9] California Voter's Choice Act: Los Angeles County November General 2020 Evaluation (P. 45)

provisionally were younger and less likely to be affiliated with the Democratic or Republican parties.[10]

Approximately three percent of provisional ballots and one percent of VBM ballots were rejected in the General Election in Los Angeles County.[11] The most common reasons for ballot rejections were issues with ballot completeness or legibility and non-matching signatures; an extended ballot receipt deadline lowered previously high ballot rejection rates due to ballots being received late.[12] VBM ballot rejections were more prominent with younger voters, and provisional ballot rejections were more common among older voters in Los Angeles County; voters who were not registered as Democrats or Republicans had higher rates of ballot rejection across ballot types.[13]

The Los Angeles County Elections Office engaged voters through a multilingual and multi-cultural media campaign before and during the election using digital, television and radio, print and other strategies to inform voters about registration and voting options.[14]

Research showed three allegations of voter fraud that were still under investigation as of the date of the report.[15] Though the county experienced challenges related to the pandemic, it did not result in problems during the tally and canvass.[16]

Recommendation

Caltech did not provide any recommendations in this report.

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[10] *Id.*
[11] California Voter's Choice Act: Los Angeles County November General 2020 Evaluation (P. 54)
[12] *Id.*
[13] *Id.*
[14] California Voter's Choice Act: Los Angeles County November General 2020 Evaluation (P. 55)
[15] California Voter's Choice Act: Los Angeles County November General 2020 Evaluation (P. 62)
[16] California Voter's Choice Act: Los Angeles County November General 2020 Evaluation (P. 68)

California Voter's Choice Act: Los Angeles County November General 2020 Evaluation

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California Institute of Technology
Sponsored by the California Secretary of State

June 23, 2021

Preface

This report was produced by researchers at the California Institute of Technology (Caltech), for the California Secretary of State's Office. The Caltech research team is part of the Monitoring the Election project at Caltech and the Caltech/MIT Voting Technology Project.

About the authors

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About the Monitoring the Election Project

The Monitoring the Election project was founded in 2018, with financial support from the John Randolph Haynes and Dora Haynes Foundation. The initial phase of the project in 2018 was a pilot study that implemented various election auditing, forensic, and monitoring methodologies, focusing on Orange County (CA). The project expanded scope in

2020, covering Southern California (with a focus on Orange and Los Angeles Counties), as well as providing forensic election integrity analysis statewide. Details about the project can be found at `https://monitoringtheelection.us`.

About the Caltech/MIT Voting Technology Project

The Caltech/MIT Voting Technology Project was established immediately following the 2000 presidential election. The presidents of Caltech (Dr. David Baltimore) and MIT (Dr. Charles Vest) assembled a team of computer scientists, economists, human factors experts, mechanical engineers, political scientists, and operations researchers to undertake the research necessary to solve the issues seen in the 2000 Presidential election. In the years since the project's founding, the VTP has continued to develop science-based solutions for election administration and technology issues, in the United States and abroad. The VTP is currently directed by Dr. R. Michael Alvarez (Caltech) and Dr. Charles Stewart III (MIT). See `https://vote.caltech.edu`.

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1 Executive Summary

This report evaluates the implementation of the California Voter's Choice Act (VCA) in Los Angeles County during the 2020 November general election. This study parallels a similar evaluation study of the VCA implementation in Los Angeles County, during the March 2020 primary election.

We provide four overall conclusions regarding our evaluation of VCA implementation in Los Angeles County in the November 2020 general election.

1. Los Angeles County voters are very confident that their ballots were counted as intended, and very confident that ballots countywide were counted as intended. They also report very positive experiences, whether they voted in-person or by mail.

2. The issues that arose in the 2020 March primary, where there were connectivity issues regarding the electronic poll pads in some vote centers, did not arise in the November general election. The steps that Los Angeles County took to eliminate those issues were successful, according to the data we use in this study.

3. The 2020 November general election was the first time that the VCA was implemented fully in Los Angeles County, and it was the first presidential election where Los Angeles County's new voting systems were deployed. Our research indicates that the VCA implementation with the new voting system was successful.

4. The 2020 November general election was held under very challenging conditions arising from the COVID-19 pandemic. The pandemic required that Los Angeles County undertake innovative steps to administer the election, with staffing reductions, and a need to meet state and county pandemic response requirements. It also required that Los Angeles County develop and implement novel methods of voter outreach, which we discuss in this report. Our research reported here indicates that Los Angeles County successfully met the challenges introduced by the COVID-19 pandemic.

2 Overview of the November 2020 General Election and Research Objectives

In this section, we begin with a summary of the Voter's Choice Act (VCA), and of Los Angeles County's Voting Solutions for All People (VSAP) project. This information was contained in our previous report on the VCA implementation in the March 2020 primary election in Los Angeles County, so readers who are familiar with that report, the VCA, or the VSAP project, may prefer to skip the next two sections.

2.1 Summary of the Voter's Choice Act and LACRR/CC's VSAP Project

2.1.1 The California Voter's Choice Act

The California *Voter's Choice Act* (VCA) was enacted in 2016 and was designed to allow California counties to implement an innovative new approach to conducting elections, providing California voters with new and convenient opportunities to register, to receive their ballot, and to return or cast their votes. The main components of the VCA were that all registered voters would get a ballot in the mail (in most VCA counties); that voters could return their ballot by mail, by using a drop box in the county, or by visiting a vote center to return their mail ballot; voters could also have the opportunity to visit any vote center in their county of residence, and to vote there in person.

In the 2018 election cycle, five California counties implemented the VCA (Madera, Napa, Nevada, Sacramento, and San Mateo). Ten additional counties implemented the VCA in the 2020 election cycle for their statewide primary and general elections (Amador, Butte, Calaveras, El Dorado, Fresno, Los Angeles, Mariposa, Orange, Santa Clara, and Tuolumne). All of these counties, except for Los Angeles County, are required under the VCA to:

1. Send a vote-by-mail ballot to every registered voter in the county.

2. Provide at least two ballot dropoff locations in the jurisdiction holding elections, or provide a fixed number of ballot dropoff locations so that there is at least one ballot dropoff location for every 15,000 registered voters in the jurisdiction holding elections.

3. Starting ten days before, and running through the fourth day before Election Day, provide at least one vote center for every 50,000 registered voters in the jurisdiction holding elections, open for at least eight hours per day.

4. Provide a vote center for every 10,000 registered voters in the jurisdiction holding the election that is open 7am to 8pm on Election Day, and which would be open for a least 8 hours per day on the three days before Election Day.

However, Section 4007 of the state's election code allowed Los Angeles County to conduct VCA-style elections, starting in January 2020, in a somewhat different manner than how other counties implemented the VCA. Specifically for the March 2020 primary election:

1. Los Angeles County was not required to send to every registered voter a vote-by-mail ballot. Rather, Los Angeles County was required to send vote-by-mail ballots to (in addition to those who requested them for the March 2020 primary election):

   - Every registered permanent vote-by-mail voter.
   - Every voter who resides in a precinct with fewer than 500 registered voters (those precincts are designated as vote-by-mail precincts).
   - Voters who live in state legislative or federal congressional districts that span Los Angeles and other neighboring VCA counties.
   - Voters from precincts that are more than 30 minutes' drive from a vote center, or who live in a precinct that is more than 15 miles from the nearest primary election vote center.

2. Los Angeles County was to provide at least two ballot drop-off locations in the jurisdiction holding an election, or provide at least one ballot drop-off location for every 15,000 registered permanent vote-by-mail voters in the jurisdiction holding an election.

3. Provide at least one vote center for every 30,000 registered voters within the jurisdiction holding an election, starting ten days before Election Day through the fourth day before Election Day, open for at least eight hours per day.

4. Provide on Election Day, and the three days prior to Election Day, at least one vote center for every 7,500 registered voters. The vote centers were to be open for at least eight hours per day before Election Day, and from 7am to 8pm on Election Day.

5. Los Angeles County was to conduct and release an analysis of their vote center plans, determine any service gaps, and release this report to the public.

The plan for the 2020 election cycle was for LACRR/CC to continue this transition toward implementation of the VCA in the November 2020 general election. Section 4007 of the state election code allowed Los Angeles County to continue to conduct elections in these ways for four years following the first vote center election under this section, after which Los Angeles County would then conduct all-mail ballot elections under Section

4005. As we discuss below, due to a variety of factors, LACRR/CC shifted to the Section 4005 model for the November 2020 general election; these factors included the recommendations implemented after the 2020 primary election by LACRR/CC, as well as the COVID-19 pandemic.

2.1.2 Voting Solutions for All People

At the same time as the VCA was implemented in Los Angeles County, another important innovation was launched by Los Angeles County Registrar-Recorder/County Clerk (LACRR/CC). The March 2020 primary election was the first major statewide election using LACRR/CC's "Voting Solutions for All People" (VSAP) voting technologies and procedures, and the 2020 November general election was the first time that VSAP technologies and procedures would be used in a presidential election. The VSAP initiative began in 2009, and involved years of work with collaborations between LACRR/CC, academic research groups (including the Caltech/MIT Voting Technology Project), community partners, and stakeholders. It also involved many avenues for community input and participation in the development of Los Angeles County's new and unique approach for vote center operations.

The VSAP initiative was an ambitious re-imagining of a voting experience that would fit the unique needs of Los Angeles County voters. Los Angeles County is one of the largest election jurisdictions in the world, with an estimated 6.1 million eligible voters, and as of October 2020, 5.8 million registered voters.[1] Los Angeles County is very large geographically, ranging from desert and coastal mountain ranges to the Pacific Ocean, covering 4,105 square miles. LA County's population is racially and ethnically diverse, with balloting materials provided in a number of different languages (including English).

The VSAP was designed to handle the complexity of Los Angeles County election administration, using a vote center approach. With the VSAP process implemented within the California VCA framework, LA County voters would many different options for the voting in the November 2020 general election, as planned prior to the pandemic:

- Registered voters would receive a ballot in the mail and could return their voted ballot by mail, or by taking it to a vote center, a ballot drop box, or other ballot drop-off locations.

- Those who preferred to vote in person could visit any vote center in Los Angeles

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[1]The statistics in this section are from the Los Angeles County Registrar-Recorder/County Clerk's Media Kit for the March 3, 2020 Presidential Primary Election, available at https://www.lavote.net/docs/rrcc/media/Media-Kit_03032020.pdf and the California Secretary of State https://elections.cdn.sos.ca.gov/sov/2020-general/sov/02-voter-reg-stats-by-county.pdf.

County, during the early voting period or on Election Day (and a further description of the VSAP vote center approach is below).

- Voters with special needs could use Los Angeles County's remote vote-by-mail process, allowing them to obtain and mark their ballot in private on their own accessible electronic devices.

Specifically, those who decided to mark and cast their ballot in person could go to any open vote center in the county, which they could locate by going to LAVote.net or by using the informational guide mailed to every household in Los Angeles County. Once in the vote center, registered voters would check in with a vote center staff member, who would use an electronic pollbook to confirm the voter's registration status in the county. The electronic pollbooks were connected to the voter registration database, allowing vote center staff to confirm the voter's registration status in realtime.

Registered voters who were confirmed as eligible to vote in Los Angeles County (and who had not been recorded as returning a vote-by-mail ballot if one was sent to them) were then given a printed blank ballot, and told to use any of the available ballot marking devices (BMDs) in the vote center. The ballot marking devices were designed to be easily accessible for all voters, and were programmed to provide all available ballot groups for all of the languages available to voters in the county. The voter inserted their blank ballot into the BMD's scanner, then used the touchscreen or accessible devices to select the language they wanted to use, and then could navigate and mark their ballot. When complete, the voter could review their choices on their paper ballot which had been marked with their choices. Once the voter had verified that their marked ballot was correct, they returned it by placing it in the BMD scanner where it was deposited into a secured ballot box attached to the rear of the BMD. Voters who preferred to use the BMD's audio functionality could do so in a number of languages.

LA County voters also had the option to use the Interactive Sample Ballot (ISB), which allowed them to use their own electronic device to make their selections. When the voter had marked their choices using the ISB, the application produced a QR code (called the Poll Pass). After checking in at a vote center, the voter could then scan their Poll Pass at the BMD, which transferred their selections from the ISB to the BMD. The voter could then review their choices on the printed marked ballot, and after verifying their choices, cast the ballot by reinserting it into the BMD scanner. The ISB was designed to allow voters a fast and convenient way to use the BMD quickly.

A final aspect of the VSAP/VCA process in LA County's November 2020 general election needs mention. Individuals at vote centers who could not be confirmed as registered voters in Los Angeles County had various options, depending on the reason that they could not be confirmed. In cases where the electronic pollbook indicated no record for the individual, if otherwise eligible to vote in Los Angeles County, they could condition-

ally register to vote and cast a ballot at that time. In other situations, for example, if the voter stated they are registered but are not found in the database or if the electronic pollbook's ability to access the voter database was unavailable, the individual could cast a provisional ballot in the vote center.

2.2   Findings from the 2020 March Primary Study

The report that we produced regarding LACRR/CC's implementation of the VCA in the March 2020 primary election was divided into eight sections. A summary of the conclusions from that report is below.

1. Voter registration:

   - Voter registration rates for recent primary elections have been increasing since 2008, and the rate of registration among eligible voters is greater in Los Angeles County than it is statewide.

   - Registration activity increased in Los Angeles County in the days immediately prior to the deadline to register for the primary election.

   - Conditional voter registration was more widespread in Los Angeles County than in other counties in California.

   - Those who registered conditionally for the March 2020 primary election were typically younger and less likely to register with the two major parties.

2. Voter participation:

   - Voter participation in Los Angeles County, among eligible voters, has been increasing in recent primary elections; voter turnout among registered voters has been increasing since the 2014 primary election.

   - Voter participation in Los Angeles County for both eligible and registered voters is lower than the statewide participation rates in recent statewide primary elections.

   - There has been an increasing use of voting by mail in Los Angeles County in primary elections, though the rate of voting by mail in Los Angeles County is lower than that statewide.

   - Most vote-by-mail ballots were returned by mail in the 2020 primary election, and according to the data we have, most of those arrived immediately before the March 2020 primary.

   - Voter participation is correlated with age, which is consistent with other studies of voter participation. We also see that in the March 2020 primary, Los Angeles

County voters registered as Democrats or Republicans had higher turnout rates than voters registered with other parties or as No Party Preference.

3. Provisional ballot use:

- Provisional voting decreased in the March 2020 primary, which is attributable in part to the VCA.

- However, many provisional ballots cast in the March 2020 primary in Los Angeles County arose because of technical issues in the voting centers, as electronic poll pads had trouble synchronizing data with the central voter database; this implies there are still ways to reduce the number of provisional voters in future elections by improving the synchronization issues between the electronic poll pads and the central voter registration database.

- Finally, provisional voters tended to be younger, and less likely to be registered Republican or Democratic voters.

4. Ballot rejections:

- In the 2018 and 2020 primary elections, Los Angeles had significantly lower ballot rejection rates than the 2016 primary election.

- Approximately 96% of all provisional votes and 98% of all vote-by-mail (VBM) ballots in Los Angeles County were accepted in the 2020 primary election.

- In the March 2020 primary, both provisional and VBM ballot rejection rates were slightly lower than they were in the 2018 primary election.

- For provisional ballots, the most common reasons for rejection were that the voter already voted or the ballot was missing from the envelope.

- For VBM ballots, the primary rejection reason was that the ballot was not received on time, or it did not have a signature.

- Younger voters in Los Angeles County had higher rates of VBM ballot rejection than older voters, and voters who were not registered as Democrats or Republicans, or who were registered with No Party Preference, had higher rates of VBM ballot rejection than Democratic or Republican registered voters.

- Provisional ballot rejection rates were higher for older voters than for younger voters in Los Angeles County, and provisional ballot rejections rates were higher for voters registered with No Party Preference or who were not Democratic or Republican registered voters.

5. LACRR/CC outreach:

- LACRR/CC engaged in a substantial and multifaceted public outreach effort prior to and during the March 2020 primary election. LACRR/CC used a wide variety of approaches for these outreach efforts, including the use of broadcast media, newspapers, radio, social media, direct mail, and community events.

- One component of this outreach effort was to engage the community in the VSAP process, and to inform the community about the new VSAP technologies and procedures.
- A second component of this outreach effort was specific to the March primary itself, aimed at informing the community about their participation options, and providing various other types of information about the primary election.

6. Allegations of voter fraud:

- We have been unable to find any public allegations of election or voter fraud in the March 2020 primary election in Los Angeles County.
- According to information we have received from the Elections Fraud Investigations Unit in the Secretary of State's Office, there are currently two allegations of voter fraud under investigation regarding the March 2020 primary election in Los Angeles County. Due to the confidential nature of the investigations, however, we have no other information to report about these two allegations.
- Finally, we note that at the point we write this report, the relative absence of allegations of voter or election fraud is an indication that it is unlikely that significant election or voter fraud occurred in this election.

7. Problems during the primary and canvass:

- Polling conducted on Election Day or after the primary election indicated that most voters reported positive experiences when they tried to vote.
- There were issues in vote centers, in particular with the electronic pollbooks that led to the use of provisional ballots and lines (in particular on Election Day, when turnout in vote centers increased relative to in the early voting period).
- The vote center lines and wait times occurred because of issues that the electronic pollbooks had synchronizing with the voter database during the March primary early and Election Day in-person voting.
- There were also two other issues that arose during the primary election, with some voters not receiving their vote-by-mail ballots as scheduled, and with some voters receiving an incorrect ballot style.
- There were no problems reported during the canvass that our research group has surfaced.

The issues that arose during the 2020 March primary election in Los Angeles County were highlighted in a LACRR/CC report (LACRR/CC, 2020) as well as in our research group's independent study (Alvarez et al., 2020). The recommendations that were made by LACRR/CC in their report were implemented for the November general election, in particular the development of a vote center wait times application, expansion of the drop box program, and various operational changes to improve the staffing and administration of the vote centers.

2.3   The COVID-19 Pandemic

In early March 2020, the COVID-19 pandemic did not generally alter the administration of the primary election. But as cases in the state and nation began to climb in March, election officials in Los Angeles County and throughout the state moved quickly to develop new plans for election administration in 2020. One of the first changes came on March 20, 2020, when California Governor Gavin Newsom signed an Executive Order that all registered voters in Congressional District 25 and Senate District 28 receive a ballot by mail for the May 12, 2020 Special General Elections. Congressional District 25 encompasses both Los Angeles and Ventura Counties.

As the pandemic worsened, concerns grew about the administration of subsequent special and local elections in Los Angeles County, as well as regarding the November general election. After election officials throughout the state expressed concerns about how they could provide in-person voting services assuming the pandemic continued or worsened (in both VCA and non-VCA counties alike), Governor Newsom signed Executive Orders (N-64-20 and N-67-20) regarding the administration of the General Election under pandemic conditions. Under these Executive Orders, every active registered voter in the state would receive their general election ballot by mail (domestic registered voters would receive theirs 29 days prior to the election, while military and overseas voters would receive theirs 45 days before the election). Also, while VCA counties would continue to operate in-person voting with vote centers, they could have more limited availability of vote centers — one per every 10,000 registered voters, opening the Saturday before the election and staying open through Election Day. Other changes included the expansion of ballot tracking tools for by-mail ballots, and legislation that allowed counties to process ballots postmarked on or before Election Day, but which were received within two days of the end of certification of results. Finally, under these orders, counties could begin processing mail ballots 29 days before the election. These provisions were later contained in AB 850, which was passed and signed into law in June 2020.

On May 14, 2020, the California Secretary of State announced that it was providing to counties the services of three consultants with expertise in election administration, voting-by-mail, and election auditing (Amber McReynolds, Jennifer Morrell, and Noah Praetz).[2] The consultant team would work through January 15, 2021. Specifically, with respect to Los Angeles County, "The consultant team will also assist the Los Angeles County Registrar of Voters office with the implementation of recommendations identified by an independent third party review of administration of the March 3, 2020 election. The team will focus on vote center implementation, resource planning and management, poll worker training, and contingency planning."

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[2]See https://www.sos.ca.gov/administration/news-releases-and-advisories/2020-news-releases-and-advisories/ap20046-sos-office-bringing-expert-consultants-help-vote-mail-expansion-general-election.

In addition to the May 12, 2020 Special General Election, LACRR/CC conducted a number of other elections during the spring and summer of 2020: the April 14, 2020 Charter City Elections, Special Elections on June 2, 2020, and a Special Municipal Election in the City of Industry on July 21, 2020. Each of these elections was conducted under situations similar to those that LACRR/CC would experience in November 2020 (in particular using universal voting by mail), thus allowing LACRR/CC to gain experience with the types of procedures and policies that would be in effect for the November general election.

The COVID-19 pandemic also led LACRR/CC to realign planned programs as well as to develop new programs for the November 2020 general election. Significant new or realigned programs include:

- The "Make a Plan to Vote" outreach program (discussed in more detail in Section 7 of this report).

- A "Safe Elections Plan" which adjusted or realigned existing in-person administrative practices for pandemic conditions, for example, the provision of personal protective equipment for election staff and vote centers, adjustments to vote center layout, the development of new signage, and other changes.

- The use of "Mega Sites" for vote centers, which involved the development of collaborations with large sporting and entertainment venues in the county for voting center operations (for example, Dodger Stadium, Staples Center, and the Pantages Theatre).

- A "Disaster Assistance Worker Program" which assigned county employees to serve as election workers during the general election, in particular in vote centers.

- The development of mobile voting centers, which focused on providing vote center services in temporary locations for first responders and health care workers, as well as in geographically isolated and difficult-to-reach areas of LA County.

- The widespread use of live streaming of election operations, to provide important transparency during all aspects of the election administration process for the public, during the canvass and tally components of the November 2020 general election.

2.4   Data Sources

For this report, we utilized data from a number of sources: data received from the Secretary of State's office; data from LACRR/CC; academic survey data that our research group collected; and other data or information. We provide the data sources for each figure at the bottom of the figure as well as in the appendices.

We thank the California Secretary of State's office and LACRR/CC for sharing these data with us.

Data from California Secretary of State's office

The datasets from California Secretary of State's office that we used in this report include Voter Registration File, Voter Participation History File, Vote-by-Mail Ballot File, and Provisional Ballot File for the November 2018 general election and the November 2020 general election from VoteCal. In addition, we used data published on the California Secretary of State's website, such as the Voter Participation Statistics by County and Registration by US Congressional District.

Data from LACRR/CC

For this report, we use data from LACRR/CC's ePulse application, which provides detailed information on many aspects of the county's election administration processes. Moreover, we used information regarding the number of provisional and vote-by-mail ballot rejections and the reasons for these rejections in the November 2018 general election and the November 2020 general election from LACRR/CC. We also obtained from LACRR/CC their voter outreach efforts in the November 2020 general election. Finally, we used data published on the LACRR/CC website, such as the Statement of Votes Cast for the November 2020 general election.

Academic Survey Data

The nationwide voter survey was designed by the Caltech election integrity team and implemented by poll service provider YouGov. [3] The survey was fielded between November 4 and November 10, 2020, and received complete responses from 5,051 voters. Of the 5,051 respondents, 509 reside in Los Angeles County, 2,532 in California, and 2,519 in the other states. The demographic distribution of the Los Angeles, California, and U.S. respondents are shown in the table below. In the analyses, the survey data were weighted according to the demographic distributions in the corresponding voter registration data sets to represent the voter population.

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[3]https://today.yougov.com/

Demographic Distribution of Survey Respondents

		LA	CA	US
Race	Asian	13.56%	12.32%	6.89%
	Black	12.38%	6.71%	8.51%
	Hispanic	26.92%	18.05%	12.37%
	Other	3.73%	5.65%	4.67%
	White	43.42%	57.27%	67.55%
Gender	Female	55.21%	54.54%	54.37%
	Male	44.79%	45.46%	45.63%
Age	Under 30	15.13%	12.40%	13.80%
	30-44	22.70%	22.20%	21.72%
	45-64	36.54%	39.89%	39.63%
	65 and older	20.63%	25.51%	24.85%

2.5 Research Methodology

We provide details in this section regarding our methodology for the estimation of demographic quantities in the administrative data we use in this study.

One important issue to note regards the coverage of demographic information about registered voters in California's election administration data. During the voter registration process, applicants can voluntarily provide gender and racial and ethnic information. Applicants are not required to provide that information, and as a result, the available gender and race and ethnicity information in the state's voter registration database is incomplete and not validated. We use an estimation procedure to estimate gender and race/ethnicity for registered voters in Los Angeles County who do not report these quantities. These algorithms use the information available in each registered voter's record to estimate their gender and their race and ethnicity. We advise that readers interpret and use this information carefully, and we encourage additional research to collect and validate racial and ethnic identifications for future election administration evaluation studies.

For the 2020 general election, for the purposes of this study, among active registered voters, we found that 60.45% of the records from Los Angeles County provide a self-reported gender identity. The rate of self-reported of racial or ethnic identity is much lower, with only 24.02% of the records reporting racial or ethnic identity.

The lack of complete data for these demographic dimensions presents an analytical problem for researchers. As those who do not self-report a gender identity or a racial/ethnic identity may differ systematically relative to those who self-report, if we used only the self-reported information in our analysis (and dropped from the analysis those who did not self-report) we would run the risk of introducing bias into our estimates, which might

produce misleading inferences for policymakers and readers of this report. Rather than deleting records that do not contain important information, researchers typically resort to some form of data imputation to estimate the missing information and then use that in their study. For an excellent summary of the problems that missing data produce for analytic research, as well as how data imputation can help alleviate these problems, see King et al. (2001).

Thus, in order to alleviate these potential biases, we utilize two different data imputation algorithms, one for the estimation of gender identity for records that do not self-report a gender identity, the second an algorithm for the estimation of racial and ethnic identities for records that do not self-report a racial or ethnic identity.

To determine the gender of a voter in the administrative records, we use (in descending order of priority) (1) voter provided gender, (2) voter provided title (Mr., Mrs., Miss., Ms.), (3) inferred probability from the first name or middle name using R package `gender` (Mullen, Blevins and Schmidt, 2015). The package utilizes historical datasets (1932-2012) from the U.S. Social Security Administration for inference. For our analysis, we code a voter's gender if we know from the voter-provided gender or infer with probability at least 90%. To determine the race/ethnicity of a voter, we use (1) voter provided race/ethnicity, or (2) inferred probability from the last name using R package `wru` (Khanna, Imai and Hubert, 2017). The package utilizes 2020 U.S. Census databases for inference. For our analysis, we code a voter's race/ethnicity if we know from the voter-provided race or infer so with probability at least 80%.

Using these algorithms, we increase the proportion of active registered voter records with gender identification to 96.27%, and the proportion of active registered voter records with racial and ethnic identification to 81.25%. This allows the inclusion in our analyses of a much larger and more representative population of active Los Angeles County registered voters.

We provide further details of these methodologies at the end of this report.

3 Voter Registration

3.1 Introduction

In this section, we examine data on voter registration in Los Angeles County. We examine voter registration in Los Angeles County in previous general elections (compared to state registration rates), and then present a more detailed analysis of voter registration at the close of registration time for the general election. We also examine conditional voter registration in the November 2020 general election, and analyze voter registration by available voter demographics.

3.2 Voter Registration in Recent Past General Elections

Rate of Registration among Eligible Voters

General Elections from 2008 to 2020
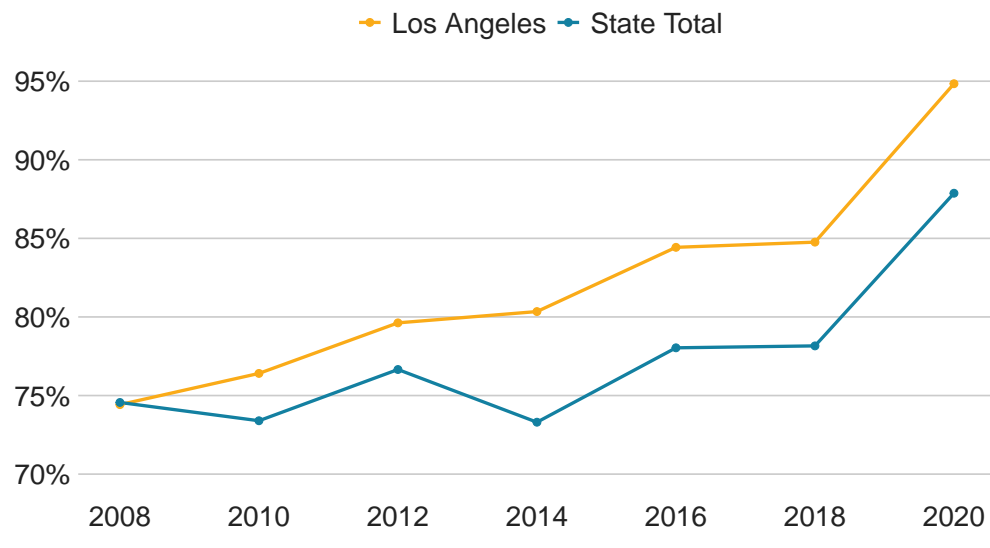
Source: Voter Participation Statistics by County, CA Secretary of State

Figure 3.1: Voter Registration in Recent Past General Elections

The percent of eligible voters registered for general elections has steadily increased over the past decade for Los Angeles County (LAC). In 2008, 74% of eligible voters in LAC were registered to vote for the general election. By contrast, 95% of eligible voters in LAC were registered to vote for the 2020 general election. Statewide, the percent of eligible voters registered for general elections had stayed between 73% and 78% for five previous general elections before there was a large increase to 88% for the 2020 general election.

Overall, 5.8 million LA voters and 22 million voters statewide were registered to vote in the general election in 2020. The rates of registration among eligible voters are provided in Figure 3.1. A table containing more detailed data is provided in the appendix, in Table A1.

It's important to note that Figure 3.1 shows that the rate of registration among eligible voters in Los Angeles County has steadily diverged from the statewide rate of registration since 2008. In 2008, the registration rate among eligible voters in LAC was slightly lower than statewide. However, LAC has since taken over, and the difference between LAC and the statewide registration rates has grown to approximately 7% in 2020. The reasons for this divergence are beyond the scope of this report, but should be studied in future research. Hypotheses for the increase in the registration rate in Los Angeles County include outreach efforts by LACRR/CC (in particular their VSAP outreach efforts), the voter registration activities of other groups, and more generally, voter interest in the 2020 primary and general elections.

3.3 Voter Registration on or Before the Deadline to Register

Daily Rate of New or Updated Registrations
Between August 2020 and October 2020
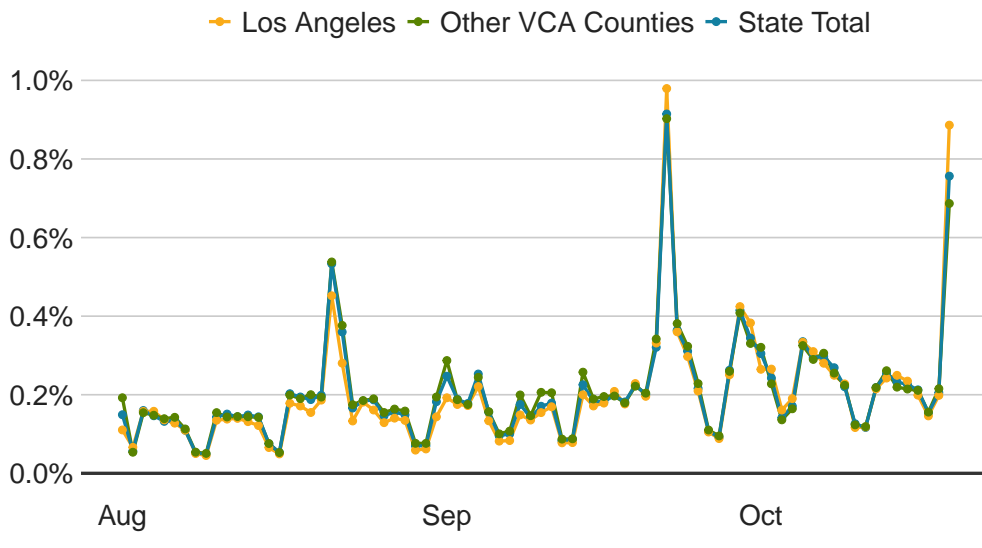
Source: Voter Registration File and and Voter Participation History File, VoteCal

Figure 3.2: Proportion of New or Updated Registrations, 2020 General Election

The deadline to register to vote in the November 2020 general election in California was October 19, 2020. Voters need to register before this date to cast regular ballots, or else

they would have to cast provisional ballots with conditional voter registration. Figure 3.2 provides the distribution of new or updated registrations since August 2020, through the deadline to register, for voters who participated in the November 2020 general election. Here we provide the data for Los Angeles County, the other VCA counties, and statewide. Appendix Table A2 provides detailed information on new or updated registrations before the November 2020 general election, aggregated to weeks, ranging from August 11, 2020, through October 19, 2020.

We see three spikes in new or updated registrations on September 22, 2020, October 19, 2020, and August 21, 2020. Among these dates, September 22, 2020, was the National Voter Registration Day, and October 19, 2020, was the deadline to register before the November 2020 general election. In general, we see that a relatively low rate of new or updated registrations in August 2020. In mid-August, for example, there were 35,286 new or updated registrations during the week of August 11-17, 2020, in LAC. However, as the November 2020 general election registration deadline approached, the rate of new or updated registrations began to increase in LAC in October 2020. In the week of September 29 to October 5, 2020, there were 86,579 new or updated registered voters in LAC (344,612 statewide). Finally, we see in Figure 3.2 a strong correlation between the distributions of registration dates in LAC, the other VCA counties, and statewide.

3.4   Conditional Voter Registration in the November 2020 General Election

Eligible citizens in California can also register to vote conditionally. In Figure 3.3, we provide an examination of conditional voter registration in the 2018 and 2020 general elections, comparing LAC, other VCA counties, and statewide conditional voter registration. Here we provide the percent of conditionally registered voters, of registered voters who participated in the November 2020 general election. Detailed information is in the appendix, in Table A3. In the 2018 general election, conditional registration was not widely used, as we see only 4,044 conditional registrants in LAC and 55,816 statewide.

However, in the 2020 general election, conditional registration was more widely used. In LAC, we see that conditional registrants comprised 1.8% of all voters in the general election, as 78,408 conditional registrants are found in our data. Los Angeles County's rate (and number) of conditional registrations is greater than in other VCA counties, and the rate is higher than the statewide percentage (statewide, 1.5% of voters were conditionally registered voters, for a total of 269,572 statewide).

Why the rate of conditional voter registration was higher in Los Angeles in the November 2020 general election is an important question. We hypothesize that it might be due to demographic differences between Los Angeles County and other VCA counties in Cal-

Percent of Conditionally Registered Voters

2018 and 2020 General Elections
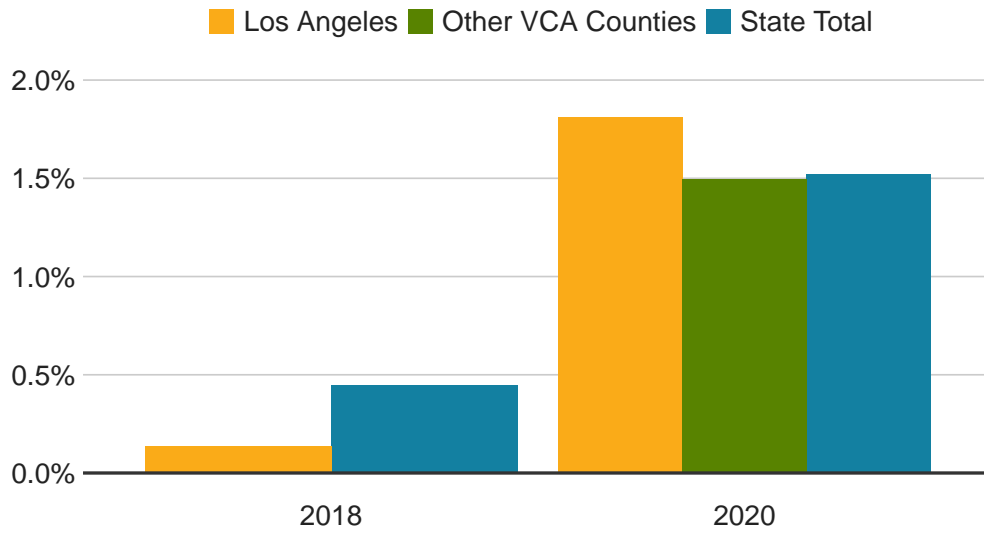
Source: Voter Participation History File, VoteCal

Figure 3.3: Conditional Voter Registration, 2018 and 2020 General Elections

ifornia. It could also be the consequence of differences between Los Angeles County and other VCA counties in the number and distribution of vote centers in the November 2020 general election, and of LACRR/CC's dissemination of information about conditional registration. At this point, further examination of this question is beyond the scope of this study and deserves attention in future research.

3.5   Analysis of Voter Registration by Voter Demographics

In this section, we examine voter registration in the November 2020 general election in LAC by different voter demographics. Some of these demographic or political affiliations are derived from information in the voter registration database (age and party). Other demographic information (gender, race, and ethnicity) can be estimated from information contained in administrative data using our methodology described in detail in the appendix.

The age distribution of active registered voters in Los Angeles County, other VCA counties, and statewide, is shown graphically for the November 2020 general election in Figure 3.4. We provide detailed data in Appendix Table A4. Focusing on Los Angeles County, the figure shows that a plurality of the County's registered voters is 20-34 years of age (29% of the registered voters in the County, 1,708,482 registered voters). Nearly a quarter

Age Distribution of Registered Voters

2020 General Election
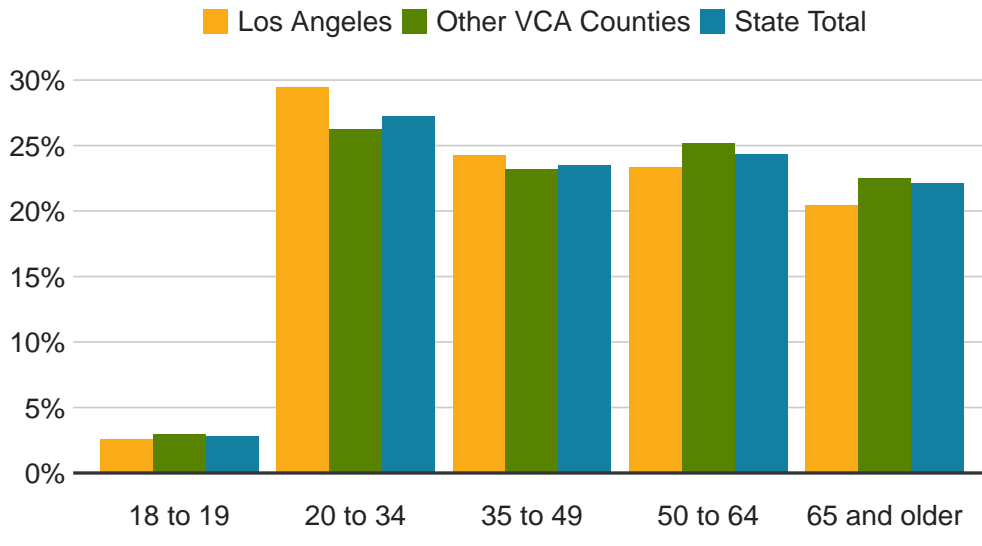
Source: Voter Registration File, VoteCal

Figure 3.4: Age and Voter Registration, 2020 General Election

(24%) are 35-49, 23% are 50-64, and 20% are 65 and older. Note also that we break out the 18- to 19-year-olds as an independent category here; we do so as this is the first general election for these registered voters, and we see that they make up a small proportion of the population of registered voters in Los Angeles County. In general, though, compared to other VCA counties and the state, Los Angeles County's population of registered voters is considerably younger.

Figure 3.5 provides the active registered voter population by party registration, for the two major parties, for all third parties, and for those registered without a party preference. More detailed information is given in Appendix Table A5. In Los Angeles County, a majority of voters are registered as Democrats (52% or 3,040,154, according to our data). That is a greater proportion of registered voters in the jurisdiction than seen in other VCA counties or statewide. In Los Angeles County, 17% of the population of registered voters is Republican (997,660), while 5% (276,917) were registered with third parties. In the November general election, 26% of Los Angeles County's voters were registered as No Party Preference. In contrast to other VCA counties and the state, Los Angeles County had a greater proportion of voters registered with the Democratic party, and fewer voters registered with the Republican party. The proportions of LAC's registered voter population who in November was registered with third parties or as No Party Preference was about the same as in other VCA counties and statewide.

Next, Figure 3.6 provides estimates for voter registration by gender (detailed estimates are

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Party Distribution of Registered Voters

2020 General Election

Legend: ■ Los Angeles ■ Other VCA Counties ■ State Total

Source: Voter Registration File, VoteCal

Figure 3.5: Partisan Registration And Voter Registration, 2020 General Election

in Appendix Table A6). Among registered voters in Los Angeles County, these estimates are that 51% are female, 46% are male, and 3% are unknown.

Finally, in Figure 3.7, we show the number of registered voters by U.S. Congressional district for the November general election in Los Angeles County. These data are provided in tabular form in the appendix, in Table A7. In Figure 3.7, the vertical bar for each U.S. Congressional district provides the total number of registered voters; the yellow component of the bar shows the number of registered voters in Los Angeles County, the green component of the bar shows the number of registered voters who reside in other adjacent counties. The line above the bars gives the registration rate in each U.S. Congressional district (the percent registered of eligible voters in the district). Most of the registered voters in Los Angeles County are in U.S. Congressional districts that are largely or entirely in Los Angeles County; the exceptions are Congressional districts 23, 25, 26, 27, 35, 38, 39, and 47 that overlap with other counties.

Gender Distribution of Registered Voters

2020 General Election
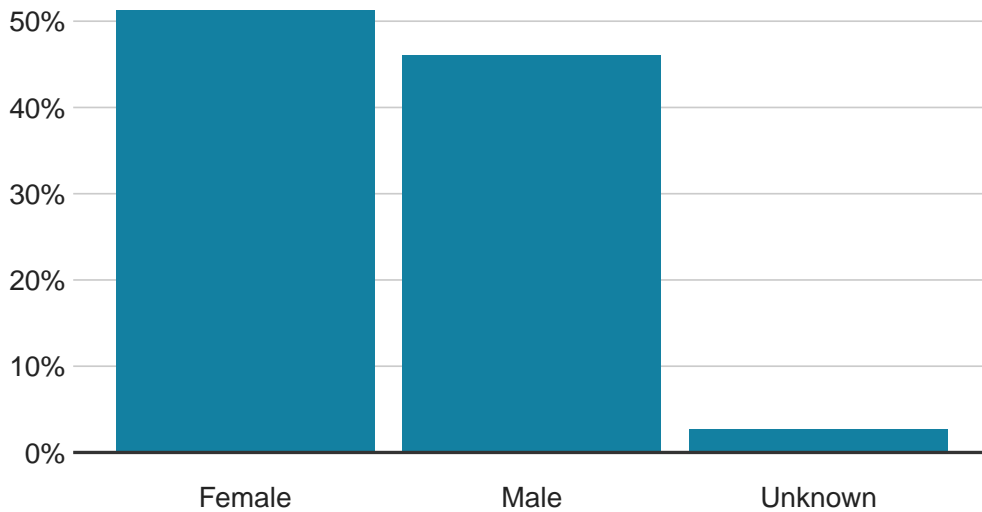
Source: Voter Registration File, VoteCal

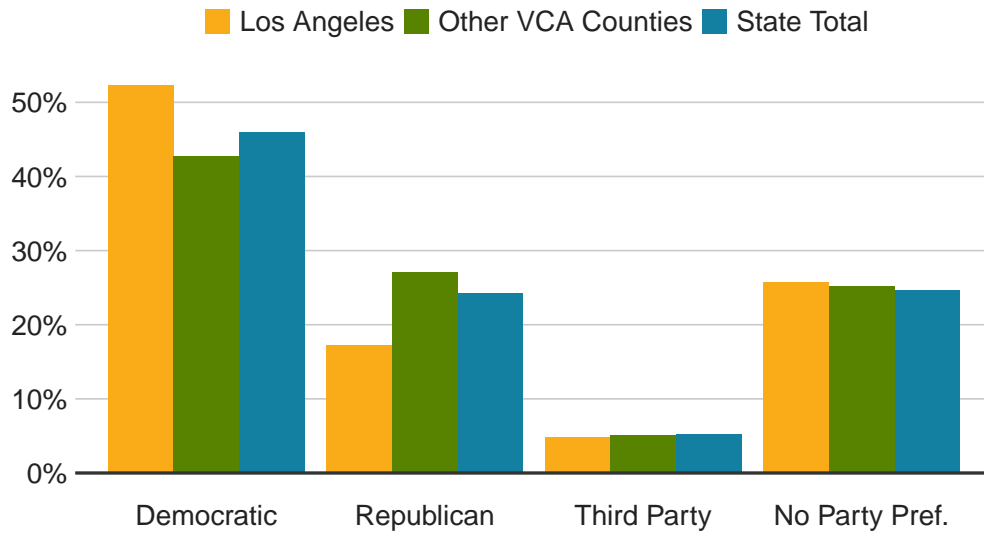Figure 3.6: Gender and Voter Registration, 2020 General Election

Voter Registration by Congressional District

2020 General Election

Source: Registration by US Congressional District, California Secretary of State

Figure 3.7: Registered Voters by Congressional District, 2020 General Election (Number of Registered Voters and Rate of Registration)

3.6 Analysis of Conditional Voter Registration by Voter Demographics

Percent of CVR Voters by Age

2020 General Election

Los Angeles ■ Other VCA Counties ■ State Total
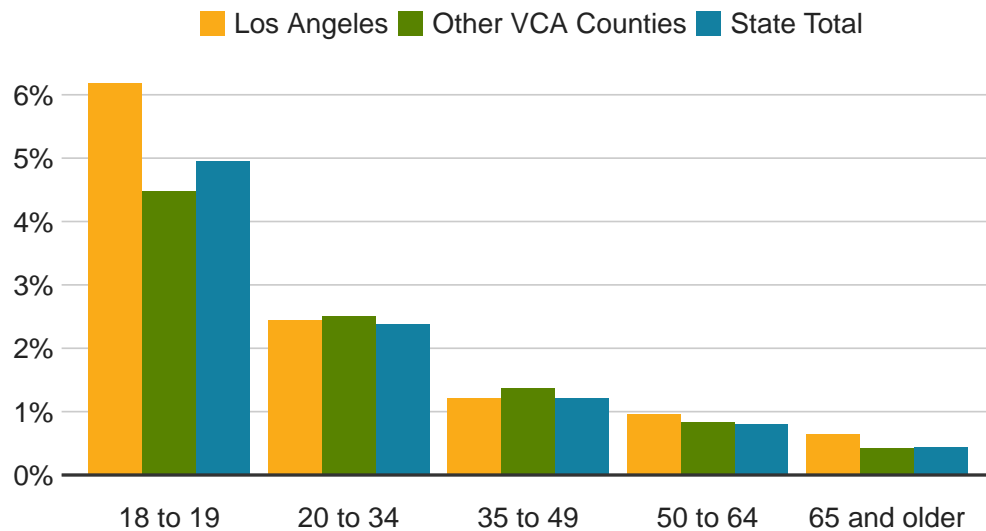
Source: Voter Registration File and Voter Participation History File, VoteCal

Figure 3.8: Age and Conditional Voter Registration, 2020 General Election

In Figures 3.8 and 3.9, we examine the age and party registration distributions for conditionally registered voters in the November 2020 general election in Los Angeles County, other VCA counties, and statewide. In this section, we compute the percentages using all registered voters who participated in the November 2020 general election. We provide in Appendix Tables A8 and A9 more detailed information regarding the age and party registration distributions for conditionally registered voters in the general election.

Figure 3.8 shows that the 18- to 19-year-old voters constitute a large segment of the conditionally registered voters in the general election. Slightly over 6% of 18- to 19-year-old voters who participated in this general election registered conditionally, which is substantial but less than the 13% for the March primary. These young voters were more likely in Los Angeles County to conditionally register than in the rest of the state and than in the other VCA counties.

Figure 3.9 provides information on the partisan registration breakdown of the conditionally registered voters. Conditional registration was greater in Los Angeles County than in the rest of the state, and here we see that reflected for the various party registration categories. Moreover, we see that third-party and No Party Preference voters were more likely to conditionally register than either Democratic or Republican registered voters across the state, with the pattern most pronounced in Los Angeles County. Future re-

Percent of CVR Voters by Party

2020 General Election

■ Los Angeles ■ Other VCA Counties ■ State Total
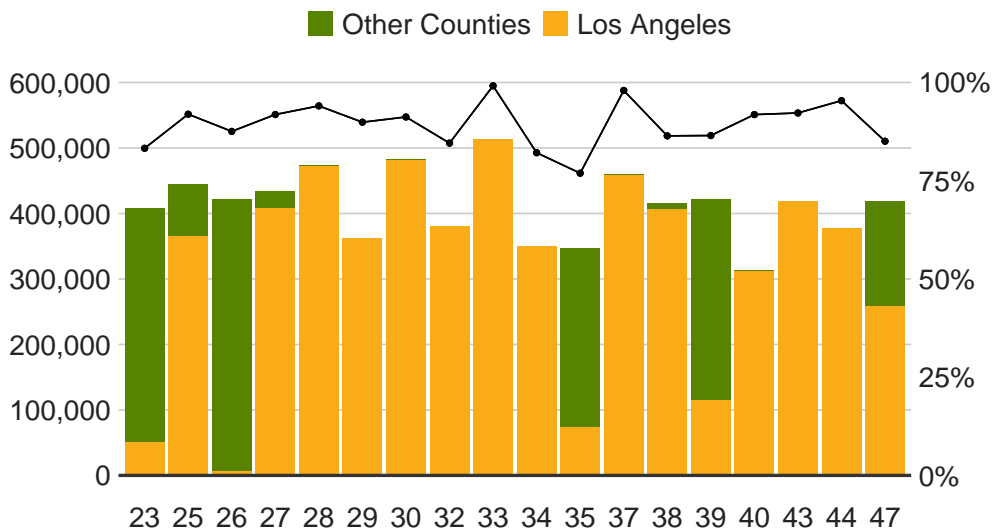

Source: Voter Registration File and Voter Participation History File, VoteCal

Figure 3.9: Partisan Registration and Conditional Voter Registration, 2020 General Election

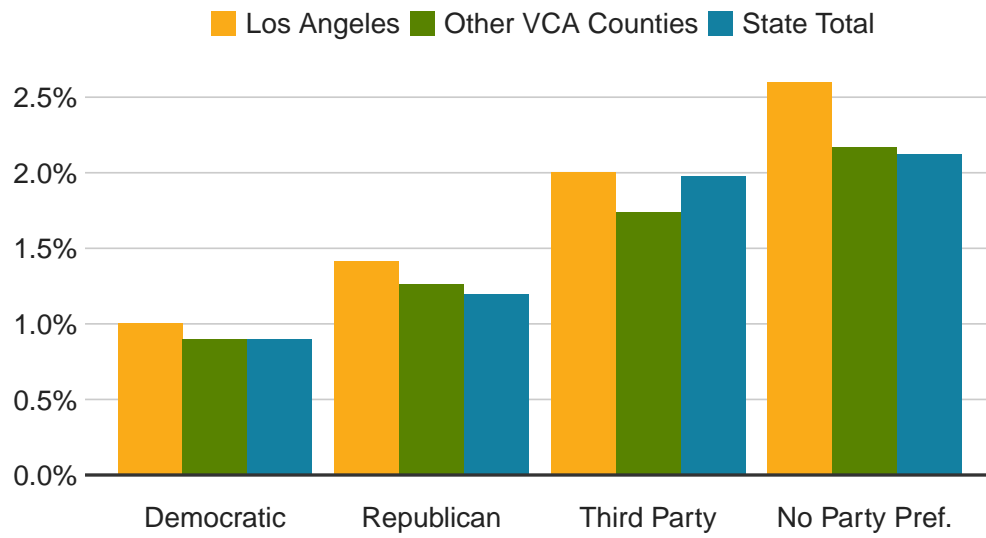search is warranted to fully understand the reason for this pattern we observe.

3.7 Conclusion

In this section, we analyzed voter registration in the November 2020 general election in Los Angeles County. Our analyses examined patterns of voter registration in recent past general elections, and then dug deeply into data on voter registration and conditional voter registration in the November 2020 general election.

We found a number of interesting results in the analysis reported in this section. In no particular order, these results include:

- Voter registration rates for recent general elections have been increasing since 2008, and the rate of registration among eligible voters is greater in Los Angeles County than it is statewide.

- Registration activity increased in Los Angeles County in October prior to the close of registration for the general election.

- Conditional voter registration was more widespread in Los Angeles County than in other counties in California.

- Those who registered conditionally for the November 2020 general election were typically younger and less likely to register with the two major parties.

4 Voter Participation

4.1 Introduction

In this section of our report, we examine voter participation in Los Angeles County general elections in a number of different ways. We first present data that shows turnout among eligible and registered voters for Los Angeles County compared to the state for general elections between 2008 and 2020. Next, we examine participation for the various modes of voting, focusing on the November 2020 general election: in-person participation at vote centers, ballot drop-offs, ballots returned by mail, and remote accessible vote by mail. We then conclude, presenting data on voter participation by demographics.

4.2 Voter Participation in Los Angeles County in Recent Past General Elections

Turnout among Eligible Voters

General Elections from 2008 to 2020
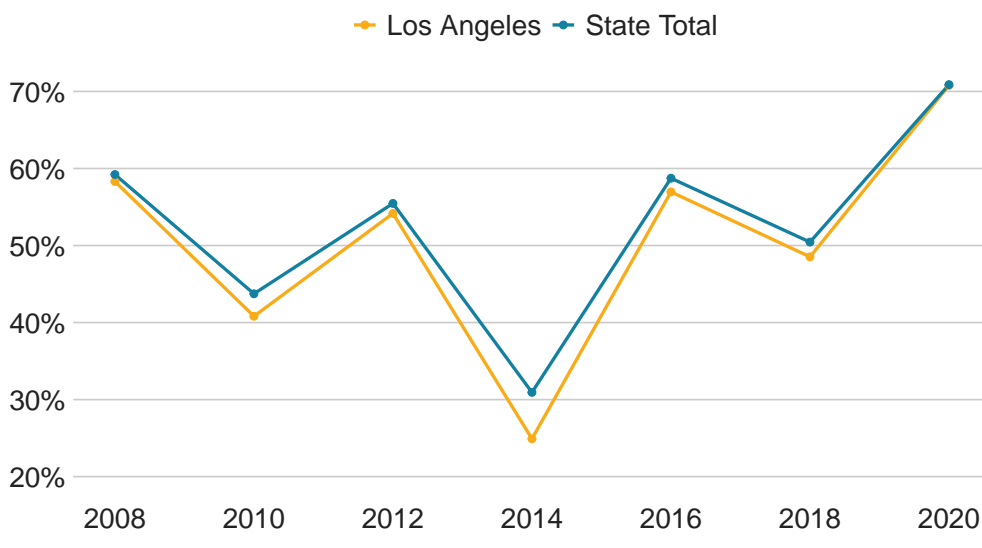
Source: Voter Participation Statistics by County, CA Secretary of State

Figure 4.1: Turnout among Eligible Voters in Recent Past General Elections

We present voter turnout in recent general elections in Figures 4.1 and 4.2, which provide the turnout rate for eligible voters and registered voters, respectively. The detailed data can be found in the appendix, in Table A10. While it is instructive to compare the turnout

Turnout among Registered Voters

General Elections from 2008 to 2020

Source: Voter Participation Statistics by County, CA Secretary of State

Figure 4.2: Turnout among Registered Voters in Recent Past General Elections

rate in the November 2020 general election to previous general elections, it is also important to note that the context of the November 2020 general election is very different from a number of these past general elections. First, the surge in COVID-19 cases in California (and nationwide) before the November 2020 general election may have affected voters' decisions to participate. Second, also related to the COVID-19 pandemic, vote-by-mail ballots were sent to all registered voters in California per Executive Order N-64-20.[4] In previous years, only voters in VCA counties automatically received vote-by-mail ballots unless they registered as permanent vote-by-mail voters. Finally, 2008, 2012, 2016, and 2020 were presidential general elections, while 2010, 2014, and 2018 were midterm elections.

With those contextual differences in mind, in 2008, 58% of the eligible voters in Los Angeles County participated in the presidential general election (78% of registered voters). Turnout among both eligible and registered voters was lower in the next three general elections, 2010, 2012, and 2014. In 2014, Los Angeles County turnout fell to 25% of eligible voters and to 31% of registered voters. Since 2014, turnout in Los Angeles County general elections has generally increased (with a decrease in the 2018 midterm election). In the 2020 general election, 71% of eligible Los Angeles County voters turned out, and 75% of registered Los Angeles County voters turned out. Numerically, 4,338,191 in Los

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[4]https://www.gov.ca.gov/wp-content/uploads/2020/05/05.08.2020-EO-N-64-20-text.pdf.

Angeles County turned out to vote in the 2020 general election, exceeding the previous record number who voted in 2016 (3,544,115) substantially.

We also see in the turnout data shown in Figures 4.1 and 4.2 that turnout among eligible voters in Los Angeles County has been largely similar to that seen statewide. For example, in the November 2020 general election, Los Angeles County turnout among eligible voters was 71%, and it was also 71% statewide. This is different from primary elections, where turnout in Los Angeles County has consistently been lower than statewide. At this point, a detailed analysis of the different patterns is beyond the scope of this study, but should be the focus of future research.

4.3 In-Person, By-Mail, and Ballot Drop-Off

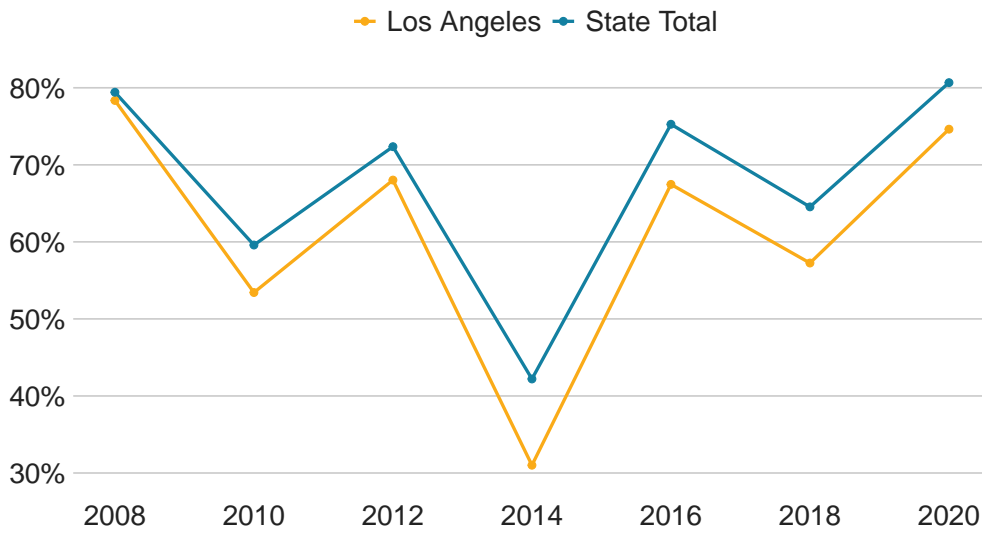**Percent of Vote–by–Mail Voters**

General Elections from 2008 to 2020
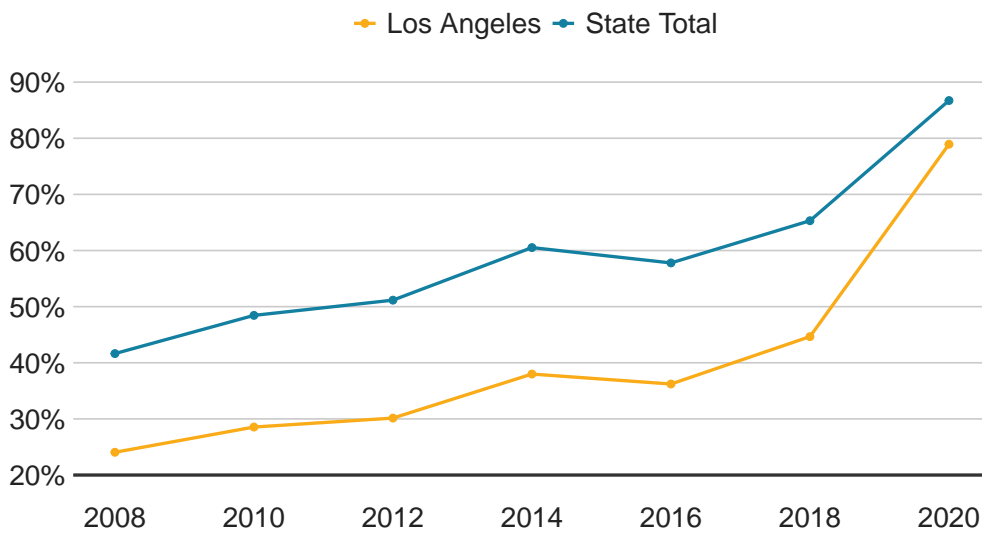
Source: Voter Participation Statistics by County, CA Secretary of State

Figure 4.3: Voting by Mail in Recent Past General Elections

California voters have long been able to obtain and return a vote-by-mail ballot, or to vote in person. As described earlier in this report, while these basic voting options have long been available to Los Angeles County voters, important aspects regarding how voters obtain and cast ballots are changing with the VCA implementation in Los Angeles County and Executive Order N-64-20 regarding vote-by-mail ballots. In the November 2020 general election, vote-by-mail ballots were sent to all registered voters in California.

These changes make it difficult to compare how registered voters cast their ballots in

VBM Ballots Return Methods

2018 and 2020 General Elections
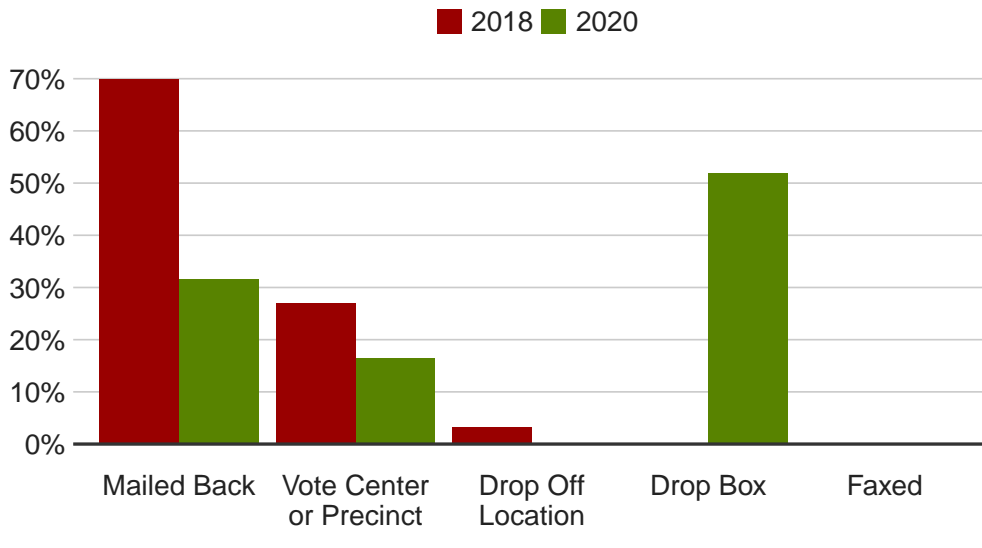
Source: Vote–by–Mail Ballot File, VoteCal

Figure 4.4: VBM Ballots Return Method, 2018 and 2020 General Elections

the 2020 general election, relative to past general elections. We present the proportion of voters who cast a vote-by-mail ballot in recent general elections in Figure 4.3. In Appendix Table A11, we provide detailed data on the number of in-person and vote-by-mail voters in Los Angeles County and statewide, for the general elections since 2008.

Perhaps the most interesting comparison is between the November 2020 general election and the November 2016 general election since both were presidential elections in recent years. In 2016, just over a third of Los Angeles County voters cast a ballot by mail (1,283,648). In the 2020 general election, the rate of ballots cast by mail increased to 79% in Los Angeles County, as 3,424,426 voters participated by mail. There is a corresponding decline in the number of in-person votes cast between the 2016 and 2020 general elections, going from 2,260,467 to 913,765 in the 2020 general election.

While there is increasing use of voting by mail in Los Angeles County general elections, the county still lags behind the use of voting by mail statewide. This is shown graphically in Figure 4.3, where we provide the percentages of ballots cast in recent general elections in Los Angeles County and statewide. There is a consistently lower rate of voting by mail in Los Angeles County, with Los Angeles County's rate of voting by mail being consistently about 20% lower than the statewide percentage from 2008 and 2018, and 8% lower in the 2020 general election.

In recent general elections, Los Angeles County voters have had different ways to return

When Were Mailed–Back Ballots Received?

2020 General Election
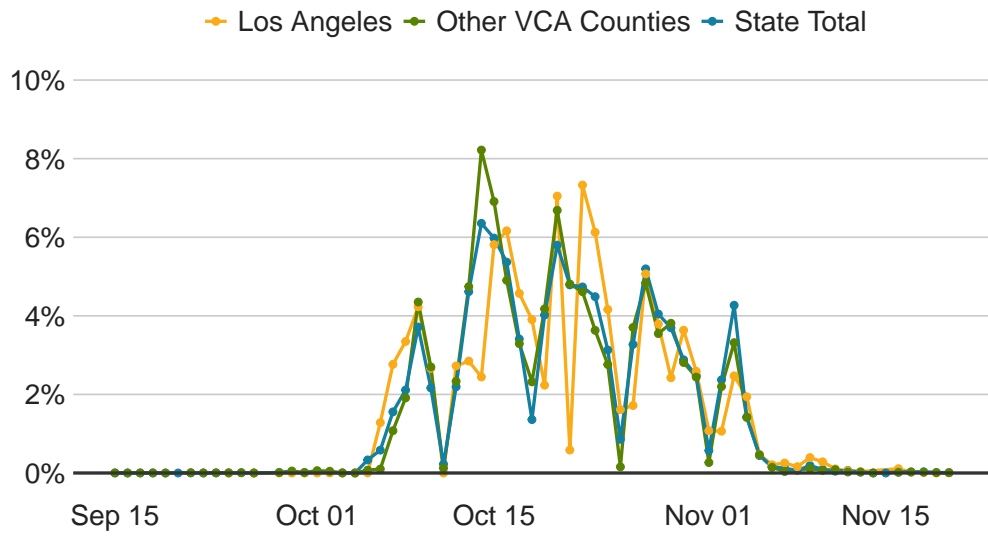
Source: Vote–by–Mail Ballot File, VoteCal

Figure 4.5: VBM Mail-Return Ballot Receipt

their vote-by-mail ballot. They can mail it back, they can drop it off at a precinct (2018 general election) or vote center (2020 general election), or they can drop it off at a drop box or other dropoff location. We present in Figure 4.4 data on how vote-by-mail ballots were returned in Los Angeles County in the 2018 and 2020 general elections. More detailed data on the vote-by-mail ballot return is in Appendix Table A12.

In the 2018 general election in Los Angeles County, most vote-by-mail ballots (70%) were returned by mail. Over a quarter (27%) were returned to a precinct, and few (3%) were dropped off at a drop-off location. According to LACRR/CC, the Vote by Mail Ballot Drop Box program started in 2017 as an initiative to provide voters with a secure alternative option to return their ballot. The impact of drop boxes is evident in the 2020 general election. A majority (52%) of vote-by-mail ballots were returned by dropping off at drop boxes across the county. This increase in drop box use is accompanied by a decrease in return by mail or at a vote center; 32% of vote-by-mail voters returned their ballots by mail, and 16% took advantage of vote centers for their mail ballot return.

Another important question regarding by-mail ballots is when they are returned. Our data has a timestamp for when the ballot was marked as returned. In Figure 4.5, we provide the number of vote-by-mail ballots returned daily for the November 2020 general election, and in Figure 4.6, we provide the number of ballots that were dropped off daily for the November 2020 general election. Detailed data are provided in Appendix Tables A13 and A14. Ballots returned by mail came in at a steady rate starting in early October,

34

When Were Dropped–Off Ballots Received?

2020 General Election
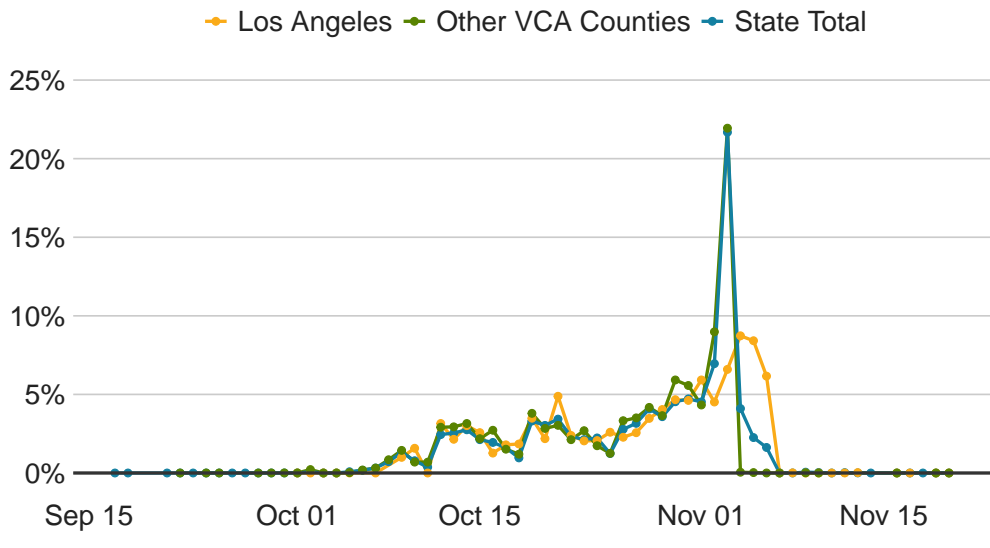
Source: Vote–by–Mail Ballot File, VoteCal

Figure 4.6: VBM Drop-Off Return Ballot Receipt

but the peak came around mid-October. Ballots were dropped off starting around mid-October, most taking place within a week of Election Day.

4.4   Remote Accessible Vote by Mail

California now allows registered voters with disabilities the opportunity to use a remote accessible vote by mail ballot (RAVBM). RAVBM systems are designed so that voters with disabilities can view and mark their ballots using their own electronic assistance technologies. In the November 2020 general election, Los Angeles County used the "Voting Systems for All People Interactive Sample Ballot." The LAC RAVBM system provided a web-based interface that an eligible voter could use to view and mark their ballot; eligible voters could also use a screen reader to navigate through their ballot. After marking and reviewing their RAVBM ballot, the voter would print and return the printed ballot to LACRR/CC (by mail, at a drop box, or at a vote center).[5]

Information reported by LACRR/CC to the CASOS indicated that LAC's RAVBM was available to eligible voters between September 29, 2020, and Election Day. A total of

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[5]Additional details about LAC's RAVBM are available online at `https://lavote.net/home/voting-elections/voting-options/vote-by-mail/ravbm`.

479 voters used LAC's RAVBM in the November 2020 general election (statewide, 26,741 voters used RAVBM in the November 2020 general election). None of LAC's RAVBM voters were indicated to be UOCAVA voters, and LAC reported no problems with the use of their RAVBM system in the March 2020 primary.[6]

4.5   Analysis of Voter Participation by Voter Demographics

Turnout among Registered Voters by Age

2020 General Election
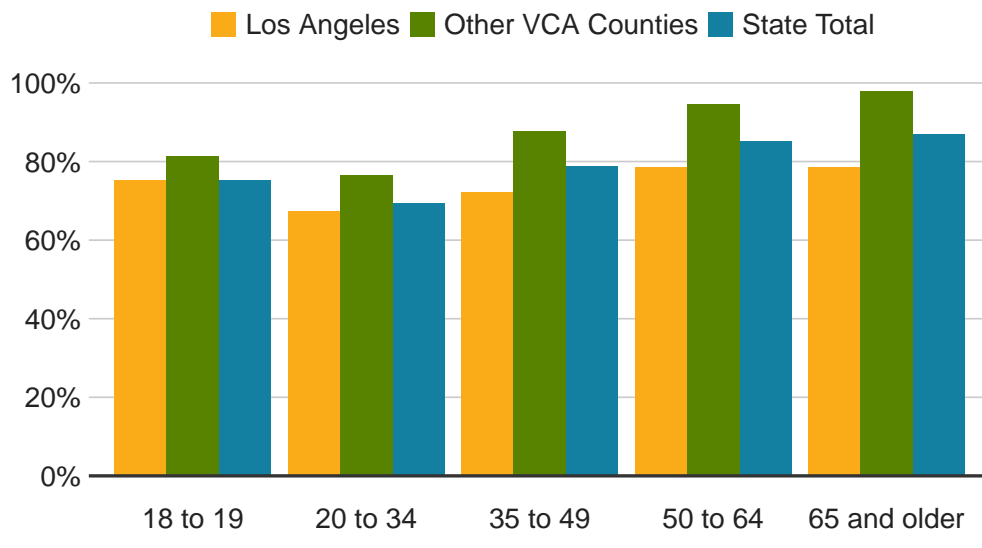
Source: Voter Registration File and Voter Participation History File, VoteCal

Figure 4.7: Turnout and Age, 2020 General Election

Next, we present turnout (for registered voters) by voter demographics, starting with age (Figure 4.7, with detailed data in Table A15). There is extensive academic literature on voter participation, and many factors have been identified in this literature as being correlated with voter turnout in elections (for example, see Leighley and Nagler 2014). Our data is limited to only a small set of voter attributes, primarily age and party registration from the voter file, and estimates of the voter's gender and race/ethnicity.

In the November 2020 general election, voter turnout in Los Angeles County is positively correlated with age. Sixty-seven percent of younger voters (20 to 34) turned out to vote, while 72% of voters aged 35 to 49 voted. Higher turnout rates occurred for Los Angeles County voters aged 50 to 65 (79%) and those aged 65 and older (79%).

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[6]These data were provided to the authors by the California Secretary of State's Office.

Turnout among Registered Voters by Party

2020 General Election
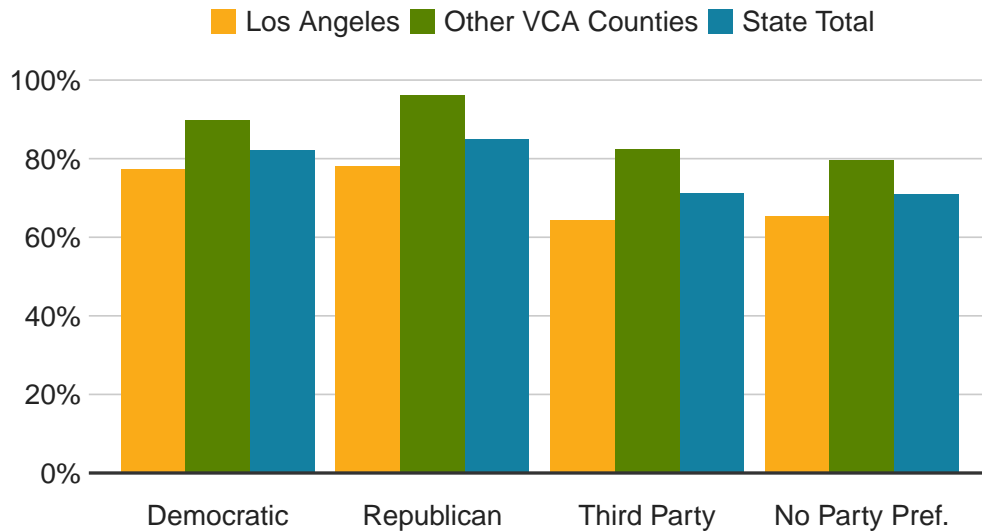
Source: Voter Registration File and Voter Participation History File, VoteCal

Figure 4.8: Turnout and Party Registration, 2020 General Election

We see that turnout is also positively correlated with age in the other VCA counties and statewide. The difference in turnout between voters aged 65 and older and those aged 20 to 34 was 12% in Los Angeles County. However, the differential was much greater in the other VCA counties (21%) and statewide (18%). The reasons for these differences require additional study.

In Figure 4.8, we provide the data graphically for voter turnout among registered voters by party registration. Detailed data is provided in Table A16. In the November 2020 general election, 77% of registered Democrats participated, with 78% of registered Republicans turning out. Slightly below two-thirds of those registered with third parties turned out, and a similar fraction of those registered as No Party Preference participated in the Los Angeles County November general election. Greater proportions of each category of party registration turned out in the general elections in both the other VCA counties and statewide.

Next, in Figure 4.9 and Appendix Table A17, we provide data on turnout by gender among registered voters in Los Angeles County. In Los Angeles County, we find that for those registered voters where we have a gender estimate, that turnout was higher in the general election for female registered voters relative to male registered voters.

Finally, we show in Figure 4.10 and Appendix Table A18 turnout among registered voters in the November 2020 general election for all Congressional districts in Los Angeles

Turnout among Registered Voters by Gender

2020 General Election
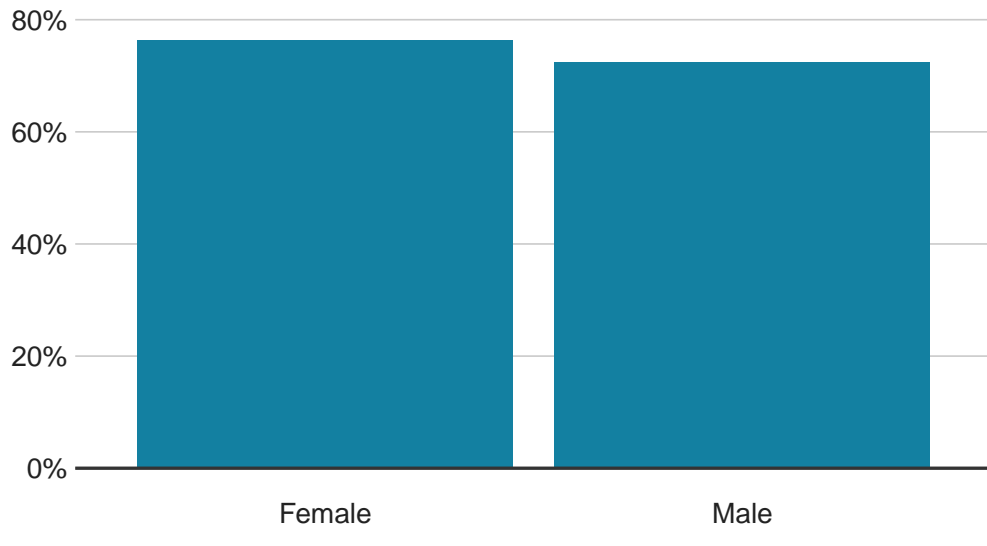
Figure 4.9: Turnout and Gender, 2020 General Election

County. We see that voter turnout was greatest in CA 26, with over 89% of registered voters participating in the general election in that district. CA 33 had the second-highest turnout among Congressional districts, with 83% of voters participating in the general election. Congressional districts 40 and 44 had the lowest turnout in the November 2020 general election in Los Angeles County, both at two-thirds. These patterns are similar to what we observed for the March 2020 primary elections. The differences in voter participation across the Congressional districts could be due to many factors, including the competitiveness of the candidate races, which should be the subject of future research.

4.6 Conclusion

In this section, we analyzed voter participation in the November 2020 general election in Los Angeles County. Our analyses examined patterns of voter participation in recent past general elections, and then turned to an analysis of modes of voting and voter turnout by available demographics, in the November 2020 general election.

A summary of the important findings in this section include:

- Voter participation in Los Angeles County, among eligible voters and among registered voters, have been increasing since the 2014 general election.

Turnout among Reg. Voters by Cong. District

2020 General Election
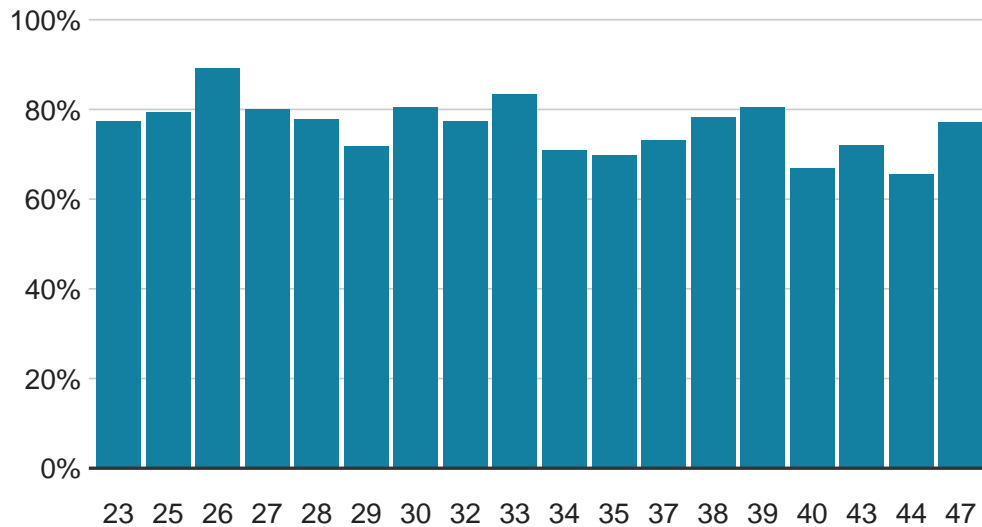
Source: Statement of Votes Cast, Los Angeles County Registrar–Recorder/County Clerk

Figure 4.10: Turnout by Congressional District, 2020 General Election

- Voter participation in Los Angeles County for registered voters is lower than the statewide participation rates in recent general elections. Voter participation in Los Angeles County for eligible voters, however, is similar to the statewide participation rates in recent statewide general elections.

- There has been increasing use of voting by mail in Los Angeles County in general elections, though the rate of voting by mail in Los Angeles County is lower than that seen in the state.

- A majority of vote-by-mail ballots were dropped off at vote centers, drop boxes, or other drop-off locations in the 2020 general election, and according to the data we have, most of those were dropped off within a week of the November 2020 general election.

- While we have access to a limited set of registered voter attributes in the data provided for our study, we find that in Los Angeles County that voter participation is correlated with age, which is consistent with other studies of voter participation. We also see that in the November 2020 general election, Los Angeles County voters registered as Democrats or Republicans had higher turnout rates than voters registered with other parties or as No Party Preference.

5 Provisional Ballots

5.1 Introduction

In this section, we examine provisional ballot use in the 2020 general election in LA County. We start by presenting some data from past general elections on the use of provisional ballots, and then turn to an analysis of provisional ballot use in November 2020 in LA County. We then look at the reasons for provisional ballot use in the general election, and at the demographic correlates of provisional ballot use in LA County.

5.2 Provisional Ballot Use in Recent Past General Elections

According to the Election Administration and Voting Survey (EAVS) conducted by the U.S. Election Assistance Commission (EAC), 496,618 provisional ballots were cast in the November 2016 presidential general election in Los Angeles County.[7] And 62,618 provisional ballots were rejected for various reasons. Overall, 87.4% of the provisional ballots were approved and subsequently counted.

Also according to EAVS, 418,597 provisional ballots were cast in the November 2018 presidential general election in Los Angeles County. And 50,315 provisional ballots were rejected for various reasons. Overall, 88% of the provisional ballots were approved and subsequently counted in the 2018 general election.

5.3 Provisional Ballot Use in November 2020

We analyze provisional ballot usage for Los Angeles County in the November 2020 general election using data from VoteCal. We note that compared to data from EAVS, voters who did not provide sufficient information to be registered would not be recorded in the VoteCal data. In Los Angeles County, there were 84,595 provisional votes cast, of which 2,345 were rejected, which means that 97% of provisional votes were accepted. Both the total number of provisional ballots cast and the number of provisional ballot rejections are down from 2018 figures, where 390,534 provisional votes were cast, of which 21,351 were rejected as recorded by VoteCal.

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[7]The EAVS datasets are available at `https://www.eac.gov/research-and-data/datasets-codebooks-and-surveys`.

5.4 Reasons for Provisional Ballot Use

	Percentage
No ID	0.01
VBM Returned	1.97
Voted	0.88
None Given	97.13

Table 5.1: Reasons for Provisional Ballots

In this subsection, we examine reasons for provisional ballot use in the 2020 November general elections in LA County, using data obtained from LA County's "ePulse" system. This system records the reasons for provisional ballot use for every provisional ballot issued. As we have noted earlier in this report, during the March 2020 primary election, there were problems in some vote centers with the connectivity of the electronic polling pads that are used in the VSAP architecture to check a potential voter's registration status and to issue them the correct ballot style if they are eligible to obtain a ballot. Those problems led to the issuance of provisional ballots in the March primary, in situations where the electronic polling pad could not connect and be utilized to confirm an individual's eligibility to vote in the November general election.

In Table 5.1, we show the data from the ePulse system, and note that according to the available data, we do not see any evidence that the issues with electronic polling pad connectivity existed in the November 2020 general election. This indicates that the implementation of the recommendations in the LACRR/CC post-primary report (LACRR/CC, 2020) was effective at resolving those problems.

We see, in these data, that in situations where a reason for the issuance of a provisional ballot was provided in the data we have access to, that most were issued because the voter was recorded as having already returned their vote-by-mail ballot. Another reason for the issuance of provisional ballots was that they were recorded as already having voted in person.

The ePulse system allows us to examine the issuance of provisional ballots during the course of the day in voting centers. We show the hourly issuance of provisional ballots in voting centers in the days before Election Day in Figure 5.1 and on Election Day in Figure 5.2. Starting with provisional ballot issuance before Election Day in voting centers, there is a spike in the use of provisional ballots early in the day during the pre-election period, most likely because there were often more individuals attempting to obtain their ballot in the morning hours as voting centers opened for operations. The rate of provisional ballot issuance then falls considerably in the mid-morning, only to steadily increase throughout the day (again, most likely representing an increasing number of people trying to vote in the late afternoon and evening in vote centers).
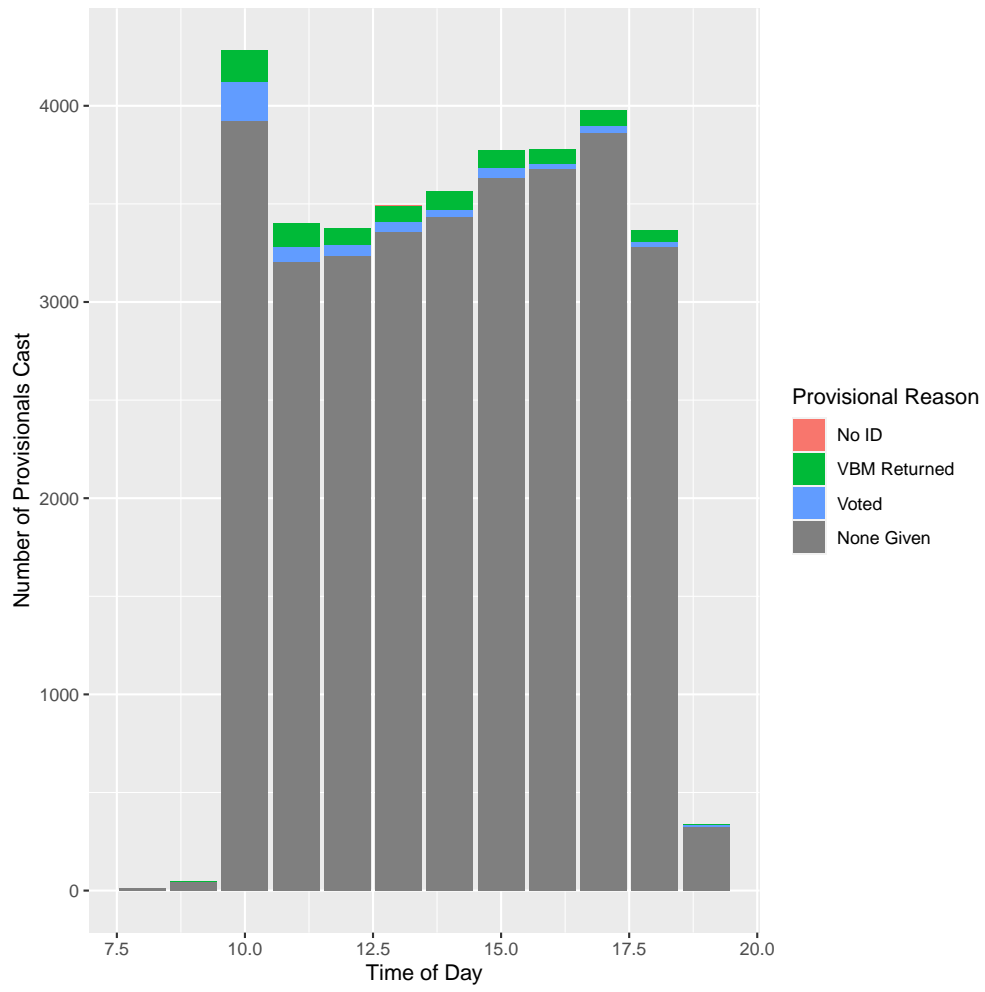
Figure 5.1: Provisional Votes Before Election Day
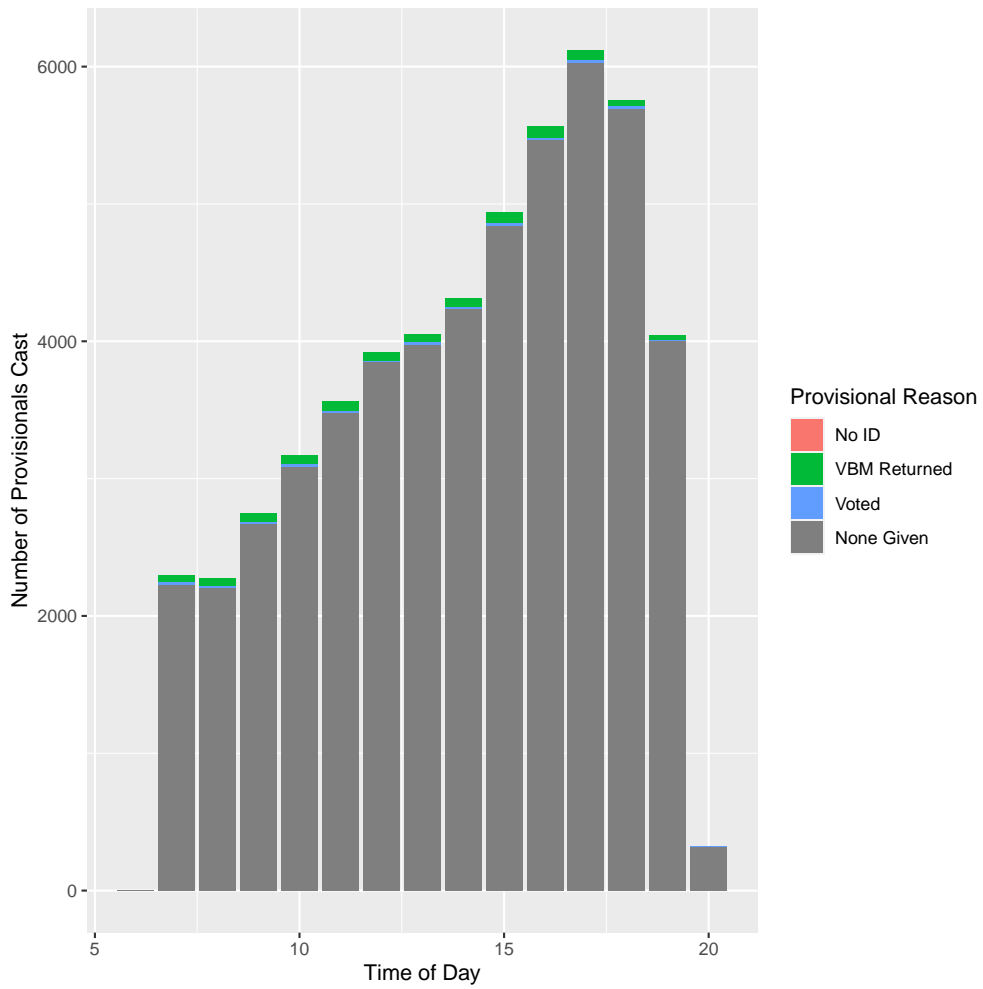
Figure 5.2: Provisional Votes on Election Day

On Election Day, shown in Figure 5.2, there is a markedly different trend. Provisional ballot use is at a relatively low level as vote centers opened on Election Day, increasing steadily after mid-morning and peaking right before the vote centers began to close on election night. This again most likely is due to the general trend of voting in person, with a steadily increasing number of individuals trying to vote in person as Election Day progressed.

5.5   Analysis of Provisional Ballot Use by Voter Demographics

Provisional Ballot Usage by Age
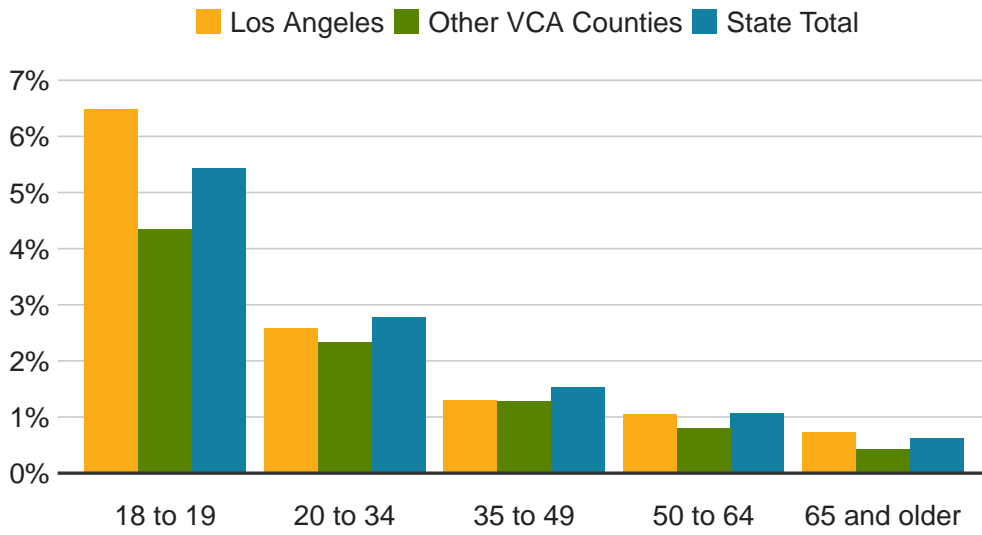
2020 General Election

Source: Provisional Ballot, Voter Registration, and Participation History Files, VoteCal

Figure 5.3: Age Distribution of Provisional Ballot Users

Next, we present the percent of voters casting provisional ballots by voter demographics, starting with age (Figure 5.3, with detailed data in Table A19). In the November 2020 general election, provisional ballot usage in Los Angeles County is negatively correlated with age — 6.5% of voters aged 18 to 19, for whom the November 2020 general election is their first general election, cast a provisional ballot; 2.6% of voters aged 20 to 34 voted provisionally, while 1.3% of voters aged 35 to 49 voted provisionally. The lowest provisional ballot rates occurred for Los Angeles County voters aged 50 to 65 (1%) and those aged 65 and older (0.7%).

We see that provisional ballot usage is also negatively correlated with age in the other VCA counties and statewide. Provisional ballot usage for Los Angeles County is higher than the other VCA counties, and lower than the statewide figure for each age category.

Provisional Ballot Usage by Party
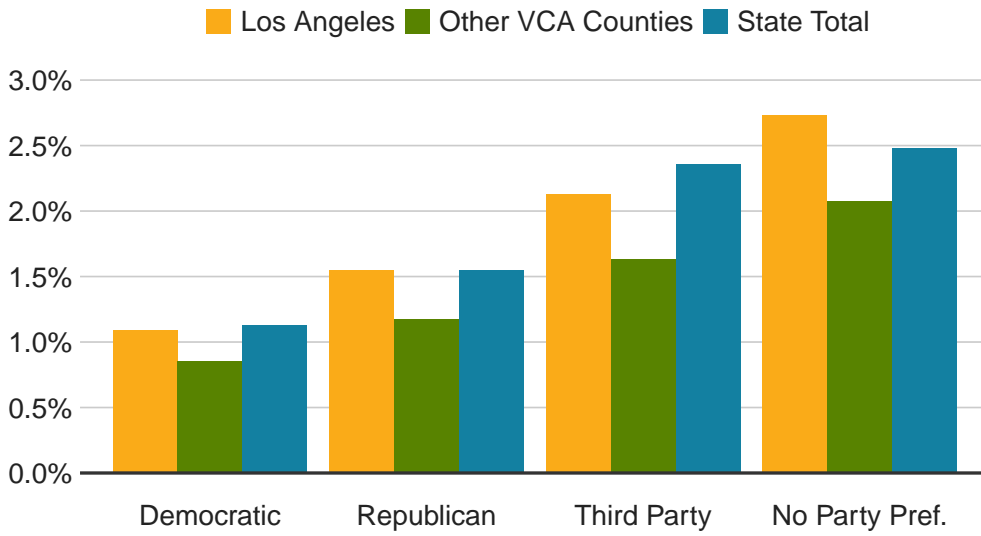
2020 General Election

Figure: Los Angeles ■ Other VCA Counties ■ State Total

Source: Provisional Ballot, Voter Registration, and Participation History Files, VoteCal

Figure 5.4: Party Distribution of Provisional Ballot Users

In Figure 5.4, we provide the data graphically for voter turnout by party registration among registered voters. Detailed data is provided in Table A20. In the November 2020 general election, 1.1% of registered Democrats cast provisional ballots, while 1.6% of registered Republicans voted provisionally; 2.1% of those registered with third parties cast provisional ballots, and 2.7% of those registered as No Party Preference voted provisionally in the Los Angeles County November general election. Smaller proportions of each category of party registration cast provisional ballots in the general elections in the other VCA counties, while similar proportions of voters of each party registration category voted provisionally statewide.

5.6 Conclusion

In this section, we examined provisional voting in the November 2020 general election in Los Angeles County and compared it to the November 2016 and November 2018 general elections. We showed that provisional voting decreased in the November 2020 general election. This is likely due to the implementation of VCA as well as the switch to voting by mail by most voters. We noted in our March 2020 primary election report that many provisional ballots cast in the March 2020 primary in Los Angeles County arose because of technical issues in the vote centers, as electronic pollpads had trouble synchronizing data with the central voter database. These issues seem to have been sufficiently addressed

before the November 2020 general election. Finally, we showed that younger voters and voters not registered with the two major parties are more likely to use a provisional ballot.

6 Ballot Rejections

6.1 Introduction

This section of our report examines ballot rejections in Los Angeles County general elections, focusing mainly on data from the November 2020 general election. We explore ballot rejections of both provisional and VBM ballots, although this may not encompass all ballots that were ultimately rejected in the 2020 general election. After describing the reasons for different types of ballot rejections, we analyze whether ballot rejections were related to demographic information like age or party, and then we conclude.

6.2 Ballot Rejections in Recent Past General Elections

For the November 2016 general election in Los Angeles County, 62,529 provisional ballots were rejected, according to figures provided to us by LACRR/CC. This means that around 87% of the provisional votes cast in that election were ultimately counted. Among the provisional ballots rejected, 37,168 cases correspond to voters who were not registered to vote in the November 2016 general election. As for vote-by-mail ballots, according to the voter participation statistics by county published by the Secretary of State Office, 1,283,648 vote-by-mail ballots were counted for the November 2016 general election in Los Angeles County. And 15,208 vote-by-mail ballots were rejected for various reasons, according to figures provided to us by LACRR/CC. This indicates that approximately 99% of the more than 1,298,000 mail ballots cast in that election were ultimately counted.

For the November 2018 general election in Los Angeles County, 50,174 provisional ballots were rejected, according to figures provided to us by LACRR/CC. This means that around 88% of the provisional ballots were ultimately counted. Among the provisional ballots rejected, 26,579 cases correspond to voters who were not registered to vote in the November 2018 general election. This means that around 6% of the provisional ballots correspond to voters who were registered but whose ballots were rejected for other reasons. As for vote-by-mail ballots, according to the voter participation statistics by county published by the Secretary of State Office, 1,350,313 vote-by-mail ballots were counted for the November 2016 general election in Los Angeles County. And 15,803 vote-by-mail ballots were rejected for various reasons, according to figures provided to us by LACRR/CC. This indicates that approximately 99% of the more than 1,366,000 mail ballots cast in that election were ultimately counted.

For the rest of this section, we examine ballot rejections of both provisional and VBM ballots, primarily using data from VoteCal. We note that provisional ballot rejections reflected in the VoteCal data include only voters who were registered to vote in the cor-

responding elections (either registered before the deadline to register or through conditional voter registration).

6.3 Ballot Rejections in November 2020

Ballot Rejection Rates – Provisional Ballots

2018 and 2020 General Elections

■ Los Angeles   ■ Other VCA Counties   ■ State Total
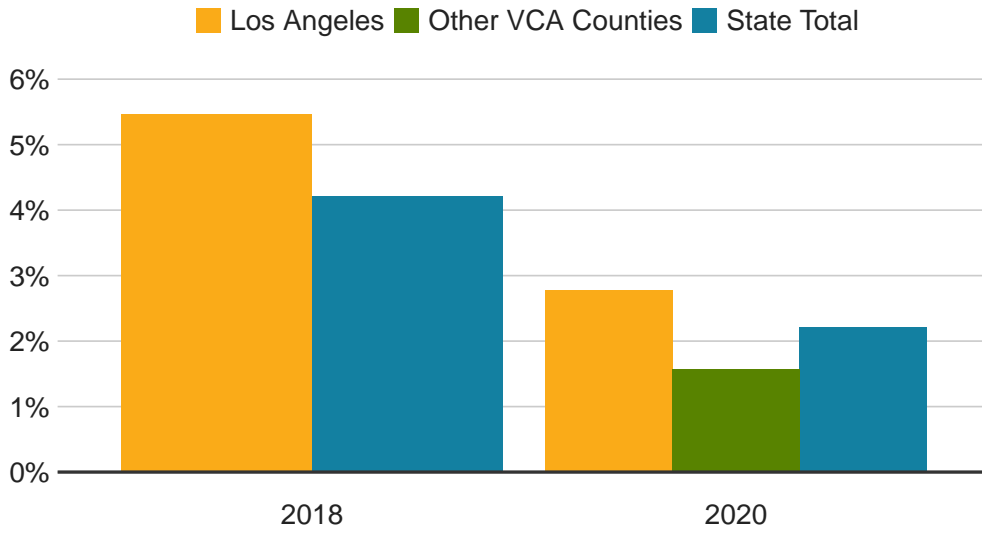
Source: Provisional Ballot File, VoteCal

Figure 6.1: Rejection Rates of Provisional Ballots

We analyze the provisional and vote-by-mail ballot rejection rates for Los Angeles County, the other VCA counties, and the state in the November 2020 general election using data from VoteCal. In Los Angeles County, there were 84,595 provisional votes cast, of which 2,345 were rejected, which means that 97% of provisional votes were accepted. There were 1,165,310 votes cast by mail, of which 23,025 votes were rejected, meaning 98% of vote-by-mail ballots were ultimately counted.

In Figures 6.1 and 6.2, we show the rate of ballot rejections graphically for the November 2020 general election for Los Angeles County, all other VCA Counties, and the entire state. Los Angeles County has a higher rate of provisional ballots rejected in 2018 and 2020 than the other VCA counties and the state average. Given that over two-thirds of these provisional ballot rejections in Los Angeles County are due to voters having already voted (shown in the next section), the higher overall provisional ballot rejection rate does not imply that a higher percentage of voters were unable to cast their votes. Los Angeles County also had a slightly higher rejection rate for vote-by-mail ballots than the state average in the 2018 and 2020 general elections, but the difference is small, and Los Angeles

Ballot Rejection Rates – VBM Ballots

2018 and 2020 General Elections

Los Angeles ◼ Other VCA Counties ◼ State Total
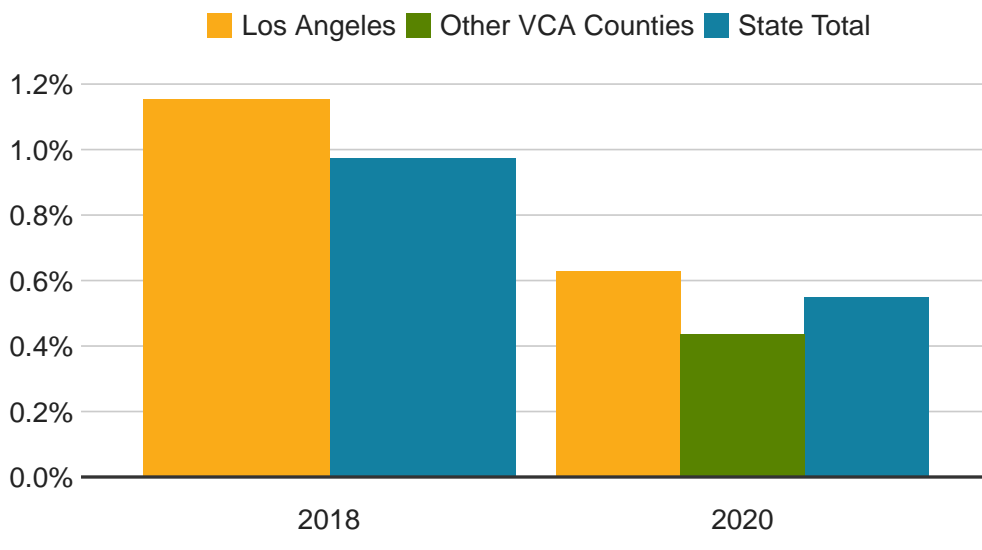
Source: Vote–by–Mail Ballot File, VoteCal

Figure 6.2: Rejection Rates of VBM Ballots

County, the other VCA counties, and the state all had low vote-by-mail ballot rejection rates.

6.4 Reasons for Ballot Rejections

We first analyze reasons for provisional and vote-by-mail ballot rejections in the November 2020 general election using statewide data from VoteCal. In Figure 6.3, we see that most provisional ballots are rejected in Los Angeles County, the other VCA counties, and statewide because the voter already voted, which means their vote may ultimately be counted without any further action necessary. This reason accounts for a higher percentage of provisional ballot rejections in Los Angeles County (68%) than the other VCA counties (61.8%) or statewide (44.8%). The envelope or ballot being incomplete or illegible was the second most dominant ballot rejection reason for Los Angeles County, which was much higher in Los Angeles County (20%) than the other VCA counties (6.6%) or statewide (12.1%). Other provisional ballot rejection reasons include voter having voted in the wrong county, ballot missing from envelope, or no voter signature, each accounting for less than 5% of provisional ballot rejections in Los Angeles County.

In Figure 6.4, we show that by far the most common reason why vote-by-mail ballots were not accepted was due to non-matching signature. This reason accounts for over half

Ballot Rejection Reasons – Provisional Ballots

2020 General Election
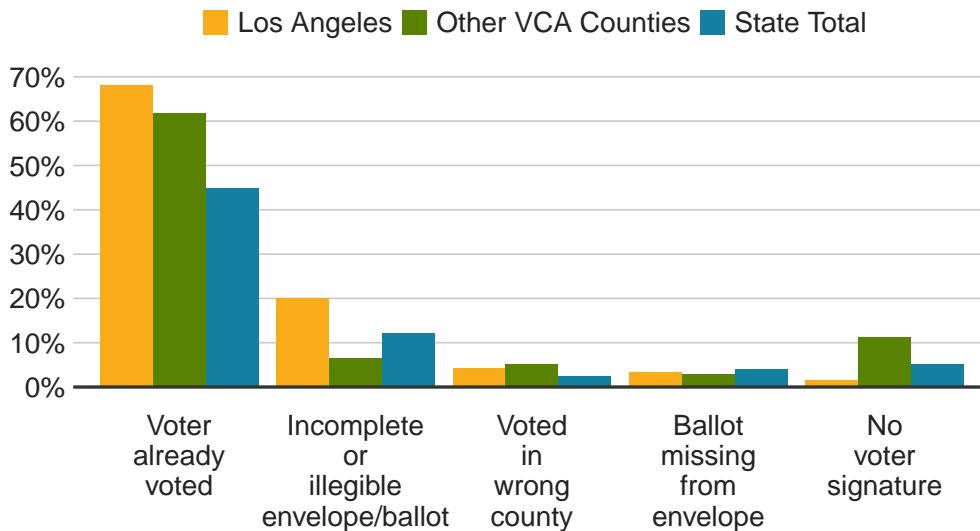
Source: Provisional Ballot File, VoteCal

Figure 6.3: Provisional Ballot Rejection Reasons

Ballot Rejection Reasons – VBM Ballots

2020 General Election
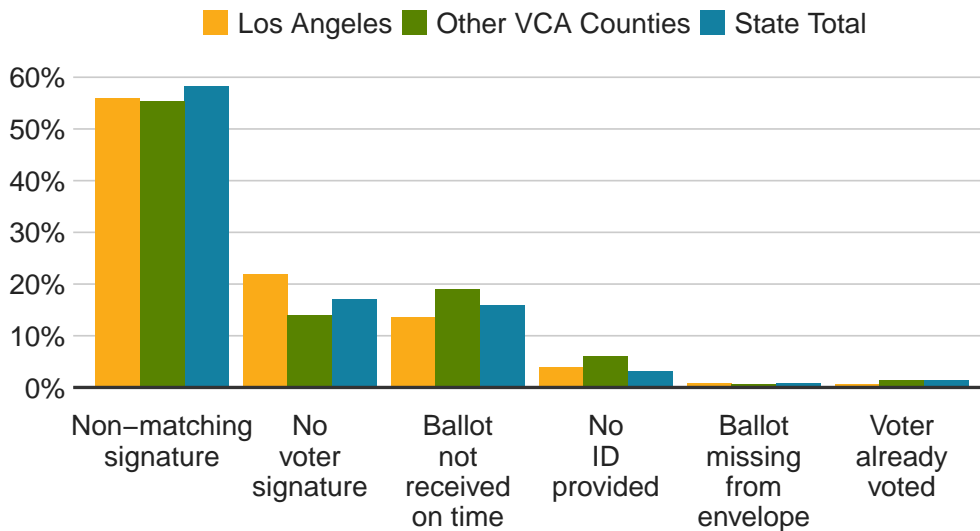
Source: Vote–by–Mail Ballot File, VoteCal

Figure 6.4: VBM Ballot Rejection Reasons

of the vote-by-mail ballot rejections in Los Angeles County (56%) than the other VCA counties (55.3%) or statewide (58.3%). The other two main reasons for vote-by-mail ballots rejections are no voter signature and ballot not being received on time. Los Angeles County has more vote-by-mail ballot rejections because of no voter signature (21.9%) and fewer ballot rejections because of ballot not being received on time (13.6%), in contrast to the other VCA counties and the state overall. As described above, for provisional ballots, ballots that were rejected because the voter already voted are a slightly different category from the other rejection reasons; this is because that voter might have their other ballot counted and not need any further action. For ballots that don't have a signature, the voter can take action to cast their ballot ultimately, but there is no such remedy for vote-by-mail ballots that were not received on time. One final thing to note is that a smaller fraction of vote-by-mail ballots were rejected due to not being received on time in 2020 compared to previous years (shown later in this section), in part due to the extended deadline for ballot receipt.

For the November 2018 and November 2016 general elections, we obtained additional data on provisional and vote-by-mail ballot rejections from LACRR/CC. Reasons for ballot rejections are presented in Table A30 and Table A31 in the appendix (note that the categories are slightly different from those used by VoteCal). The main reasons for vote-by-mail ballot rejections in these earlier elections are similar to those in 2020. Most vote-by-mail ballot rejections come from ballots that were returned too late, ballots that lack voter signatures, or contain voter signatures that were challenged. The top reason for provisional ballot rejections (among voters who were registered to vote) in the 2018 and 2016 general elections, however, is different from 2020. In particular, a much larger fraction of provisional ballot rejections in the 2020 general election come from voters who already voted, compared to the 2016 and 2018 general elections. This is likely due to a larger percentage of voters voting by mail.

6.5   Analysis of Rejected Ballots by Voter Demographics

In Figures 6.5 and 6.6, we show the vote-by-mail ballot rejection rates by age and party, respectively. We observe that the vote-by-mail ballot rejection rate is highest for the youngest age group and that the rejection rate is lower for older voters. Because most of the vote-by-mail ballots were rejected for non-matching or no voter signatures or not being received on time, it is likely that older voters, who may have more experience voting, may be more aware of these requirements.

When we look at vote-by-mail rejection rates by party, in Los Angeles County, the other VCA counties, and across the state, the vote-by-mail ballot rejection rates were higher from voters registered with a party other than the Democrats or Republicans, or voters registered with no party preference, than registered Democrats and Republicans.

VBM Ballot Rejection Rate by Age

2020 General Election
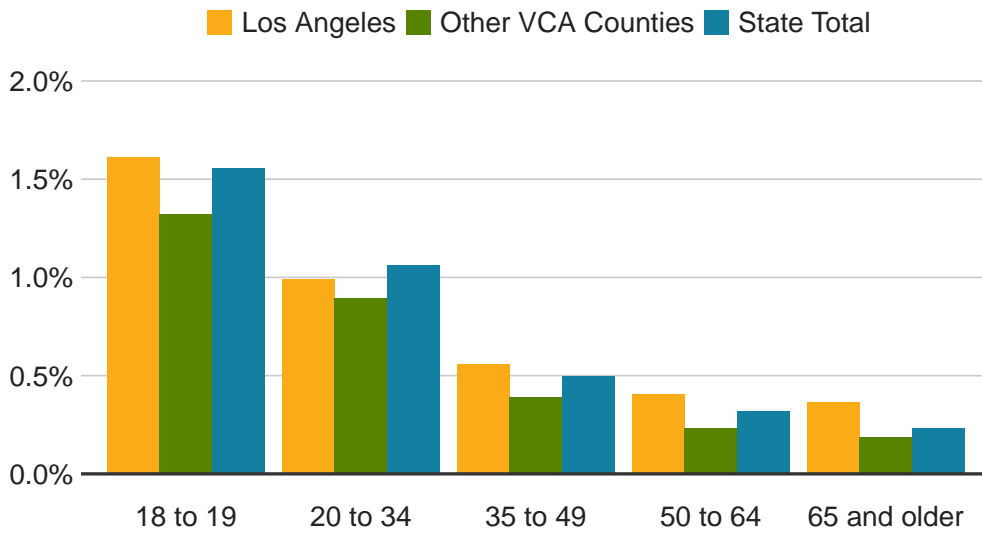
Source: Vote–by–Mail Ballot File and Voter Registration File, VoteCal

Figure 6.5: VBM Ballot Rejection Rate by Age

VBM Ballot Rejection Rate by Party

2020 General Election
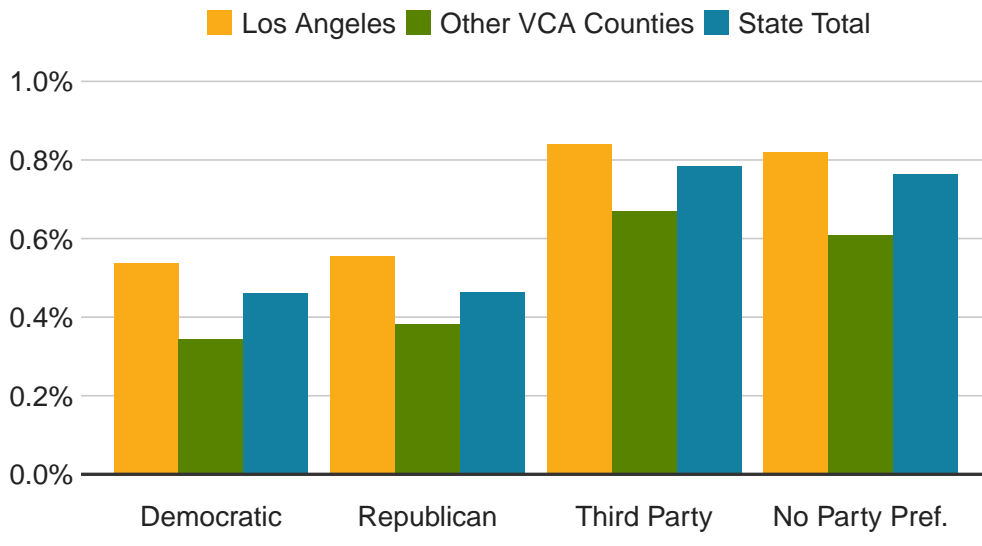
Source: Vote–by–Mail Ballot File and Voter Registration File, VoteCal

Figure 6.6: VBM Ballot Rejection Rate by Party

Provisional Ballot Rejection Rate by Age
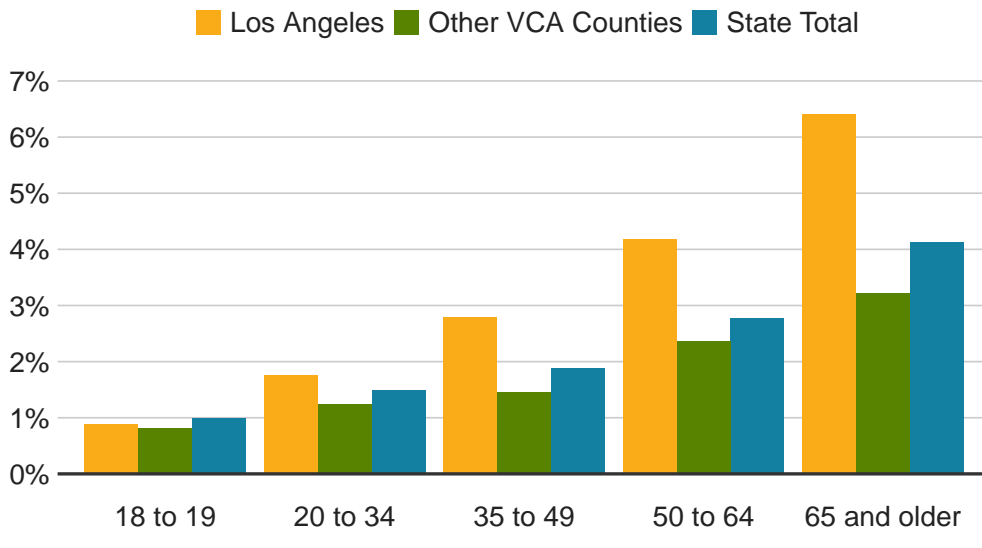
2020 General Election

Source: Provisional Ballot File and Voter Registration File, VoteCal

Figure 6.7: Provisional Ballot Rejection Rate by Age

Provisional Ballot Rejection Rate by Party
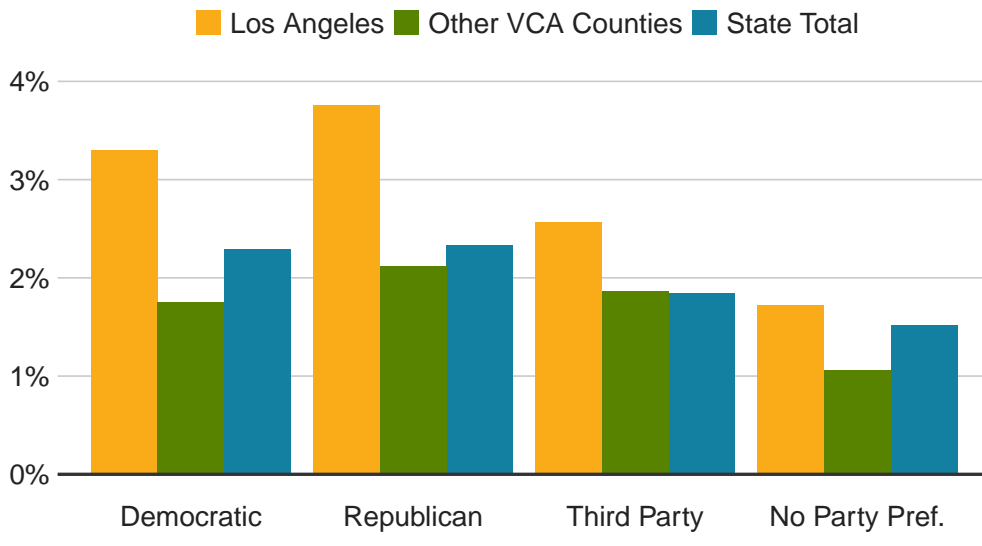
2020 General Election

Source: Provisional Ballot File and Voter Registration File, VoteCal

Figure 6.8: Provisional Ballot Rejection Rate by Party

Next, we turn to provisional ballot rejection rates by age (Figure 6.7) and by party registration (Figure 6.8). We see that provisional ballot rejections are relatively low for younger voters (those 18 to 19, and 20 to 34) in the November 2020 general election in Los Angeles County, but are higher for older voters (in particular those 65 and older). Regarding party registration, we see in Figure 6.8 that the provisional ballot rejection rate was higher for registered Democratic voters and Republican voters than voters registered with parties other than the Democrats or Republicans, and voters registered with no party preference in Los Angeles County and other VCA counties.

6.6   Conclusions

In this section, we analyzed ballot rejections in Los Angeles County, compared to other VCA counties and the state average. In the 2020 general election, Los Angeles had significantly lower ballot rejection rates than the 2016 and 2018 general elections. Approximately 97% of all provisional votes and 99% of all vote-by-mail ballots in Los Angeles County were accepted in the 2020 general election.

Then we examined the reasons for ballot rejections. For provisional ballots, the most common reasons for rejection are that the voter already voted or the envelope or ballot was incomplete or illegible. For vote-by-mail ballots, the primary rejection reason was non-matching signature, which contrasts previous years where the primary rejection reason was that vote-by-mail ballots were not received on time. This difference is in part due to the extended deadline for ballot receipt.

Finally, we examined provisional and vote-by-mail ballot rejection rates by voter age and party registration. We found that younger voters in Los Angeles County had higher rates of vote-by-mail ballot rejection than older voters, and that voters who were not registered as Democrats or Republicans, or who were registered with no party preference, had higher rates of vote-by-mail ballot rejection than Democratic or Republican registered voters. On the other hand, we found that provisional ballot rejection rates were higher for older voters than for younger voters in Los Angeles County, and that provisional ballot rejection rates were higher for voters registered with no party preference or who were not Democratic or Republican registered voters.

7 Outreach Activities for the November 2020 General Election

7.1 Introduction

The November 2020 election presented a variety of unique issues that affected LACRR/CC's voter and stakeholder outreach efforts. In this section, we summarize these outreach efforts, using the information we have collected as well as information provided to our team from LACRR/CC.

7.2 Media Outreach

For the November 2020 general election, LACRR/CC launched a multi-modal media campaign, "Every Vote In."[8] The campaign started on September 16, 2020, and ended on November 3, 2020, with advertising including digital, television and radio, print, and "out-of-home" strategies. The campaign was multilingual and multi-cultural, designed for the diversity of Los Angeles County's electorate. The specific goals of the campaign were to provide information on how to register and vote safely, and to disseminate widely information on the new VSAP voting experience and on the many options that registered voters had during this election to obtain and return their ballot safely. Here we summarize key aspects of the media outreach campaign.

In order to accomplish the campaign goals in association with key stages in the election process, the campaign had three primary information phases. The first phase (September 16-October 4) focused on registration and voting by mail. The second phase (October 5-October 18) concentrated on the vote-by-mail process, and provided information on the many options voters had in Los Angeles County for returning the ballots that had been sent to them by mail, in particular using drop boxes. The final phase (October 19 through Election Day) provided reminders to return ballots by mail or using a drop box, and on how to vote safely in person at a vote center.

The LACRR/CC media outreach campaign for the 2020 general election was multi-modal, designed to reach county residents in multiple ways. There were five media modes utilized in the campaign: digital (web, email, and SMS), television, radio, out-of-home (advertising placements near stores, churches, and other community locations), and print.

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[8]The material in this section is taken from a report about the campaign, provided to us by LACRR/CC. The report was produced by Fenton Communications.

7.2.1 Digital

The centerpiece of the digital outreach campaign was the development of a "Make a Plan to Vote" tool and portal (plan.lavote.net). This online tool gave LA County residents and voters a one-stop mechanism for registration, assisting with ballot requests, and ballot tracking — all available in 13 different languages. According to data provided in the campaign evaluation study, this online portal saw 437,616 unique visits, with 106,201 of those visitors using the online portal to develop a voting-by-mail plan and 21,627 developing an in-person voting plan.

Also, LA County utilized email and SMS outreach as part of this digital campaign. The county maintains an email list of Spanish- and English-speaking eligible voters, and that list was used to push these voters to the Make a Plan to Vote portal and other LACRR/CC online resources. Multiple emails were sent as part of the effort, totaling 22,349,213 emails delivered (29.9% open rate, with 277,142 unique clicks to the Make a Plan to Vote portal). Also, those who visited the portal and left their email or telephone number were contacted digitally (in 13 languages) with reminders to use the portal to plan their voting process.

The digital campaign also employed various types of digital advertising, using multiple platforms: social media, targeted display ads, YouTube, Hulu, Twitch, Pandora, and Spotify. The paid digital campaigns were multilingual, in up to seven different languages. Where possible, these ads were targeted (using voter registration and history data) based on a voter's age, ethnicity, language, geographic location, registration status, and vote-by-mail preferences. These paid digital ads were seen or heard 102,853,897 times before the 2020 general election in LA County.

The final component of LACRR/CC's digital campaign used "Homepage Takeovers," a type of digital advertising that comprehensively employs all of the available advertising space on a particular website. The websites used were the *Los Angeles Times*, KTLA, LA Opinion, and Univision. The takeovers occurred on focal dates: National Voter Registration Day (September 22), mail ballot drop (October 5), the deadline to register to vote (October 19), the opening of vote centers (October 24), and the last day before the election (November 2). The takeovers emphasized safe voting and generated 8,470,942 impressions.

7.2.2 Out-of-home advertising

The LACRR/CC outreach campaign also sought to disseminate information about safe voting opportunities and the general election throughout the county, in multiple languages, using "Out-of-Home" (OOH) advertising. There were ads placed on Metro and

bus shelters; digital ads at gas stations and mobile billboards; and on physical billboards, in stores, and in supermarkets. There were 501,947 ad placements for the OOH campaign, and these ads generated an estimated 204,153,558 impressions, not including the impressions of advertising on Metro and County Department of Public Works locations or vehicles. This campaign also employed the use of coffee sleeves and hand sanitation stations, distributed in locations frequented by many families and frontline workers during the pandemic.

7.2.3   Television and radio

Given the pandemic, many Los Angeles County residents were working from home, or spending a great deal of their time at home, during the summer and fall of 2020. This created opportunities for LACRR/CC's outreach campaigns, as television and radio advertising provided vehicles for disseminating outreach materials to residents and voters during the pandemic. Television and radio also provided important opportunities for segmentation and targeting, to disseminate information to specific communities throughout LA County.

The television outreach campaign utilized a total of 6,232 broadcast television ads, on 18 different television outlets, in 7 different languages (English, Spanish, Korean, Mandarin, Cantonese, Tagalog, and Vietnamese). The television outlets included:[9]

- General Market - English

    - ESPN (3,255 spots, 35,340,801 impressions)
    - Fox 11 (184 spots, 8,632,810 impressions)
    - My 13 (27 spots, 908,716 impressions)
    - NBC 4 (118 spots, 4,802,000 impressions)
    - ABC 7 (281 spots, 28,234,000 impressions)
    - CBS 9 (153 spots, 13,167,000 impressions)

- Latinx - Spanish

    - Telemundo 52 (135 spots, 9,370,000 impressions)
    - UniMas 46 (254 spots, 15,974,547 impressions)
    - Univision 34 (258 spots, 31,957,316 impressions)
    - KRCA 3 (154 spots)

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[9]Here we provide the number of spots, impression estimates (where available), as well as the language used in the advertisements.

- AAPI - Korean, Chinese, Tagalog, Vietnamese, and Mandarin

    - KBS World (Korean, 75 spots)
    - Crossings TV (Chinese, 156 spots, 2,484,811 impressions)
    - Crossings TV (Tagalog, 171 sports, 2,593,542 impressions)
    - Crossings TV (Vietnamese, 144 spots, 1,382,173 impressions)
    - Crossings TV (Korean, 60 spots)
    - Saigon TV (Vietnamese, 100 spots)
    - ETTV America (Mandarin, 75 spots)
    - SkyLink TV (Mandarin, 120 spots)

Radio also provided important ways to disseminate information about safe voting opportunities during the 2020 general election for LACRR/CC. Many of the communities in LA County utilize radio for news and community information, in particular the Latinx, Asian, and Black communities. The LACRR/CC radio campaign involved the use of live and pre-recorded radio advertisements about the general election and safe voting opportunities, across a large number of radio outlets in a wide variety of languages. A total of 11,504 advertisements were aired on radio stations, on 42 different Los Angeles County radio stations — producing an estimated 171,084,900 impressions. These radio spots were aired on various music, news/talk, and iHeartRadio general market radio stations; on 10 Latinx stations in Spanish; and on 7 AAPI radio stations.

7.2.4   Print advertising

The LACRR/CC outreach campaign also used print media advertising extensively, which allowed the dissemination of information into highly localized segments of Los Angeles County. The print advertising campaign included English-language general market ads in print outlets covering LA County (like the *Los Angeles Times*), but also more local print media like the *El Segundo Herald*, the *Hawthorne Press*, the *Long Beach Press Telegram*, and the *Santa Clarita Valley Signal* (among others). Print media ads were also placed in outlets that serve the Black communities of Los Angeles County:

- *California Crusader*

- *City Pride Magazine*

- *Inglewood Today*

- *LA Focus*

- *LA Sentinal*

- *LA Standard Paper*

- *LA Watts Times*

- *Observer News Group*

- *Our Weekly*

- *The Bulletin*

Spanish-language print ads were placed in outlets serving the Latinx community of Los Angeles County:

- *El Aviso*

- *La Opinion*

- *El Clasificado*

- *La Nueva Voz*

- *Excelsior*

- *Impulso*

- *The San Fernando Valley Sun/El Sol del Valle De San Fernando*

Additionally, print media advertisements were placed in outlets serving nine other Los Angeles County communities, some provided in English (*Carib Press*, *India Journal*), some in both Arabic and English (*Al Enteshar Newspaper*), and Chinese (*China Press*, *Sing Tao Daily*, *Zhong Guo/Chinese Daily News*). Print advertising campaigns were also placed in outlets in Korean (*Korea Herald*, *The Korea Daily*, and the *Korea Times*), Thai (*Thai LA*), Vietnamese (*Nguoi Viet* and *Viet Bao*), and Armenian (*Asbarez*).

Across these 44 outlets and campaigns, a total of 254 ads were placed, with an estimated 32,521,900 impressions in the fall of 2020.

7.3   Mail Outreach

Given the unique administration of the 2020 general election in California, all active registered voters in Los Angeles County received a number of direct mailings from LACRR/CC.

Those began in late September when all active registered voters were sent their sample ballot for the general election. Also, LACRR/CC at that time made available an online Interactive Sample Ballot (isb.lavote.net), so that all active registered voters could access their sample ballot online (this tool also allowed the generation of electronic poll passes that could be used by voters at vote centers to generate their marked ballot quickly for in-person voting). In mid-October, all active registered voters received in the mail a post-card, which provided personalized information showing the locations of the four vote centers closest to their home address. Additionally, on October 5, 2020, LACRR/CC be-gan mailing to all registered voters their vote-by-mail ballots for the general election.

7.4   Language Assistance and Accessibility

As discussed earlier in this section, the media outreach campaign utilized by LACCRR/CC for the 2020 general election was multi-modal, using many media outlets and advertis-ing approaches aimed at reaching eligible residents and registered voters throughout the county. These advertising campaigns were run on media platforms and outlets that have audiences representing the cultural, racial, ethnic, and linguistic diversity of Los Angeles County. By implementing a geographically comprehensive, multilingual, and local media outreach campaign, LACRR/CC disseminated widely information about the November 2020 general election, focusing on voting safely during the COVID-19 pandemic.

7.5   Conclusion

Voter outreach is a difficult task for election officials, in particular in a geographically large and diverse area like Los Angeles County. While true in the best of circumstances, the COVID-19 pandemic meant that voter outreach in the 2020 general election needed to be crafted so that it met eligible residents and registered voters in the county where they were during the pandemic. For many, this meant targeting outreach materials digi-tally, on television and radio, and in their local newspapers. For some, especially frontline and essential workers, it meant placing advertising on billboards, mass transit, in grocery stores, and other places where they might be during the pandemic. The LACCRR/CC's widespread and multi-modal media outreach effort, combined with direct mailings by LACRR/CC, disseminated information about the election and safe voting opportunities throughout the county. The impressions generated by the media outreach effort indicate that most residents and registered voters likely saw, heard, or read LACRR/CC advertis-ing materials prior to the election.

8 Instances of Voter Fraud

8.1 Introduction

Voter or election fraud is difficult to study (Alvarez, Hall and Hyde, 2009). For the purposes of our report, we requested information from the California Secretary of State Elections Investigation Fraud Unit (EIFU), we searched for news media reports of allegations of fraud, and we searched for news advisories or reports from law enforcement agencies. The EIFU reported that they were investigating three allegations of voter fraud in Los Angeles County during the November 2020 general election. Our other research efforts produced few public reports of election or voting fraud allegations in relation to the November 2020 general election in Los Angeles County.

8.2 Information from the Election Fraud Investigations Unit

On March 29, 2021, our team requested information from the California Secretary of State's Election Fraud Investigations Unit (EFIU), regarding information or data on reports or complaints, and allegations or instances of voter fraud in the 2020 general election in Los Angeles County.

On April 8, 2021, we received the following information from the EIFU:

> For the November 2020 General Election, the Elections Fraud Investigations Unit (EFIU) is currently investigating three allegations of voter fraud in Los Angeles County under Elections Code sections 18100, 18101, and 18560(b). Due to the confidential nature of elections fraud investigations, further information or details on these investigations cannot be provided. If EFIU's investigation confirms these allegations of voter fraud, the case(s) will be referred to the District Attorney's Office for prosecution. Please note that these numbers may change in the future if we later receive additional allegations of voter fraud for Los Angeles County for the November 2020 General Election cycle.

8.3 Public Reports

We also searched the news reports from the Los Angeles County District Attorney (`https://da.lacounty.gov/`, and news media reports, regarding public reports of voter or election fraud in Los Angeles County during the November 2020 general election.

In early October 2020, reports in the news media circulated alleging that unauthorized and non-official vote-by-mail ballot drop boxes might have been deployed in a number of California counties, including Los Angeles County. On October 11, 2020, the Secretary of State's Office issued a memorandum on this issue.[10] On October 22, 2020, the Los Angeles Registrar-Recorder/County Clerk announced a new mechanism for the public to report on potentially suspicious activities regarding ballot drop boxes or ballot collection.[11] At the time of the writing of this report, we do not have further information on the reports provided nor allegations made regarding unauthorized and non-official vote-by-mail ballot drop boxes.

On November 4, 2020, allegations were made on social media that ballots were being left in drop boxes after 8pm on election night. These allegations were refuted by LACRR/CC on social media, as they noted that all drop boxes in the county were locked at 8pm on election night, and that ballots were collected from those locked drop boxes the following day, following procedures outlined in the state election code. In a statement made on Twitter on November 11, 2020, the LACRR/CC said that the drop box ballots in question were "valid, legally cast ballots collected and processed by authorized election officials in accordance with the California Elections Code."[12]

On November 17, 2020, the Los Angeles County District Attorney's Office announced that two men were charged in Los Angeles County for "allegedly submitting more than 8,000 fraudulent voter registration applications between July and October 2020. The defendant also is accused of falsifying names, addresses, and signatures on nomination papers under penalty of perjury to run for mayor in the city of Hawthorne."[13] Additional details were reported in the news media.[14] As far as our team is aware, this case is still under investigation.

8.4 Conclusions

As noted in this section's introduction, election and voter fraud are difficult research questions, as it is not easy to obtain data on allegations or investigations (which are often confidential). It is also difficult to obtain information or data on the potential scale of any allegations of election or voter fraud. In our analysis, we requested information from the EFIU, and they informed us that there are currently three allegations of voter fraud from the November 2020 general election in Los Angeles County now under investigation. We

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[10]See `https://elections.cdn.sos.ca.gov/ccrov/pdf/2020/october/20240jl.pdf`.

[11]`https://www.lavote.net/docs/rrcc/news-releases/10222020_report-tool.pdf`.

[12]See `https://twitter.com/LACountyRRCC/status/1326639640577597441`.

[13]Source: `https://da.lacounty.gov/media/news/pair-charged-voter-fraud`.

[14]For example, in the *Los Angeles Times*, November 17, 2020, `https://www.latimes.com/california/story/2020-11-17/hawthorne-men-accused-in-voter-fraud-plot-to-attain-8-000-mail-ballots-for-nonexistent-or-deceased-persons`.

also have scanned public reports (the County's District Attorney's Office and news media reports), and have found one reported investigation into election fraud, as well as reports that the LACRR/CC made available a public reporting process in late October 2020.

Placing these reports in context, we note that there were 4,338,191 voters in Los Angeles County for the November 2020 general election. While we do not have precise information on the scope or scale of the allegations being investigated by the EFIU, the rate of cases under investigation by the EFIU relative to votes cast in the election is very low, with approximately one case per 1.5 million votes cast.

9 The Voting Experience and the Canvass

9.1 Introduction

In order to evaluate the voting experience during the general election and the post-election canvass, we first use post-election voter experience survey data that our research group collected immediately after the November 2020 general election; the details of the survey methodology and analysis of the data are in the next section. We also followed post-election reporting of the canvass in Los Angeles County, noting that we found no indication of problems in the post-election canvass, which is discussed in Section 9.3.

9.2 The Voting Experience

In November 2020, our research group conducted an online survey of California registered voters as part of our Monitoring the Election project. The California sample (2,532 registered voters) contained 509 registered Los Angeles County voters. We use the survey responses from that subsample of registered voters in this section. These registered voters were asked a number of questions about whether they voted in the 2020 general election, their voting experience, and other questions about voter confidence and election fraud. The survey questionnaire was developed by our research group at Caltech, based on similar surveys of voter experiences that we have conducted since 2006. The survey methodology was reviewed by the California Institute of Technology's Institutional Review Board. This survey was fielded online by YouGov from November 4-10, 2020, using respondents from their opt-in panel and an external partner. The Los Angeles County subsample is weighted by gender, race and ethnicity, and age, to better represent the Los Angeles County electorate.

Given that the sample of LA County registered voters was relatively small, we only report in this section the topline results for voter confidence, and for different aspects of the in-person and by-mail voting experiences. Analysis of these survey data for specific segments of the LA County electorate is not possible given the sample size.

In this survey, one of the voter evaluations regards voter confidence. Our survey asked registered voters about their confidence that votes were counted as intended in four different ways:

- For those who voted in the 2020 November election, we asked them how confident they were that their vote in that election was counted as they intended.

- For all registered voters, we asked them how confident they were that votes were

Voter Confidence

2020 General Election, Los Angeles County
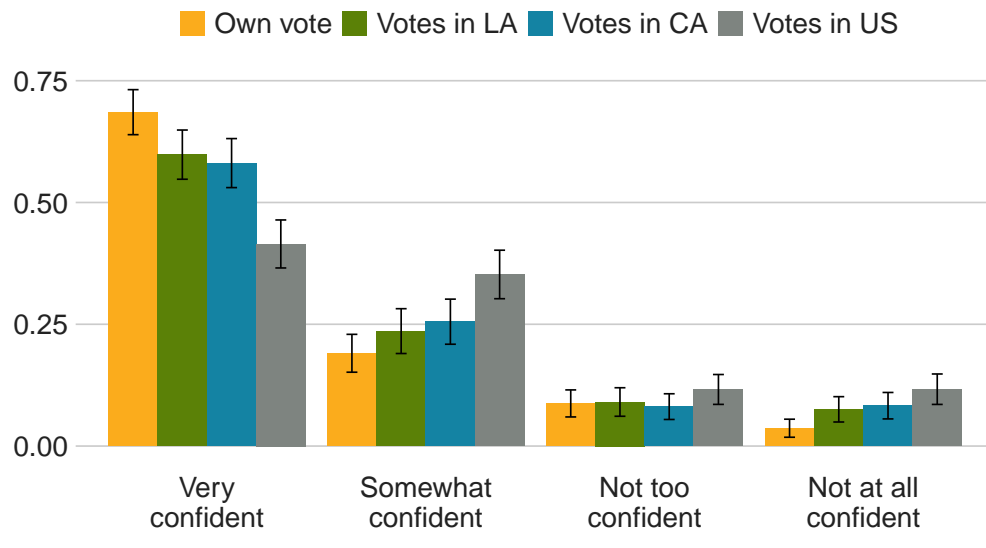
Source: Nationwide Voter Survey, November 2020

Figure 9.1: LAC Voter Confidence in the 2020 General Election

counted as intended in Los Angeles County, in California, and nationally.

These are standard voter confidence questions, which have been used in a great deal of past academic research.[15]

Beginning with Figure 9.1, we see that LA County voters were very confident that their ballots were counted as they intended (tabular results are presented in the appendix, in Table A29). A large majority of voters in our LA County sample reported being very confident that their vote was counted as intended (68%), with another 19% being somewhat confident. Thus, 87% of voters in our sample were either very or somewhat confident that their ballot was counted as they intended.

Furthermore, when registered voters in our sample were asked about their confidence that votes in LA County were counted as intended, 60% stated that they were very confident, with 24% saying they were somewhat confident: thus, a very high percentage of registered voters (84%) in LA County were very or somewhat confident that votes in the county were counted as intended. For comparison, these same registered voters were generally confident that ballots were counted as intended statewide in California, as 83%

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[15]See Alvarez, Atkeson and Hall (2012) for further discussion of the use of voter surveys and confidence to evaluate election administration. Similar statistics for the national sample from this survey are available online at `https://bit.ly/3p7K9kb`.

In–Person Voting Experience

2020 General Election
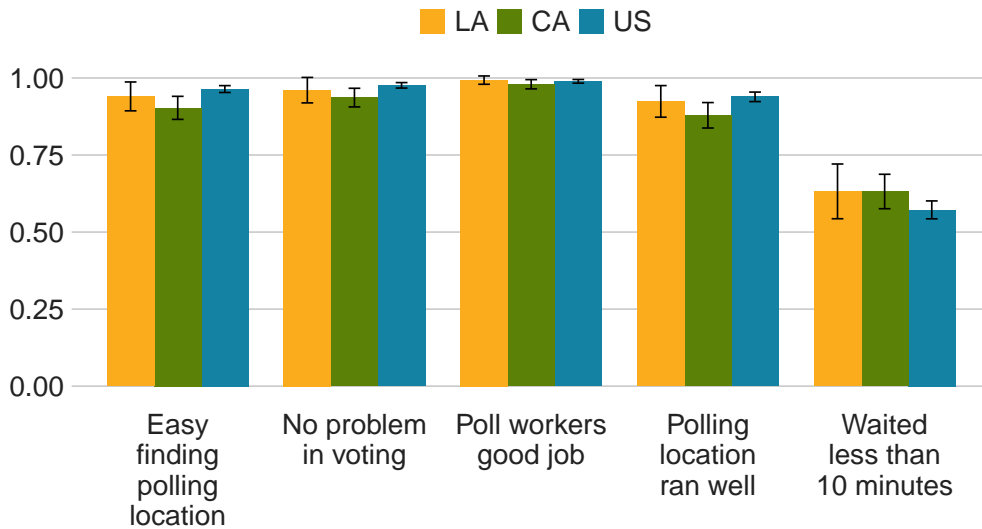
Source: Nationwide Voter Survey, November 2020

Figure 9.2: In-person Voting Experience in the 2020 General Election

were very or somewhat confident. However, there was somewhat less confidence among LA County registered voters about the national administration of the 2020 general election, as 76% of registered voters in our sample said that they were very or somewhat confident that ballots were counted as intended nationally.

In our survey, we also asked those who voted in-person about various aspects of their experience: how easy was it for them to find a voting location, whether they had any problem voting, whether poll workers did a good job at the voting location, if the polling location was run well, and whether they waited for less than ten minutes to vote. In Figure 9.2, we provide the estimates for each of these aspects of the in-person voting experience, for LA County voters, for California voters, and for voters in our national samples; a tabular representation of these results is provided in Appendix Table A30.

Overall, we see that LA County voters reported a very good in-person voting experience, despite the limitations imposed by the pandemic conditions in vote centers. Ninety-four percent said that it was easy to find a polling location, and 96% said they had no problems voting. Nearly every LA County in-person voter in our sample said that poll workers did a good job running the vote center (99%), while most thought that the vote center was run well (92%). We see that a majority said they waited in line for less than 10 minutes (63%), which is important to note given the need for social distancing and other pandemic-related procedures in voting centers. These are strong results, indicating that LA County voters who participated in person believed they had a very good voting

By–mail Voting Experience

2020 General Election
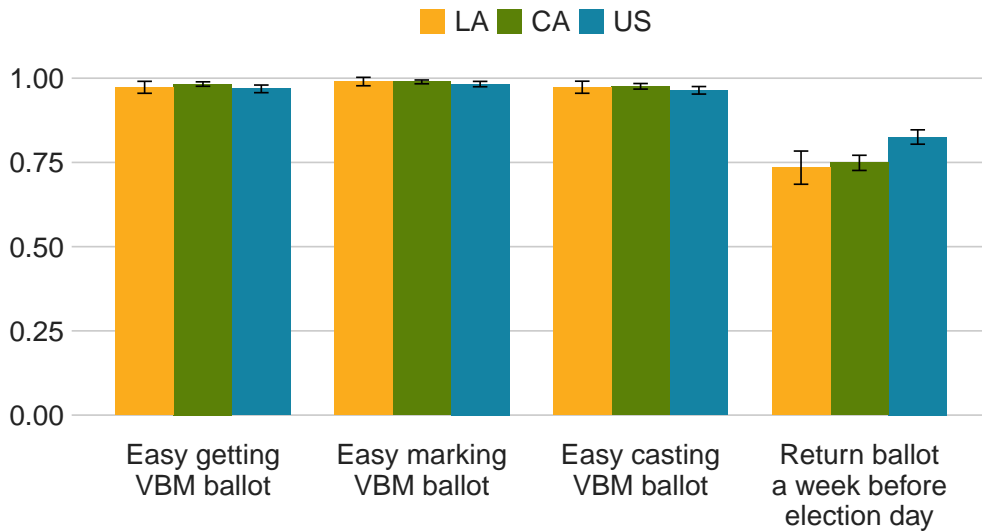
Source: Nationwide Voter Survey, November 2020

Figure 9.3: By-mail Voting Experience in the 2020 General Election

experience.

Finally, in Figure 9.3, we provide similar estimates, but about the by-mail voting experience. We asked those who used their by-mail ballot, how easy it was to receive their ballot, how easy it was to cast it, and how easy it was to mark it. We also asked them whether they were able to return it at least a week prior to Election Day. We present estimates for LA County voters, for California voters, and for voters in our national sample in the figure, and tabular results can be found in Appendix Table A31.

We note that LA County voters who used their by-mail ballots reported very good experiences. Nearly all of the by-mail LA County voters in our sample reported that it was easy to get their by-mail ballot (97%), that it was easy to mark (99%), and that it was easy to return (97%). And most were able to return it at least a week before Election Day (73%). These are strong voter experience numbers, indicating that LA County's first experience with the VCA model and with universal by-mail voting was successful from the perspective of voters.

9.3 The Canvass

The canvass, tally, and recounting processes of LACRR/CCs administration of elections are typically accessible for in-person public observation. Due to the pandemic, LACRR/CC made use of live streaming to maintain transparency, while following physical distancing guidelines. Also, pandemic conditions produced challenges during the tally and canvas periods, due to county staffing reductions and the need to maintain physical distancing. Our research indicates that LACRR/CC's efforts to deal with these challenges introduced by the COVID-19 pandemic were successful, and we are not aware of any significant issues during the tally and canvass.

The schedule was for LACRR/CC to provide updates about the canvass starting on November 4, 2020, and to certify the election on November 30, 2020. The first reporting of semi-official results on November 4, 2020, noted that 3,186,572 ballots were processed by that time. Ten subsequent canvass updates were provided, with the tenth on November 27, 2020, noting that by that point, 4,333,752 ballots had been processed, with 33,045 ballots remaining. Those final ballots were processed, and the election was certified on November 30, 2020. The final tally on November 30, 2020, was 4,338,191 ballots processed for the 2020 general election in Los Angeles County.

9.4 Conclusion

According to our survey data for Los Angeles County voters, they were very confident that their ballots were counted as intended in the 2020 November general election. They also reported very positive in-person and by-mail voting experiences. Our research also indicates that while there were significant challenges introduced by the pandemic (specifically regarding LACRR/CC staffing and requirements for social distancing), the post-election tally and canvass went well, and we are not aware of any problems during the tally and canvas.

10 Conclusions

Election administration in Los Angeles County is challenging under typical circumstances. LA County is one of the largest election jurisdictions in the nation, covering a very large geographic area and a highly diverse electorate. Add to that the COVID-19 pandemic, an energized and enthusiastic electorate, the first implementation of the VCA and VSAP in a presidential election, and a contentious election environment, it is clear that context made for a very challenging election for LACRR/CC.

Our research indicates that LACRR/CC met the challenge. The data available to our research group shows that voters were confident that their ballots were counted as they intended, and that virtually all voters reported good in-person or by-mail voting experiences. Voter registration and participation were at high levels, and there were few apparent problems in the other aspects of the election that we studied.

We attribute this success to many factors. One of the important factors was the work that the LACRR/CC did after the March primary to resolve the issues that arose in the primary election, and which were the subject of a report by the LACRR/CC. By implementing the recommendations in that report, LACRR/CC took important steps to set the stage for a successful November general election. Second, LACRR/CC took advantage of a number of special elections that occurred before the general election, to pilot test the procedures that would be used under pandemic conditions in November. Third, LACRR/CC's voter outreach effort, which used many different approaches to get information out to eligible residents and voters, and which emphasized coverage of the geographic, cultural, and racial/ethnic diversity of the county, was impressive in scale. Given the multi-modal outreach approach, it is likely that most eligible residents and voters received some type of information or contact about the general election from LACRR/CC. Finally, LA County voters took advantage of safe voting opportunities, by using their by-mail ballot or by safely voting in person at a vote center.

Below are specific conclusions from the sections in our report.

10.1 Voter Registration

We found a number of interesting results in the analysis reported in this section. In no particular order, these results include:

- Voter registration rates for recent general elections have been increasing since 2008, and the rate of registration among eligible voters is greater in Los Angeles County than it is statewide.

- Registration activity increased in Los Angeles County in October prior to the close of registration for the general election.

- Conditional voter registration was more widespread in Los Angeles County than in other counties in California.

- Those who registered conditionally for the November 2020 general election were typically younger and less likely to register with the two major parties.

10.2 Voter Participation

A summary of the important findings in this section include:

- Voter participation in Los Angeles County, among eligible voters and among registered voters, have been increasing since the 2014 general election.

- Voter participation in Los Angeles County for registered voters is lower than the statewide participation rates in recent general elections. Voter participation in Los Angeles County for eligible voters, however, is similar to the statewide participation rates in recent statewide general elections.

- There has been increasing use of voting by mail in Los Angeles County in general elections, though the rate of voting by mail in Los Angeles County is lower than that seen in the state.

- A majority of vote-by-mail ballots were dropped off at vote centers, drop boxes, or other drop-off locations in the 2020 general election, and according to the data we have, most of those were dropped off within a week of the November 2020 general election.

- While we have access to a limited set of registered voter attributes in the data provided for our study, we find that in Los Angeles County that voter participation is correlated with age, which is consistent with other studies of voter participation. We also see that in the November 2020 general election, Los Angeles County voters registered as Democrats or Republicans had higher turnout rates than voters registered with other parties or as No Party Preference.

10.3 Provisional Balloting

- We found that provisional voting decreased in the November 2020 general election. This is likely due to the implementation of VCA as well as the switch to voting by mail by most voters.

- We noted in our March 2020 primary election report that many provisional ballots cast in the March 2020 primary in Los Angeles County arose because of technical issues in the vote centers, as electronic pollpads had trouble synchronizing data with the central voter database. These issues seem to have been sufficiently addressed before the November 2020 general election.

- Finally, we showed that younger voters and voters not registered with the two major parties are more likely to use a provisional ballot.

10.4 Ballot Rejections

- In the 2020 general election, Los Angeles had significantly lower ballot rejection rates than the 2016 and 2018 general elections. Approximately 97% of all provisional votes and 99% of all vote-by-mail ballots in Los Angeles County were accepted in the 2020 general election.

- For provisional ballots, the most common reasons for rejection are that the voter already voted or the envelope or ballot was incomplete or illegible.

- For vote-by-mail ballots, the primary rejection reason was non-matching signature, which contrasts previous years where the primary rejection reason was that vote-by-mail ballots were not received on time.

- Younger voters in Los Angeles County had higher rates of vote-by-mail ballot rejection than older voters, and that voters who were not registered as Democrats or Republicans, or who were registered with no party preference, had higher rates of vote-by-mail ballot rejection than Democratic or Republican registered voters.

- Provisional ballot rejection rates were higher for older voters than for younger voters in Los Angeles County, and that provisional ballot rejection rates were higher for voters registered with no party preference or who were not Democratic or Republican registered voters.

10.5 Outreach

- The COVID-19 pandemic meant that voter outreach in the 2020 general election needed to be crafted so that it met eligible residents and registered voters in the county where they were during the pandemic. For many, this meant targeting outreach materials digitally, on television and radio, and in their local newspapers. For some, especially frontline and essential workers, it meant placing advertising on billboards, mass transit, in grocery stores, and other places where they might be during the pandemic.

- The LACCRR/CC's widespread and multi-modal media outreach effort, combined with direct mailings by LACRR/CC, disseminated information about the election and safe voting opportunities throughout the county.

- The impressions generated by the media outreach effort indicate that most residents and registered voters likely saw, heard, or read LACRR/CC advertising materials prior to the election.

10.6   Fraud

- In our analysis, we requested information from the EFIU, and they informed us that there are currently three allegations of voter fraud from the November 2020 general election in Los Angeles County now under investigation.

- We also have scanned public reports (the County's District Attorney's Office and news media reports), and have found one reported investigation into election fraud, as well as notifications that the LACRR/CC made available a public reporting process in late October 2020.

10.7   Voter Experiences and the Post-Election Tally and Canvass

- According to our survey data for Los Angeles County voters, they were very confident that their ballots were counted as intended in the 2020 November general election. Our survey results show that 87% of LA County voters believed that their ballot was counted as they intended, and that 84% of LA County registered voters believed that votes in the county were counted as intended.

- LA County voters also reported generally positive in-person and by-mail voting experiences, with very few voters reporting that they had any issues voting by mail or in person.

- Our research also indicates that while there were significant challenges introduced by the pandemic (changes in LACRR/CC staffing and requirements for social distancing), the post-election tally and canvass went well, and we are not aware of any problems during the tally and canvass.

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Appendices and Detailed Data Tables

Detailed Data Sources

Data Sources: Section 3

Figure 3.1: Voter Participation Statistics by County, California Secretary of State

Figure 3.2: Voter Registration File and Voter Participation History File, VoteCal

Figure 3.3: Voter Participation History File, VoteCal

Figure 3.4: Voter Registration File, VoteCal

Figure 3.5: Voter Registration File, VoteCal

Figure 3.6: Voter Registration File, VoteCal

Figure 3.7: Registration by US Congressional District, California Secretary of State

Figure 3.8: Voter Registration File and Voter Participation History File, VoteCal

Figure 3.9: Voter Registration File and Voter Participation History File, VoteCal

Data Sources: Section 4

Figure 4.1: Voter Participation Statistics by County, California Secretary of State

Figure 4.2: Voter Participation Statistics by County, California Secretary of State

Figure 4.3: Voter Participation Statistics by County, California Secretary of State

Figure 4.4: Vote-by-Mail Ballot File, VoteCal

Figure 4.5: Vote-by-Mail Ballot File, VoteCal

Figure 4.6: Vote-by-Mail Ballot File, VoteCal

Figure 4.7: Voter Registration File and Voter Participation History File, VoteCal

Figure 4.8: Voter Registration File and Voter Participation History File, VoteCal

Figure 4.9: Voter Registration File and Voter Participation History File, VoteCal

Figure 4.10: Statement of Votes Cast, Los Angeles County Registrar-Recorder/County Clerk

Data Sources: Section 5

Figure 5.1: ePulse

Figure 5.2: ePulse

Figure 5.3: Provisional Ballot File, Voter Registration File, and Voter Participation History File, VoteCal

Figure 5.4: Provisional Ballot File, Voter Registration File, and Voter Participation History File, VoteCal

Data Sources: Section 6

Figure 6.1: Provisional Ballot File, VoteCal

Figure 6.2: Vote-by-Mail Ballot File, VoteCal

Figure 6.3: Provisional Ballot File, VoteCal

Figure 6.4: Vote-by-Mail Ballot File, VoteCal

Figure 6.5: Vote-by-Mail Ballot File and Voter Registration File, VoteCal

Figure 6.6: Vote-by-Mail Ballot File and Voter Registration File, VoteCal

Figure 6.7: Provisional Ballot File and Voter Registration File, VoteCal

Figure 6.8: Provisional Ballot File and Voter Registration File, VoteCal

Data Sources: Section 9

Figure 9.1: National Voter Survey

Figure 9.2: National Voter Survey

Figure 9.3: National Voter Survey

Detailed Research Methodology

For imputation of gender identity, we execute the following steps in turn. Please note that each step only processes the remaining records that were left from the previous steps.

    i. Assign gender with certainty for voter records that have non-empty gender fields.

    ii. Assign gender with certainty for voter records that have non-empty prefix names. Specifically, assign "male" if prefix names are "mr," assign "female" if prefix names are "mrs," "miss," or "ms."

    iii. Use the R package `gender` (Mullen, Blevins and Schmidt, 2015) to predict gender on first names using the historical datasets (1932-2012) from the U.S. Social Security Administration. We assign genders according to the predictions and record the confidence of predication as "genderProbability."

    iv. Use R package `gender` to predict on middle names. Assign genders according to the predictions and record the confidence of predication as "genderProbability."

    v. Use online database `genderize.io` (Fox, Burns and Meyer, 2016) to predict on first names, and assign genders according to the predictions and record the confidence of predication as "genderProbability."

    vi. Use online database `genderize.io` to predict on middle names, and assign genders according to the predictions and record the confidence of predication as "genderProbability."

    vii. Keep the genders that have probabilities higher than 90% and mark the others as "no match."

For imputation of race and ethnicity, we execute the following steps in turn. Please note that each step only processes the remaining records that were left from the previous steps.

    i. Assign race/ethnicity with certainty for voter records that have non-empty race/ethnicity fields.

    ii. Use R package `wru` (Khanna, Imai and Hubert, 2017) to predict race/ethnicity on last names using 2020 U.S. Census databases. Specifically, `wru` takes in last name, gender (with probability higher than 90%), age, party, and U.S. Census tract ID, and returns the probabilities of the voter to be either "WHITE," "BLACK," "HISP,"

"ASIAN," or "OTHER." We record the probabilities of the race/ethnicity predictions. The U.S. Census tract IDs were obtained by searching voters' resident addresses from the Census databases using R package `censusxy`.[16] For addresses that failed to match any tract IDs in `censusxy`, we first use R package `tidygeocoder`[17] to geocode them from the Nominatim OpenStreetMap data,[18] then use `censusxy` to match the resulting coordinates with the U.S. Census datasets and obtain tract IDs.

iii. For residential addresses that did not match any tract IDs in the previous step, we use R package `zipWRUext2`[19] to predict race/ethnicity using last name, gender (with probability higher than 90%), age, party, and zip codes. We record the probabilities of the race/ethnicity predictions.

iv. Loosen gender, age, and party restrictions and re-run `wru` and `zipWRUext2`. Record the probabilities of the race/ethnicity predictions.

v. Assign race/ethnicity if the corresponding probability is higher than 80% and mark the others as "no match."

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[16]https://cran.r-project.org/web/packages/censusxy/censusxy.pdf.
[17]https://github.com/jessecambon/tidygeocoder.
[18]https://nominatim.org/.
[19]https://github.com/jcuriel-unc/zipWRUext.

Detailed Data Tables

Table A1: Voter Registration in General Elections, 2008-2020

Election Year	Los Angeles		Statewide	
	Registered Voters	Rate of Registration	Registered Voters	Rate of Registration
2008	4,298,440	74%	17,304,091	75%
2010	4,449,415	76%	17,285,883	73%
2012	4,758,437	80%	18,245,970	77%
2014	4,897,915	80%	17,803,823	73%
2016	5,253,427	84%	19,411,771	78%
2018	5,280,658	85%	19,696,371	78%
2020	5,813,167	95%	22,047,448	88%

Table A2: Weekly Rate of New or Updated Registrations, 2020 General Election

Week	Weeks before Deadline	Los Angeles		Other VCA Counties		Statewide	
		Number of Voters	Percent of Voters	Number of Voters	Percent of Voters	Number of Voters	Percent of Voters
Aug 11 - 17	10	35,286	0.8%	37,064	0.9%	161,856	0.9%
Aug 18 -24	9	66,763	1.6%	76,381	1.9%	321,617	1.8%
Aug 25 - 31	8	35,533	0.8%	41,638	1.0%	169,404	1.0%
Sep 1 - 7	7	45,368	1.1%	51,727	1.3%	214,708	1.2%
Sep 8 - 14	6	41,276	1.0%	48,885	1.2%	187,046	1.1%
Sep 15 - 21	5	63,847	1.5%	62,806	1.5%	263,030	1.5%
Sep 22 - 28	4	98,077	2.3%	94,531	2.3%	399,747	2.3%
Sep 29 - Oct 5	3	86,579	2.0%	78,600	1.9%	344,612	2.0%
Oct 6 - 12	2	64,937	1.5%	63,086	1.5%	271,844	1.5%
Oct 13 - 19	1	92,325	2.2%	80,700	2.0%	359,769	2.0%

Table A3: Conditional Voter Registration, 2018 and 2020 General Elections

Election Year	Los Angeles		Other VCA Counties		Statewide	
	Number of CVR Voters	Percent of CVR Voters	Number of CVR Voters	Percent of CVR Voters	Number of CVR Voters	Percent of CVR Voters
2018	4,044	0.14%	-	-	55,816	0.44%
2020	78,408	1.81%	65,765	1.50%	269,572	1.52%

Table A4: Age Distribution of Registered Voters, 2020 General Election

Age	Los Angeles		Other VCA Counties		Statewide	
	Number of Voters	Percent of Voters	Number of Voters	Percent of Voters	Number of Voters	Percent of Voters
18 to 19	149,016	3%	145,160	3%	623,654	3%
20 to 34	1,708,482	29%	1,294,948	26%	6,037,181	27%
35 to 49	1,409,616	24%	1,143,980	23%	5,204,244	23%
50 to 64	1,355,034	23%	1,243,899	25%	5,388,048	24%
65 and older	1,187,937	20%	1,109,928	22%	4,900,091	22%

Table A5: Party Registration Distribution of Registered Voters, 2020 General Election

Party	Los Angeles		Other VCA Counties		Statewide	
	Number of Voters	Percent of Voters	Number of Voters	Percent of Voters	Number of Voters	Percent of Voters
Democratic	3,040,154	52%	2,108,202	43%	10,181,727	46%
Republican	997,660	17%	1,337,092	27%	5,369,900	24%
Third Party	276,917	5%	249,976	5%	1,159,455	5%
No Party Preference	1,495,354	26%	1,242,645	25%	5,442,136	25%

Table A6: Gender Distribution of Registered Voters, 2020 General Election

Gender	Los Angeles	
	Number of Voters	Percent of Voters
Female	2,978,134	51%
Male	2,674,208	46%
Unknown	157,743	3%

Table A7: Number of Registered Voters by U.S. Congressional District, 2020 General Election

U.S. Congressional District	Number of Registered Voters in LA County	Number of Registered Voters in Other Counties	Number of Registered Voters in All Counties
23	50,613	357,753	408,366
25	365,856	78,153	444,009
26	6,543	414,539	421,082
27	408,059	25,428	433,487
28	473,018	-	473,018
29	362,180	-	362,180
30	481,886	1,466	483,352
32	380,134	-	380,134
33	512,875	-	512,875
34	349,477	-	349,477
35	73,868	272,692	346,560
37	458,988	-	458,988
38	406,407	9,504	415,911
39	115,467	305,561	421,028
40	312,644	-	312,644
43	418,947	-	418,947
44	377,527	-	377,527
47	258,678	159,535	418,213

Table A8: Conditional Voter Registration by Age, 2020 General Election

| | Los Angeles | | Other VCA Counties | | Statewide | |
Age	Number of CVR Voters	Percent of CVR Voters	Number of CVR Voters	Percent of CVR Voters	Number of CVR Voters	Percent of CVR Voters
18 to 19	6,929	6.2%	5,311	4.5%	23,269	4.9%
20 to 34	28,145	2.4%	24,919	2.5%	100,027	2.4%
35 to 49	12,252	1.2%	13,723	1.4%	49,442	1.2%
50 to 64	10,113	0.9%	9,703	0.8%	36,324	0.8%
65 and older	6,030	0.6%	4,598	0.4%	18,496	0.4%

Table A9: Conditional Voter Registration by Party, 2020 General Election

Party	Los Angeles		Other VCA Counties		Statewide	
	Number of CVR Voters	Percent of CVR Voters	Number of CVR Voters	Percent of CVR Voters	Number of CVR Voters	Percent of CVR Voters
Democratic	23,484	1.0%	17,015	0.9%	74,940	0.9%
Republican	11,013	1.4%	16,185	1.3%	54,520	1.2%
Third Party	3,569	2.0%	3,577	1.7%	16,307	2.0%
No Party Preference	25,403	2.6%	21,477	2.2%	81,791	2.1%

Table A10: Voter Participation in General Elections, 2008-2020

Election Year	Los Angeles			Statewide		
	Total Number of Voters	Turnout among Eligible	Turnout among Registered	Total Number of Voters	Turnout among Eligible	Turnout among Registered
2008	3,368,057	58%	78%	13,743,177	59%	79%
2010	2,377,105	41%	53%	10,300,392	44%	60%
2012	3,236,704	54%	68%	13,202,158	55%	72%
2014	1,518,835	25%	31%	7,513,972	31%	42%
2016	3,544,115	57%	67%	14,610,509	59%	75%
2018	3,023,417	49%	57%	12,712,542	50%	65%
2020	4,338,191	71%	75%	17,785,151	71%	81%

Table A11: Voting in Person and Voting by Mail in General Elections, 2008-2020

	Los Angeles			Statewide		
	Number of In-Person Voters	Number of VBM Voters	Percent of VBM Voters	Number of In-Person Voters	Number of VBM Voters	Percent of VBM Voters
2008	2,557,835	810,222	24%	8,020,712	5,722,465	42%
2010	1,698,454	678,651	29%	5,310,540	4,989,852	48%
2012	2,260,876	975,828	30%	6,448,470	6,753,688	51%
2014	941,812	577,023	38%	2,966,267	4,547,705	61%
2016	2,260,467	1,283,648	36%	6,166,915	8,443,594	58%
2018	1,673,104	1,350,313	45%	4,410,054	8,302,488	65%
2020	913,765	3,424,426	79%	2,361,850	15,423,301	87%

Table A12: VBM Ballot Return Method, 2018 and 2020 General Elections

| | 2018 | | 2020 | |
	Number of VBM Voters	Percent of VBM Voters	Number of VBM Voters	Percent of VBM Voters
Mailed Back	952,328	69.8%	1,086,240	31.5%
Drop Box	-	-	1,784,515	51.8%
Vote Center/Precinct	368,220	27.0%	563,456	16.3%
Drop Off Location	42,292	3.1%	6,719	0.2%
Faxed	1,581	0.1%	6,534	0.2%

Table A13: VBM Mailed-Back Received by Week, 2020 General Election

| | | Los Angeles | | Other VCA Counties | | Statewide | |
Week	Weeks before Election	Number of Voters	Percent of Voters	Number of Voters	Percent of Voters	Number of Voters	Percent of Voters
Sep 15 - 21	7	-	-	236	0.0%	356	0.0%
Sep 22 - 28	6	14	0.0%	470	0.0%	1,454	0.0%
Sep 29 - Oct 5	5	51	0.0%	3,584	0.2%	24,213	0.4%
Oct 6 - 12	4	184,806	17.0%	183,865	12.6%	757,904	12.5%
Oct 13 - 19	3	303,901	28.0%	504,445	34.6%	1,878,973	31.1%
Oct 20 - 26	2	310,427	28.6%	384,696	26.4%	1,635,045	27.1%
Oct 27 - Nov 2	1	213,349	19.6%	290,662	19.9%	1,282,950	21.2%
On or after Nov 3	0	70,961	6.5%	84,220	5.8%	422,935	7.0%

Table A14: VBM Dropoff Received by Week, 2020 General Election

| | | Los Angeles | | Other VCA Counties | | Statewide | |
Week	Weeks before Election	Number of Voters	Percent of Voters	Number of Voters	Percent of Voters	Number of Voters	Percent of Voters
Sep 15 - 21	7	-	-	-	-	88	0.0%
Sep 22 - 28	6	-	-	87	0.0%	200	0.0%
Sep 29 - Oct 5	5	12	0.0%	6,470	0.3%	14,489	0.2%
Oct 6 - 12	4	134,505	5.7%	177,177	7.1%	585,112	6.1%
Oct 13 - 19	3	378,979	16.1%	437,807	17.5%	1,455,472	15.2%
Oct 20 - 26	2	433,338	18.4%	425,311	17.0%	1,639,839	17.2%
Oct 27 - Nov 2	1	700,724	29.8%	904,126	36.1%	3,014,686	31.5%
On or after Nov 3	0	704,036	29.9%	551,230	22.0%	2,845,317	29.8%

Table A15: Turnout by Age, 2020 General Election

| | Los Angeles | | Other VCA Counties | | Statewide | |
| | Number of | Turnout among | Number of | Turnout among | Number of | Turnout among |
Age	Voters	Registered	Voters	Registered	Voters	Registered
18 to 19	112,071	75%	118,154	81%	468,683	75%
20 to 34	1,148,684	67%	991,845	77%	4,183,996	69%
35 to 49	1,016,386	72%	1,001,632	88%	4,099,444	79%
50 to 64	1,065,185	79%	1,174,765	94%	4,588,419	85%
65 and older	934,082	79%	1,085,505	98%	4,259,567	87%

Table A16: Turnout by Party, 2020 General Election

| | Los Angeles | | Other VCA Counties | | Statewide | |
| | Number of | Turnout among | Number of | Turnout among | Number of | Turnout among |
Party	Voters	Registered	Voters	Registered	Voters	Registered
Democratic	2,345,363	77%	1,892,222	90%	8,369,298	82%
Republican	777,077	78%	1,284,490	96%	4,556,348	85%
Third Party	178,008	64%	205,561	82%	824,035	71%
No Party Pref.	975,960	65%	989,628	80%	3,850,428	71%

Table A17: Turnout by Gender, 2020 General Election

| | Los Angeles | |
| | Number of | Turnout among |
Gender	Voters	Registered
Female	2,275,492	76%
Male	1,936,647	72%

Table A18: Turnout in Los Angeles County by U.S. Congressional District, 2020 General Election

U.S. Congressional District	Number of Ballots Cast	Turnout among Registered
23	38,302	77%
25	284,682	79%
26	5,733	89%
27	320,990	80%
28	361,808	78%
29	255,327	72%
30	380,842	80%
32	287,586	77%
33	421,003	83%
34	243,400	71%
35	50,482	70%
37	331,110	73%
38	312,226	78%
39	91,037	80%
40	205,835	67%
43	296,782	72%
44	243,952	66%
47	195,623	77%

Table A19: Provisional Ballot Usage by Age, 2020 General Election

Age	Los Angeles Number of Provisional Voters	Percent of Provisional Voters	Other VCA Counties Number of Provisional Voters	Percent of Provisional Voters	Statewide Number of Provisional Voters	Percent of Provisional Voters
18 to 19	7,280	6.5%	5,145	4.3%	25,522	5.4%
20 to 34	29,710	2.6%	23,274	2.3%	116,371	2.8%
35 to 49	13,193	1.3%	12,759	1.3%	62,772	1.5%
50 to 64	11,127	1.0%	9,328	0.8%	49,090	1.1%
65 and older	6,761	0.7%	4,574	0.4%	26,462	0.6%

Table A20: Provisional Ballot Usage by Party, 2020 General Election

| | Los Angeles | | Other VCA Counties | | Statewide | |
| | Number of Provisional Voters | Percent of Provisional Voters | Number of Provisional Voters | Percent of Provisional Voters | Number of Provisional Voters | Percent of Provisional Voters |
Party						
Democratic	25,595	1.1%	16,088	0.8%	94,464	1.1%
Republican	12,025	1.6%	15,074	1.2%	70,610	1.6%
Third Party	3,792	2.1%	3,359	1.6%	19,493	2.4%
No Party Pref.	26,659	2.7%	20,559	2.1%	95,650	2.5%

Table A21: Ballot Rejection Rates - Provisional Ballots, 2018 and 2020 General Election

| | Los Angeles | | Other VCA Counties | | Statewide | |
Election Year	Provisional Ballot Rejections	Provisional Ballot Rate of Rejection	Provisional Ballot Rejections	Provisional Ballot Rate of Rejection	Provisional Ballot Rejections	Provisional Ballot Rate of Rejection
2018	21,351	5.5%	-	-	41,498	4.2%
2020	2,345	2.8%	992	1.6%	7,326	2.2%

Table A22: Ballot Rejection Rates - VBM Ballots, 2018 and 2020 General Election

| | Los Angeles | | Other VCA Counties | | Statewide | |
Election Year	VBM Ballot Rejections	VBM Ballot Rate of Rejection	VBM Ballot Rejections	VBM Ballot Rate of Rejection	VBM Ballot Rejections	VBM Ballot Rate of Rejection
2018	15,648	1.2%	-	-	80,962	1.0%
2020	21,652	0.6%	16,915	0.4%	84,917	0.5%

Table A23: Ballot Rejection Reasons - Provisional Ballots, 2020 General Election

Rejection Reason	Los Angeles Number of Rejections	Rate of Rejection	Other VCA Counties Number of Rejections	Rate of Rejection	Statewide Number of Rejections	Rate of Rejection
Voter already voted	1,595	68.0%	613	61.8%	3,284	44.8%
Envelope/ballot was incomplete/illegible	468	20.0%	65	6.6%	886	12.1%
Voted in wrong county	99	4.2%	51	5.1%	176	2.4%
Ballot missing from envelope	75	3.2%	28	2.8%	297	4.1%
Contact county for info	50	2.1%	44	4.4%	715	9.8%
No voter signature	36	1.5%	111	11.2%	365	5.0%
In Review	12	0.5%	46	4.6%	332	4.5%
No ID provided	4	0.2%	-	-	40	0.5%
Voter not registered	3	0.1%	26	2.6%	897	12.2%
Voted wrong ballot	2	0.1%	-	-	4	0.1%
Non-matching signature	1	0.0%	5	0.5%	321	4.4%
Other	-	-	3	0.3%	9	0.1%

Table A24: Ballot Rejection Reasons - VBM Ballots, 2020 General Election

Rejection Reason	Los Angeles Number of Rejections	Rate of Rejection	Other VCA Counties Number of Rejections	Rate of Rejection	Statewide Number of Rejections	Rate of Rejection
Non-matching signature	12,118	56.0%	9,356	55.3%	49,515	58.3%
No voter signature	4,740	21.9%	2,380	14.1%	14,581	17.2%
Ballot not received on time	2,937	13.6%	3,229	19.1%	13,503	15.9%
No ID provided	858	4.0%	1,044	6.2%	2,709	3.2%
Contact county for info	453	2.1%	25	0.1%	623	0.7%
Ballot missing from envelope	168	0.8%	117	0.7%	754	0.9%
Voter already voted	135	0.6%	231	1.4%	1,160	1.4%
Multiple ballots in envelope	113	0.5%	26	0.2%	253	0.3%
Voter deceased	111	0.5%	231	1.4%	540	0.6%
Cancelled	17	0.1%	273	1.6%	764	0.9%
Missing or incorrect address on envelope	2	0.0%	3	0.0%	107	0.1%
In Review	-	-	-	-	408	0.5%

Table A25: Provisional Ballot Rejection Rate by Age, 2020 General Election

Age	Los Angeles		Other VCA Counties		Statewide	
	Number of Rejections	Rate of Rejection	Number of Rejections	Rate of Rejection	Number of Rejections	Rate of Rejection
18 to 19	255	1.0%	64	0.9%	42	0.8%
20 to 34	1,752	1.5%	524	1.8%	289	1.2%
35 to 49	1,185	1.9%	370	2.8%	186	1.5%
50 to 64	1,371	2.8%	469	4.2%	222	2.4%
65 and older	1,105	4.1%	439	6.4%	148	3.2%

Table A26: VBM Ballot Rejection Rate by Age, 2020 General Election

Age	Los Angeles		Other VCA Counties		Statewide	
	Number of Rejections	Rate of Rejection	Number of Rejections	Rate of Rejection	Number of Rejections	Rate of Rejection
18 to 19	85,398	1.6%	100,642	1.3%	394,117	1.6%
20 to 34	912,743	1.0%	865,829	0.9%	3,607,808	1.1%
35 to 49	794,977	0.6%	871,602	0.4%	3,527,562	0.5%
50 to 64	828,199	0.4%	1,029,121	0.2%	3,970,152	0.3%
65 and older	800,591	0.4%	1,014,216	0.2%	3,923,760	0.2%

Table A27: Provisional Ballot Rejection Rate by Party, 2020 General Election

Party	Los Angeles		Other VCA Counties		Statewide	
	Number of Rejections	Rate of Rejection	Number of Rejections	Rate of Rejection	Number of Rejections	Rate of Rejection
Democratic	2,183	2.3%	852	3.3%	283	1.8%
Republican	1,661	2.3%	455	3.8%	322	2.1%
Third Party	363	1.9%	98	2.6%	63	1.9%
No Party Preference	1,461	1.5%	461	1.7%	219	1.1%

Table A28: VBM Ballot Rejection Rate by Party, 2020 General Election

Party	Los Angeles		Other VCA Counties		Statewide	
	Number of Rejections	Rate of Rejection	Number of Rejections	Rate of Rejection	Number of Rejections	Rate of Rejection
Democratic	1,972,740	0.5%	1,761,184	0.3%	7,607,378	0.5%
Republican	536,335	0.6%	1,060,340	0.4%	3,750,797	0.5%
Third Party	137,141	0.8%	179,550	0.7%	706,818	0.8%
No Party Preference	775,692	0.8%	880,336	0.6%	3,358,406	0.8%

Table A29: Voter Confidence, 2020 General Election, Los Angeles County

Confidence	Own vote	Votes in LA	Votes in CA	Votes in US
Very confident	68.54%	59.82%	58.09%	41.49%
Somewhat confident	19.05%	23.6%	25.53%	35.22%
Not too confident	8.75%	9.04%	8.1%	11.62%
Not at all confident	3.66%	7.54%	8.29%	11.67%

Table A30: In-Person Voting Experience, 2020 General Election, Los Angeles County

Experience	LA	CA	US
Easy finding polling location	94.03%	90.3%	96.41%
No problem in voting	96.05%	93.64%	97.62%
Poll workers good job	99.31%	97.97%	98.92%
Polling location ran well	92.4%	87.89%	93.88%
Waited less than 10 minutes	63.21%	63.16%	57.2%

Table A31: By-Mail Voting Experience, 2020 General Election, Los Angeles County

Experience	LA	CA	US
Easy casting VBM ballot	97.32%	97.59%	96.4%
Easy getting VBM ballot	97.3%	98.26%	96.83%
Easy marking VBM ballot	99.01%	98.9%	98.25%
Return ballot a week before election day	73.45%	74.87%	82.54%

Additional Tables and Figures for Race and Ethnicity

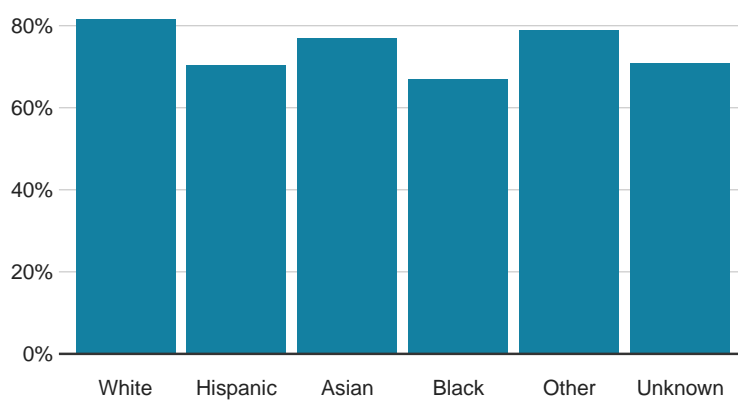**Race/Ethnicity Distribution of Registered Voters**

2020 General Election
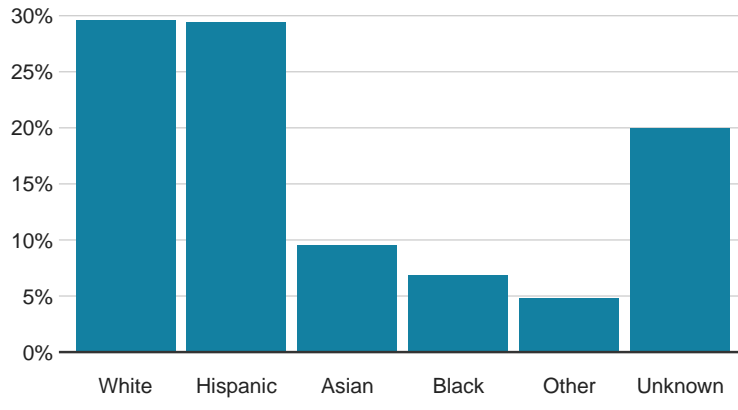
Source: Voter Registration File, VoteCal

Figure A1: Race and Ethnicity Estimates for Registered Voters

Turnout among Reg. Voters by Race/Ethnicity

2020 Genearl Election

Source: Voter Registration File and Voter Participation History File, VoteCal

Figure A2: Turnout among Registered Voters by Race and Ethnicity