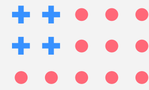

MIT ELECTION DATA + SCIENCE LAB

LESSONS LEARNED FROM THE 2020 ELECTION

REPORT TO THE U.S. ELECTION ASSISTANCE COMMISSION

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INTRODUCTION

A record 160 million Americans voted in the 2020 election. For the first time in American history, over half of those votes were cast before Election Day. These historical markers exist alongside the logistical challenges faced by voters and election officials because of the COVID-19 pandemic, challenges faced as the society and economy at large grappled with how to function in light of pervasive mobility restrictions and public health precautions.

The purpose of this report is to provide an account of how the American system of election administration responded to the significant barriers erected by the pandemic challenges. It is temporally bounded by the presidential primaries at the beginning of the calendar year and the certification of the results at the end. For the most part, the report relies on analyzing the mountain of data produced administering the election and during the period after it. The report is comprehensive in its scope, touching on voter registration, the conduct of in-person and mail voting, paying for the election, tabulating the vote, voting technology, and voter confidence.

Throughout, this account has its eye on what we can learn from the conduct of the election and the response to the challenges faced. Because of the extraordinary circumstances under which the election was conducted, it is natural to ask whether much can be learned from such a unique experience. However, examining the electoral system under strain seems to present a rare opportunity to explore its robustness. Stress can multiply the challenges administrators and voters face in more normal times; the variety of responses to those challenges provides learning opportunities to the larger elections community that, one hopes, can be adapted to practice during more typical elections.

As well, election officials often reminded the public during 2020 that emergency planning is always part of the job. In recent years, election administration has often had to contend with natural disasters. Absent having to plan around a hurricane or wildfire, officials regularly have to deal with power outages, bomb scares, printer errors, malfunctioning equipment, and other difficulties. As with show business, the election must go on, despite these challenges. The pandemic threw up more and more significant obstacles than the system typically faces. Still, the response provides an opportunity to assess the resilience of the election administration system and learn about how the larger society can be marshaled to ensure the continuity of elections.

The main lesson learned from the 2020 election is that the system was robust and resilient. Voters turned out at historical levels; they reported a positive experience when they did. This resilience had two principal sources, the hard work of election officials and the enthusiastic response of the society. In the end, members of the election administration profession developed a wide range of new capabilities and competencies; the society increased its sense of responsibility for the system's robustness. One hopes that government and society at all levels will continue in this spirit over the coming years to improve the election administration system even more.

Although this report is wide-ranging, it does not cover all topics of interest about the administration and conduct of the 2020 election. For the most part, this is because of our desire to focus on the core functions — the "blocking and tackling" — of election administration, and on those parts for which the availability of data could guide and focus the analysis.

A notable omission here is the response of the election ecosystem to the cybersecurity threats publicized in the 2016 election. The nature of that topic limits the ability to address it through the quantitative lens we adopt here. Consistent with the analysis in this report, the lack of notable cyber-incidents in 2020 is testimony to the effectiveness of the collaborative infrastructure in the field that has helped coordinate the response of local, state, and federal government actors, and improve working relations between election officials and vendors.

A WORD ABOUT DATA SOURCES

This report relies on numerous data sources to create a picture of the conduct of the 2020 election. Those sources are identified when they are used to form the analysis. Here we note the principal sources that were relied on throughout the report.

- Election Administration and Voting Survey. This data set, which is the most comprehensive collection of election administration data, is produced by the U.S. Election Assistance Commission following each federal election. The data and documentation for the survey are available on the EAC's website, https://www.eac.gov/research-and-data/datasets-codebooks-and-surveys.
- Survey of the Performance of American Elections. This is a survey of registered voters conducted following each presidential election. It is currently conducted by the MIT Election Data and Science Lab. The data and documentation are available through the Harvard Dataverse: https://dataverse.harvard.edu/dataverse/SPAE.
- Voting and Registration Supplement of the Current Population Survey. The CPS is conducted monthly by the U.S. Census Bureau primarily to gauge the state of the economy. Following each federal election, the November instrument includes questions about respondents' registration and voting status. The data from this study can be downloaded from the U.S. Census Bureau website: https://www.census.gov/data/datasets/time-series/demo/cps/cps-supp_cps-repwgt/cps-voting.html.
- Survey of Local Election Officials. The authors administered an original survey to a representative sample of local election officials. The questions focused on the response of local election departments to challenges related to the pandemic. The survey was administered by the Elections and Voting Information Center at Reed College and relied on the same sample used by EVIC in the 2020 Democracy Fund/Reed College Survey of Local Election Officials.[1] Respondents were guaranteed confidentiality; therefore, the data file is unavailable for download.
- State and local administrative data. Although not a single data source, the report frequently relies on administrative data provided by state and local election departments. These data include voter registration files, voter history files, absentee ballot files, and election returns.

Other datasets appear in more limited capacities. Verified Voting's "verifier" website was used to fill in gaps in the EAVS about the use of voting technology. The chapter on vote tabulation used a dataset created by the MIT Election Data and Science Lab based on real-time web scraping of reported election results.

ACKNOWLEDGMENTS

The authors wish to acknowledge research assistance and feedback received in writing this report. General research assistance and data analysis were conducted by Samantha Goldstein at the American Enterprise Institute and Jack Williams at the MIT Election Data and Science Lab. Camilla Alarcon, Abigale Belcrest, Declan Chin, and Joelle Gross at MEDSL reviewed the text, as did the staff and commissioners of the EAC. Claire DeSoi produced the final report. The analysis and opinions in this report are those of the authors alone, as is the responsibility for any remaining errors.

1 Elections and Voting Information Center, "About the 2020 DF/RC Survey of Local Election Officials," https://evic.reed.edu/leo-survey/.

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CHAPTER 1: PRIMARIES AND THE PANDEMIC

> *I actually had a gentleman who used to work for me that came over from emergency management. When I was hiring and we started talking and figured out that . . . running elections is really like emergency management. There's a lot of [shared] principles, except the only big difference is with elections you know when the emergency is happening, so you know when the disaster is hitting.*[1]

+ + +

In the midst of the 2020 primary season, the onset of COVID-19 set the stage for planning the much larger presidential election in November. The pandemic caused states to consider how, when, or even if they were going to hold primaries. There were significant political and institutional battles over these last-minute changes to primary elections. A set of states adopted more extensive (or sometimes exclusive) voting by mail, while others relied more on in-person and early in-person voting, but made smaller changes to allow voters to choose voting by mail. Yet with all of the COVID-19 inspired hindrances to voting and changes to the voting system, voter turnout in the primaries was high.

PRIMARY SEASON

The 2020 primary season was interrupted by the onset of COVID and the dramatic changes to all aspects of life. The first death from COVID was announced on February 29, which was also the day of the South Carolina primary. As states faced holding primaries under newly emergent, trying conditions, members of the public raised a number of questions that would be continually asked through the fall general election: Would it be possible to hold an election at all or should the date of the election be moved? Should we change voting procedures to accommodate voters during a pandemic, and if so, how? Who is really in charge of elections or which institutions make decisions about changes in election dates and procedures during emergencies? What if there is conflict between competing institutions over emergency changes to elections?

Of course, delaying or postponing the general election was not possible, but there was flexibility in moving primary dates and altering their procedures. The primary election also revealed difficulties or questions of authority in changing election dates and procedures in a short time frame. It was difficult enough to determine which changes were needed, but in a number of states, there were significant questions about which institutions — legislatures, executives, courts — were in charge of making election changes; these decisions were often more contentious where key institutions were controlled by different political parties.

The questions faced by states holding primary elections prefigured many of the issues that arose in the 2020 general election. Changes small and large were made to the way primaries were conducted. The dates of some primaries were moved while others were outright canceled. Those that remained saw a surge in mail ballots, in most cases because of new rules that encouraged mail voting. To protect the health and safety of poll workers and those who voted in-person, cleaning and distancing protocols were developed and implemented.

EMERGENCIES AND CONFLICTS BETWEEN INSTITUTIONS OVER ELECTORAL CHANGES

State laws vary in how or if they address emergency changes to the election process.[2] At least 45 states have laws that deal with election emergencies, although they vary in which events trigger an emergency and what actions can be taken to respond to it. These statutes generally give the governor power to act unilaterally to alter laws or practices for a limited period of time. According to the National Conference of State Legislatures, as of September 2020:

- The state legislatures of at least 14 states have given the governor the authority to suspend statutes.

1 Quote of David Stafford, Supervisor of Elections for Escambia County, Florida in U.S. Election Assistance Commission, "2020 Elections Learned," YouTube Video, 1:01:28, March 9, 2021, https://youtu.be/SbZo5eBZf7M, at 21:45.

2 National Conference of State Legislatures, "Election Emergencies," September 1, 2020, https://www.ncsl.org/research/elections-and-campaigns/election-emergencies.aspx.

- The state legislatures in an additional 22 states have given the governor the authority to suspend regulatory statutes, which may include elections.
- Governors in 12 states can suspend regulations of administrative agencies.
- In 7 states, the governor has emergency power over certain aspects of elections.

In the 2020 primary elections, the sudden onset of COVID showed the difficulties of quickly changing election processes. And in a number of cases, state institutions clashed over which changes were needed, especially when those institutions were controlled by different political parties, but conflict emerged even in states where the legislature and governor were controlled by the same party.

Ohio is an example of a state where conflict arose even though the governor, secretary of state, and a majority of both chambers of the state legislature were of the same political party, in this case, the Republican Party. There, a court rejected an initial request to move the primary date, originally set for March 17.[3] A later decision by the state health director, supported by Governor Mike DeWine, closed the polls anyway. Governor DeWine and Secretary of State Frank LaRose called for the primary to be delayed until June 2, which the legislature objected to. They also rejected Secretary LaRose's proposal to send every eligible voter a ballot. Eventually, through a unanimous vote, the Ohio legislature extended the primary to April 28, declaring that any ballots already received for the originally scheduled primary would be counted, restricting in-person voting to people with disabilities or without home mailing addresses, and requiring all others wishing to vote to request a mail ballot.

Wisconsin is an example of a state that had divided control of the state legislature and governor. Its primary and spring election, which included a hotly contested statewide contest for the state supreme court, was scheduled for April 7.[4] On March 26, Democratic governor Tony Evers proposed legislation to suspend voter identification requirements, extend the deadline for online voter registration, accept absentee ballots postmarked by Election Day, and increase mail ballot printing. The Republican state legislature did not favor this approach. On April 4, Governor Evers called a special session of the legislature to deal with legislation related to postponing the primary. The session was gavelled in and out within seconds; the legislature adjourned without taking action. In response, Governor Evers issued an executive order that postponed the election until June 9. Within hours of the order being issued, the Wisconsin Supreme Court struck it down. Democratic and voting rights groups filed suit in federal district court, which issued an injunction allowing accommodations, but that injunction was quickly struck down by the U.S. Supreme Court.

The primary proceeded as scheduled. The struggles in Wisconsin to staff in-person polling places, process mail ballots, and provide public health protection to elections staff and voters served as a vivid example of what could happen if significant changes were not made to how Americans voted in the fall.

Other states delayed or postponed their primary elections, although the processes did not catch the national attention to the same degree as Ohio and Wisconsin. Georgia delayed its primary date twice and sent mail ballot request forms to all voters.[5] New York delayed its primary election, and then moved to cancel the primary altogether, but was overruled by a federal court, and held a primary in June.[6] When the Democratic Party postponed its national convention, some states sought even later dates for rescheduled primaries. Connecticut, for example, was the first state in primary history to hold a presidential primary in August.[7]

While many states considered shifting election dates and making other major changes, especially with respect to mail votes, other states proceeded with scheduled elections, often with a significant number of

3 Jennifer Friedmann, et al., "The 2020 Ohio Primary," Stanford-MIT Healthy Elections Project Memo, June 25, 2020, https://healthyelections.org/sites/default/files/2020-07/Ohio%20Primary%20Memo%282%29.pdf.

4 Grace Scullion, et al., "Wisconsin's 2020 Primary in the Wake of COVID-19," *Stanford-MIT Healthy Elections Project Memo*, June 30, 2020, https://healthyelections.org/sites/default/files/2020-07/Ohio%20Primary%20Memo%282%29.pdf.

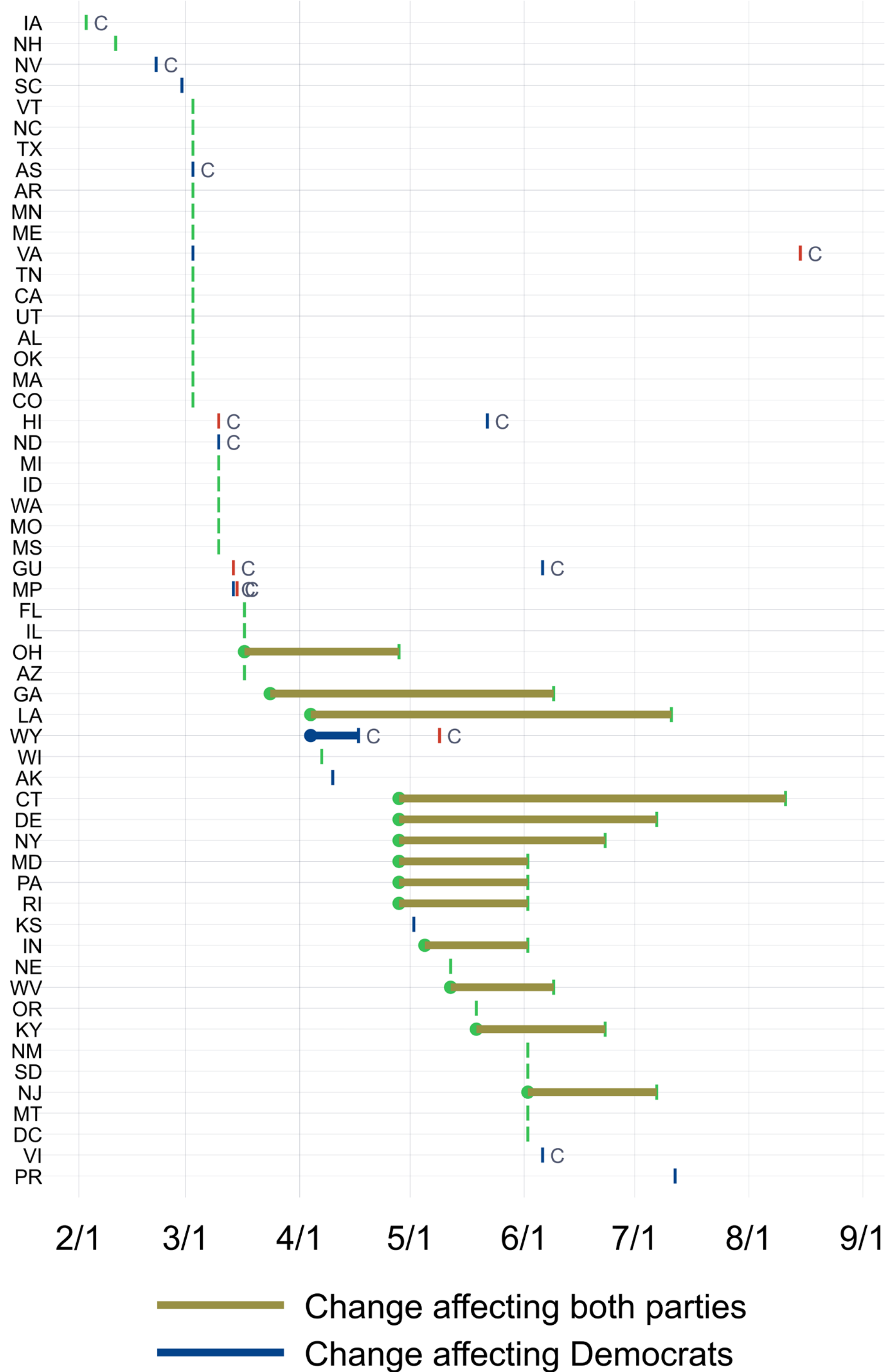
5 Kevin DeLuca, "Georgia Primary Election Analysis," *Stanford-MIT Healthy Elections Project Memo*, September 15, 2020, https://healthyelections.org/sites/default/files/2020-10/georgia_election_analysis_memo.pdf.

6 Georgia Rosenberg and Campbell Jenkins, "New York's Primary Election: Challenges in the Lead-Up to November," *Stanford-MIT Healthy Elections Project Memo*, August 23, 2020, https://healthyelections.org/sites/default/files/2020-09/NY%20Primary%20Memo%20.pdf.

7 Nick Corasaniti and Stephanie Saul, "16 States Have Postponed Primaries During the Pandemic. Here's the List," *New York Times*, August 10, 2020, https://www.nytimes.com/article/2020-campaign-primary-calendar-coronavirus.html#link-4b1438e3.

voters casting votes in-person. Figure 1-1 summarizes the primary election schedule, both for states that changed and did not change their dates.

Figure 1-1. Original and rescheduled 2020 presidential primary dates.



Note: Green vertical bars indicate primaries or caucuses held by both parties. Red and blue vertical bars indicate primaries or caucuses held by Republicans and Democrats, respectively. Circles indicate the original date of a primary or caucus. The letter "C" indicates a caucus; all others are primaries.

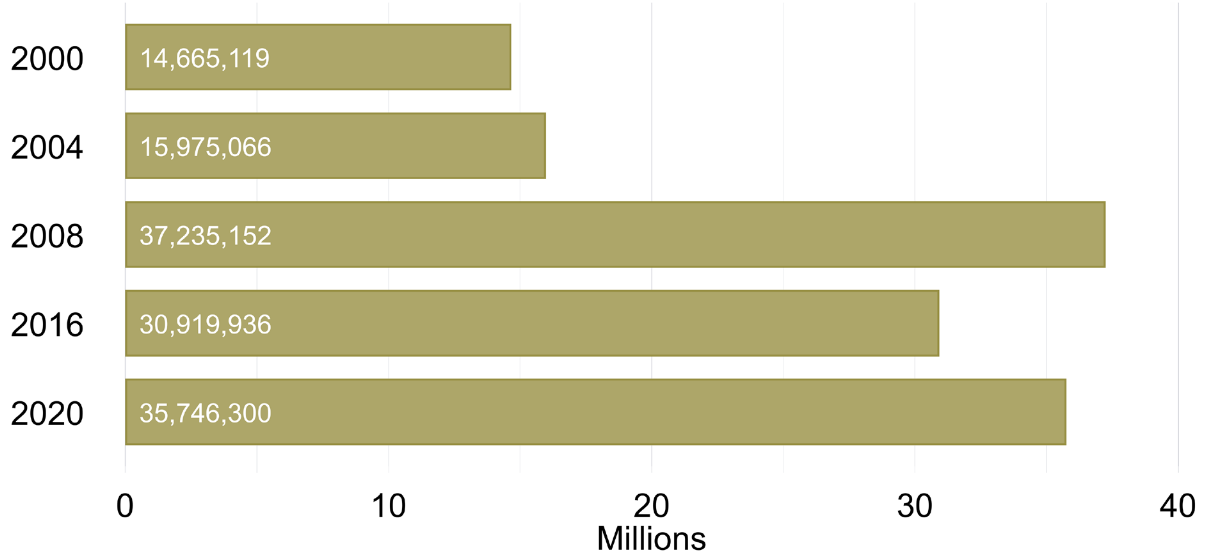
Sources: U.S. Federal Election Commission, 2020 Presidential Primary Dates and Candidate Filing Deadlines for Ballot Access, January 31, 2020 and July 17, 2020 documents.

PRESIDENTIAL PRIMARY TURNOUT

With an incumbent president running for reelection and facing little opposition for renomination, turnout in the Republican primary was not expected to be high in 2020. Therefore, most of the turnout interest for primary voters was among Democrats. Despite the challenges of voting during the pandemic, aggregate turnout among all Democratic primaries (35.7 million) was higher than that in 2016 (30.9 million), when the Democratic nomination was hotly contested and the Democratic incumbent president was term-limited.

Looking at all recent years when there was a competitive Democratic primary, the total number of votes cast in 2020 was just short of the very competitive 2008 primary, higher than the 2016 primary and significantly higher than Democratic primaries in 2000. (See Figure 1-2.)

Figure 1-2. Total Votes Cast Nationwide in Democratic Primaries.



Note: Years with a Republican incumbent or term-limited Democrat.

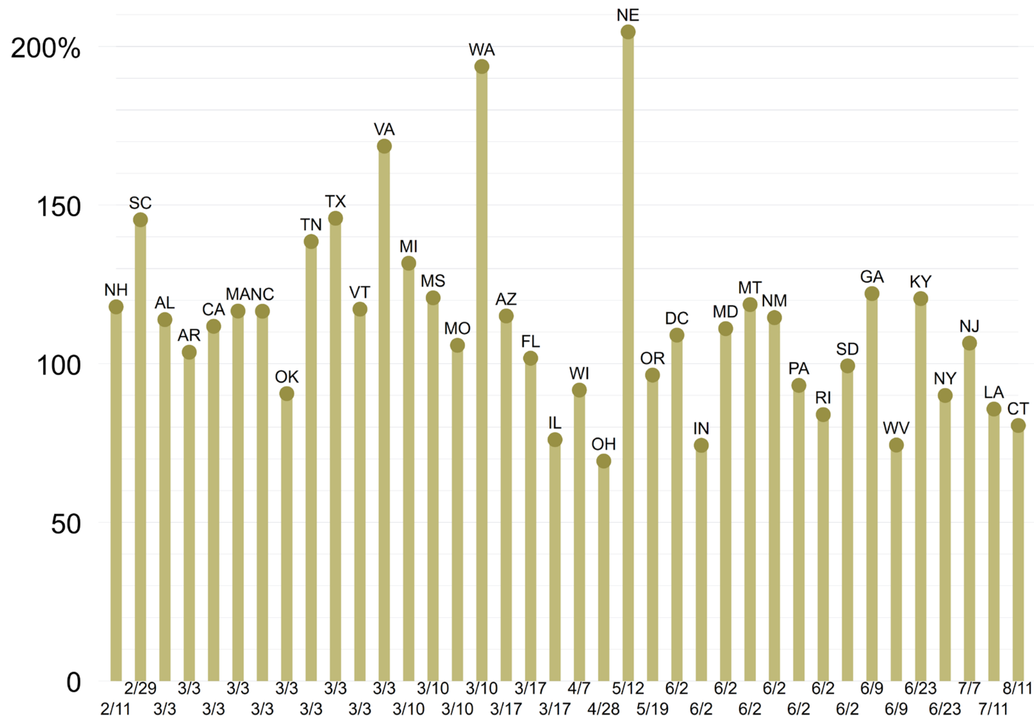
Source: Federal Election Commission, 2000 - 2016; United States Elections Project, 2020.

Although the Republican presidential nomination was not contested, turnout in Republican primaries was still healthy. A total of 19.7 million Republicans cast ballots in the presidential primary, according to the United States Elections Project. This compares favorably to the 19.2 million and 31.2 million votes cast in the competitive primary contests of 2012 and 2016, respectively.

Returning to the Democratic primaries, the uncertainty associated with voting during the pandemic is evident in turnout in the primaries that occurred before the pandemic became a major national issue, compared to later contests. In Figure 1-3, we have displayed turnout in the 2020 Democratic primaries as a percentage of turnout in the 2016 primaries, which were similarly competitive. Through the March 10 primaries, turnout was averaging approximately 110% of what it had been in 2016. Starting with the March 17 primaries, turnout began to decline a bit. Illinois, Wisconsin, and Ohio saw turnout levels below 2016 and Florida's turnout level was barely above 2016. Once primaries resumed in earnest in May and June, averages fluctuated above and below 100 percent — lower than pre-pandemic levels, but only moderately so.

Of course, as time went on, the Democratic nomination fight became a foregone conclusion, and therefore part of the decline in turnout was undoubtedly due to flagging interest in the contest. Still, the fact that turnout remained on par with 2016 even as the nation struggled with adjusting to new realities speaks to the interest of the voters and the diligent work that election officials did to make the ballot box accessible during these difficult times.

Figure 1-3. Turnout in 2020 presidential primaries, as a percentage of 2016 turnout, by state.



Note: Only states that held primaries in both 2020 and 2016 are shown.

Data sources: State election departments.

CONCLUSIONS AND TAKEAWAYS

The emergence of COVID during primary election season caused great upheaval in the voting process and prefigured many of the issues seen in the November general election. States made changes to election dates and voting procedures, especially with respect to voting by mail. Conflicts between state institutions arose over who was authorized to make emergency changes to election dates and procedures, often exacerbated by divided partisan control of those institutions. Growing partisan divisions over the propriety of making vote-by-mail more accessible to all voters began during this period, as well.

The rescheduled elections, however, still showed high voter turnout, higher than in 2016 in the case of the Democratic presidential primary. And, as we discuss in later chapters, states holding primary elections after late March saw substantial increases in voting by mail, especially in states that made significant changes to encourage voting by mail, but also in states that made minor procedural changes.

The initial uncertainty about how to keep the polls open, or even whether it was possible, quickly gave way to a national effort to allow the primaries to continue. The typical strategy, especially for states with April primaries, was to buy time by postponing the primary to a later date, and then making mail ballots more available to voters.

The entire response to the pandemic among officials put emergency plans to the test. Election officials are notorious for contingency planning, but what made the pandemic different was that the emergency was nationwide, not confined geographically. Opportunities for mutual aid were strained when everyone had their own version of the emergency to contend with.

The adaptive mechanism that was arguably put to the greatest test during the primaries may not have been the logistical capacities of election officials, though that was great, but the ability of states to adapt laws and practices to the new, and often shifting, reality. The nature of the most common response to the initial emergency, expanding access to mail ballots, conflicted with one of the core tenets of election administra-

tion, which is not to change the rules of the contest once it has begun, and when they must change, to do so minimally.

State election laws tend to evolve slowly. As a consequence, most office holders and citizens tend to regard the status quo as the optimal way to run elections in a state, even if similarly situated states do things differently; in turn, office holders and citizens in those other states regard ***their*** practices as the optimal way to run elections. It was to be expected that as the enormity of the emergency grew and the range of relevant responses was limited that political controversy would follow.

Recognizing that political conflict over emergency accommodations will be unavoidable when an emergency hits while an election is being conducted, one thing that seemed to reinforce conflict was the lack of clear authority for governors to alter regulations related to elections in many states. The National Conference of State Legislatures notes that "[a]t least 45 states have statutes that deal with Election Day emergencies in some way, though there is little consistency between states on what events would be covered and exactly what plans will be followed in each emergency." Understanding that similar pandemic emergencies may return, ***a major lesson learned from the primary period is the importance for states to have clearly delineated emergency laws that pertain specifically to elections — laws that effectively balance the need for governors to protect the safety of citizens in an emergency with the need for emergency election measures to be regarded as legitimate.***

A second major takeaway from the primaries is that Americans will vote amid great difficulties if they are motivated. Public opinion polls established that supporters of both political parties were enthusiastic about voting in the 2020 presidential election to a high degree.[1] Even in Wisconsin, which could be considered the primary that occurred under the most trying of circumstances, turnout was close to a record. This had the practical effect of making accommodating demand for voting a top state priority. For the future, officials should probably count on demand for voting to be undiminished when other emergencies occur during the conduct of an election, and to plan to manage that demand accordingly.

Third, the nation was "lucky" that the pandemic struck during the primary season rather than right before the general election. This had the obvious advantage of allowing officials to try out responses in a more forgiving environment and to learn from the successes and challenges of other officials who were struggling with the same emergency. As the spring moved into summer, it was possible to observe successive jurisdictions conduct their primaries with increasing confidence. All of this had the obvious benefit of helping the nation prepare for the general election.

Of course, it is unlikely that the next national emergency that affects an election will be similarly timed. Therefore, the elections community needs to consider how to replicate the conditions created by the confluence of the pandemic with the primaries to test out its emergency response in the future. There is already a model for this, table-top exercises, which have become a common tool for preparing for cybersecurity threats, although the scenarios explored have moved beyond cybersecurity.[2] Those exercises typically involve officials who are responsible for administering elections. As the primary season and later periods demonstrated, the set of those who should be involved in this type of emergency planning includes elected officials, as well. Especially in this period of distrust between the political parties in the administration of elections, providing ways for political leaders to practice cooperating to avert an election emergency before it happens would be valuable.

1 Lydia Saad, "Americans Remain Enthusiastic about 2020 Election," *Gallup*, March 6, 2020, https://news.gallup.com/poll/287456/americans-remain-enthusiastic-2020-election.aspx.

2 Robert Giles, Director of the New Jersey Division of Elections, notes that a measles outbreak was one scenario that was used in a tabletop exercise in his state before the COVID-19 pandemic arose. U.S. Election Assistance Commission, "2020 Elections Learned," YouTube Video, 1:01:28, March 9, 2021, https://youtu.be/SbZo5eBZf7M, at 48:24.

CHAPTER 2: RECORD TURNOUT AND A SHIFT TO VOTING BY MAIL

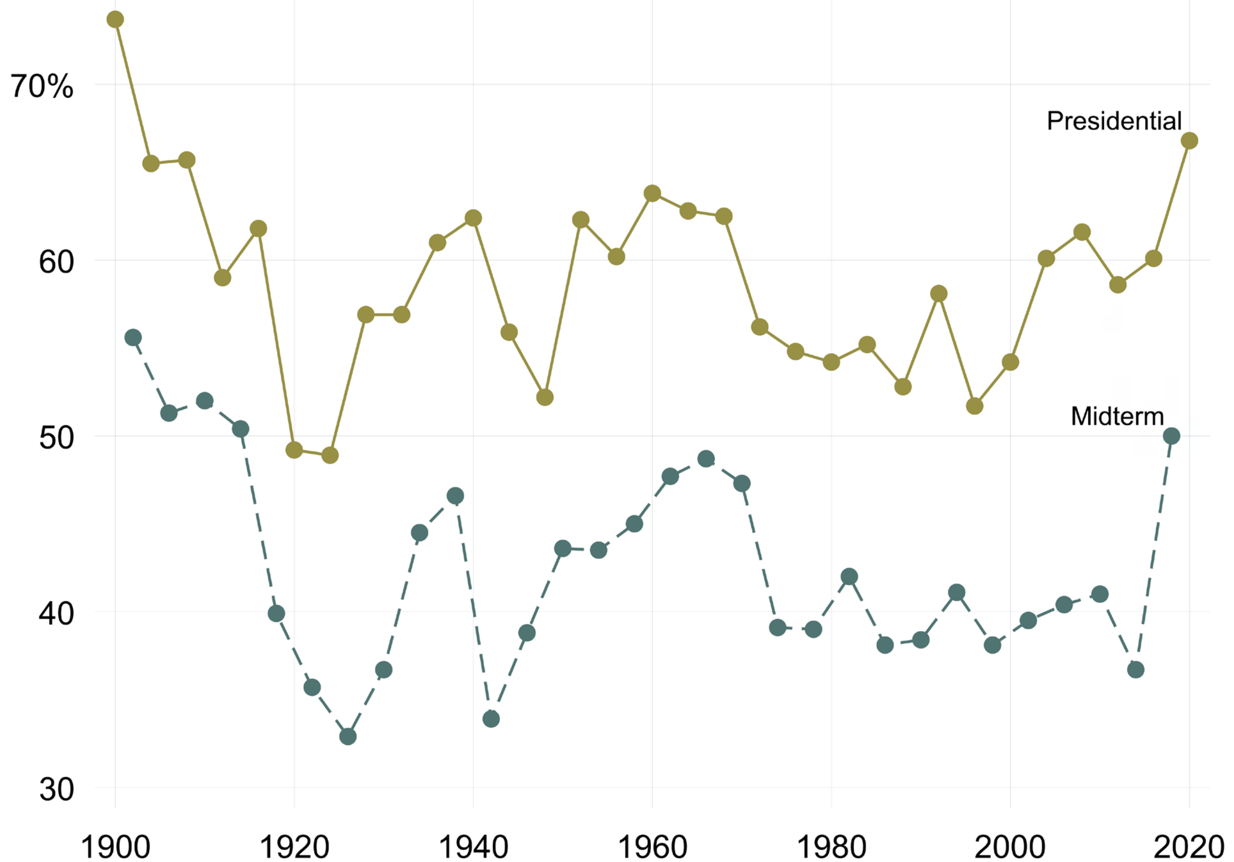
In 2020, voter turnout hit record levels, which was especially remarkable because of the challenges presented by the pandemic. States saw dramatic shifts in the modes of voting. At the national level, voting by mail increased dramatically, voting on Election Day dropped nearly equally dramatically, and early in-person voting increased.

VOTER TURNOUT SURGED

The 2020 election was run under the challenging conditions of the COVID pandemic, with many changes made to the way states administer their elections, yet the election had by far the highest voter turnout of any modern election. By the standard of percentage of eligible voters, the 2020 election saw 66.8 percent of eligible voters cast ballots.

The 2020 election came on the heels of four high turnout presidential elections. The 2004, 2008, 2012, and 2016 presidential elections ranged between 58.6 percent (2012) and 61.6 percent (2008). Those four elections were higher than any of the previous presidential elections since 1972, when 18-year-olds were granted the right to vote. (See Figure 2-1.) The 2018 midterm also saw especially high turnout, the highest midterm turnout in modern history (50 percent).

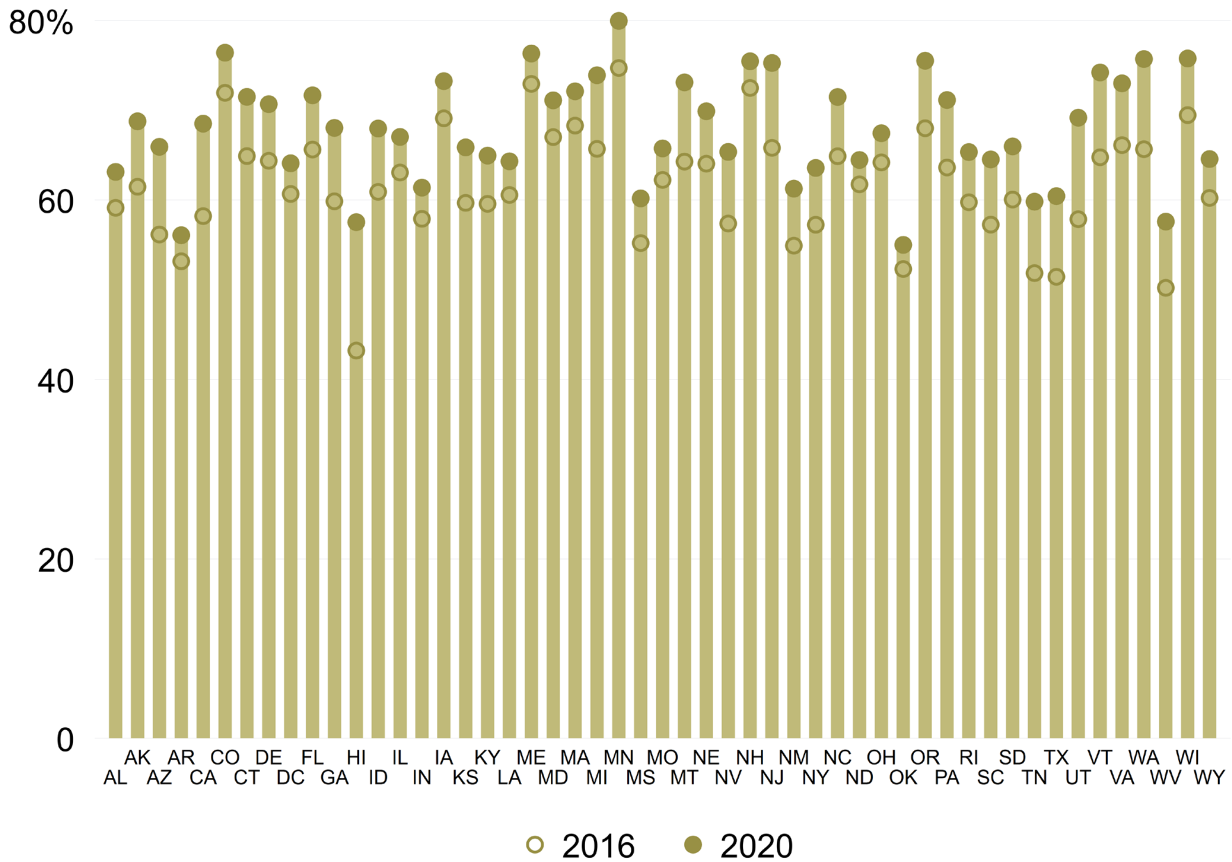
Figure 2-1. Turnout as a Percentage of Voting Eligible Population, 1900 - 2020.



Source: Michael McDonald, United States Election Project.

The 2020 election saw a dramatic increase even above those high-water marks for modern turnout. Nearly 21 million more votes were cast in 2020 than in 2016, an increase of nearly 16 percent in ballots cast. All 50 states and the District of Columbia saw increases in turnout percentage (Figure 2-2) and in the total number of votes cast (Appendix).

2-2. Turnout as a Percentage of Voting Eligible Population, by State, 2016 and 2020.



Source: Michael McDonald, United States Election Project.

Turnout as a percentage of eligible voters is an important measure, but for the purpose of evaluating performance of election administration, another important measure is the increase in raw votes cast. States and local jurisdictions processed many more ballots than they did in 2016. Hawaii and Utah saw an increase of over 30 percent of ballots cast compared to 2016, while Arizona, California, Georgia, Idaho, Tennessee, Texas, and Washington saw an increase of over 20 percent. All 50 states and the District of Columbia processed the highest number of ballots in their history.

These dramatic increases in ballots cast can also be seen at the local jurisdiction level. Of the 25 largest election jurisdictions, each saw an increase in ballots cast. (See Table 2-1.) The largest local election jurisdiction, Los Angeles County, California, saw an increase of more than 700,000 votes over 2016, an increase of 24.2 percent. Riverside County, California saw an increase of over 30 percent of ballots cast; the increase in Maricopa County, Arizona was 27 percent.

Table 2-1. Turnout Change in Twenty-Five Largest Local Election Jurisdictions, 2016 to 2020.

Jurisdiction*	State	Total Votes Cast 2020	Total Votes Cast 2016	Total Change	Pct. Change
Los Angeles	CA	4,263,059	3,551,506	711,553	20.0%
Maricopa	AZ	2,089,563	1,649,961	439,602	26.6%
Harris	TX	1,671,679	1,338,898	332,781	24.9%
San Diego	CA	1,627,753	1,346,513	281,240	20.9%
Orange	CA	1,545,838	1,239,405	306,433	24.7%
King	WA	1,219,842	1,041,623	178,219	17.1%
Cook	IL	1,210,626	1,060,132	150,494	14.2%
Chicago City	IL	1,168,834	1,094,060	74,774	6.8%
Miami-Dade	FL	1,166,119	1,008,374	157,745	15.6%
Riverside	CA	1,016,896	769,193	247,703	32.2%
Clark	NV	974,192	769,539	204,653	26.6%
Broward	FL	964,444	843,767	120,677	14.32%
Dallas	TX	929,451	770,006	159,445	20.7%
Kings	NY	920,380	810,505	109,875	13.6%
Wayne	MI	878,102	788,459	89,643	11.4%
Santa Clara	CA	863,964	724,596	139,368	19.2%
San Bernardino	CA	863,876	672,871	178,005	26.5%
Tarrant	TX	847,431	683,242	164,189	24.0%
Queens	NY	794,498	691,209	103,289	14.9%
Alameda	CA	783,181	670,245	112,936	16.8%
Suffolk	NY	776,815	686,490	90,325	13.2%
Oakland	MI	775,379	678,090	97,289	14.3%
Bexar	TX	773,796	599,608	174,188	29.1%
Palm Beach	FL	769,737	672,607	97,130	14.4
Hennepin	MN	759,814	686,811	73,003	10.6%

** County, unless otherwise indicated.*

Source: Election Administration and Voting Survey.

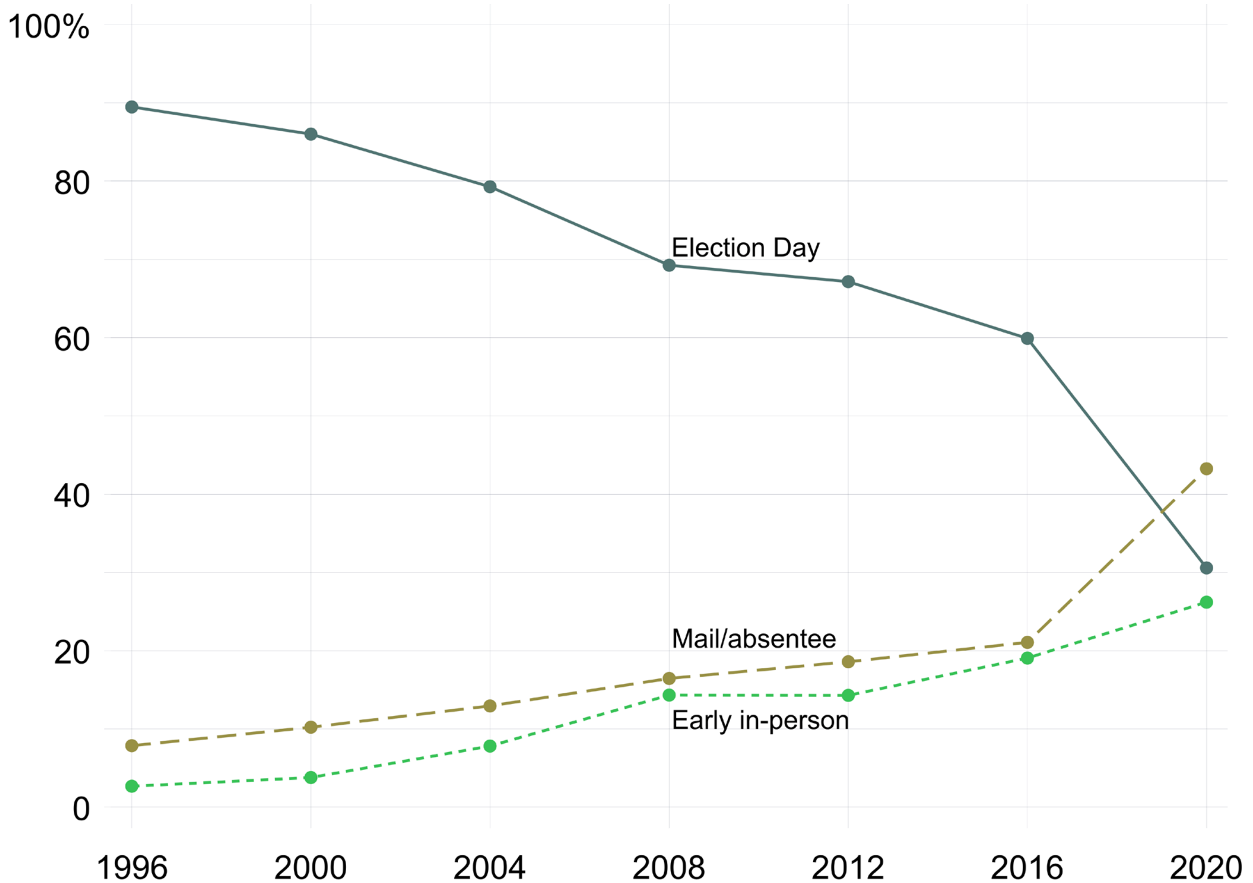
The election-over-election increase in the number of ballots cast has no parallel in modern American history. The year 2020 was by far our highest turnout election, notably during a global pandemic with obstacles that potentially made voting and the administration of elections more difficult.

DRAMATIC CHANGES IN THE MODES OF VOTING

The 2020 election had dramatically higher turnout, and also the most significant single election change in the basic modes of voting. Voting by mail increased the most, roughly doubling as a percentage of the electorate, to 43 percent.[1] Early voting in-person also increased from 19 percent in 2016 to 26 percent in 2020. And Election Day voting plummeted from 60 percent to 31 percent. It is the first time in our history that Election Day voting was not the primary form of voting.

1 The source for voting mode usage in this section is the U.S. Census Bureau's Current Population Supplement, Voting and Registration Supplement. Data in the Election Administration and Voting Survey (EAVS) are consistent with the CPS, indicating that 30.0 percent voted on Election Day, 43.0 percent voted by mail, and 25.5 percent voted in-person early. We rely on the CPS for statistics about voting mode usage, rather than the EAVS, for two reasons. First, using the CPS allows us to draw comparisons over a longer period of time. Second, some states are unable to distinguish between in-person early voting and mail voting in the statistics they maintain.

Figure 2-3. Methods of Casting Ballots in Presidential Elections, 1996 - 2020.



Source: U.S. Census Bureau, Current Population Survey, Voting and Registration Supplement, various years.

The changes in voting modes follow on a backdrop of recent elections where both mail and in-person early voting have increased each presidential election, but the changes of 2020, while a continuation in the direction of those early trends, were of unprecedented magnitude.

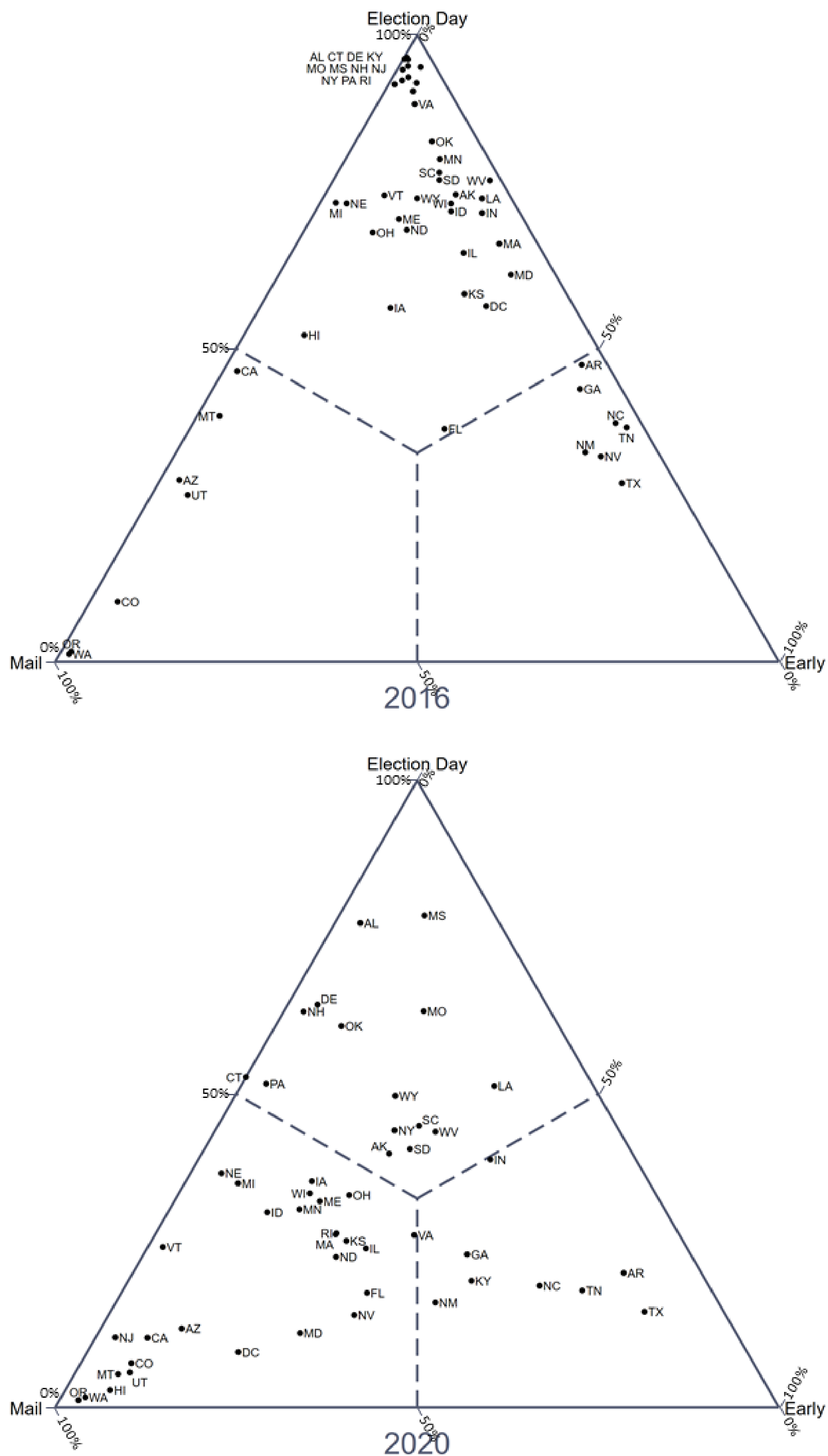
For much of the twentieth century, almost all voting took place at Election Day polling places. States provided for a small amount of absentee voting, typically less than 5 percent of votes cast, and absentee voting was by application, limited to certain categories of people (such as those away from polling places on Election Day or with medical conditions), and often required a witness or notary public to verify that the ballot had been cast privately and freely.

In the late 1970s and early 1980s, several states introduced new modes of voting. Starting with California in 1978, which adopted no excuse absentee voting, and continuing in other states, especially western states such as Oregon and Washington moved to make voting by mail first the dominant, and then the nearly universal mode of voting. Around the same time in the early 1980s, states including Texas and Tennessee introduced substantial early voting at polling places.

Over the course of the next forty years, the use of mail voting and in-person early voting increased steadily at the expense of Election Day voting. By 2016, the percentage of people voting either by mail or early in-person exceeded 40 percent. These forms of voting increased steadily at the national level, but great variation at the state level persisted. A number of states had moved to nearly 100 percent voting by mail, and several early voting states saw more than half of their votes cast at early voting polling places. Even so, some states still preserved a more traditional system with over 80 percent of voters casting ballots on Election Day. And other states combined large scale early voting in-person with large scale voting by mail.

The movement away from Election Day voting occurred gradually for most states. This all changed in 2020, when every state saw a reduction in the share of votes cast on Election Day, and most states saw a tectonic shift in the distribution of voting modes among Election Day, early in-person and mail balloting. This dramatic shift is illustrated in Figure 2-4 using two ternary plots. The plot on the top shows how states distributed their voting modes in 2016. States located at the top of the plot voted almost entirely on Election Day. Those at the bottom left voted entirely by mail. And those at the bottom right voted predominantly early in-person.

Figure 2-4. Distribution of Voting Modes in 2016 and 2020, by State.



Source: U.S. Census Bureau, Current Population Survey, Voting and Registration Supplement, various years.

In 2016, about a dozen states clumped at the top of the graph, indicating that almost everyone voted on Election Day. Most states that were not clumped at the top were either along the left or right leg of the triangle. Those on the left-hand leg predominantly used mail ballots for those who did not want to wait until Election Day; states on the right-hand leg predominantly used early in-person voting as its convenience mode. Few states are directly in the middle of the triangle, indicating an even share among all three modes. Indeed, only Florida was clearly a state whose voters spread themselves evenly among the three modes.

In comparison, the 2020 graph shows the states generally down and to the left, reflecting a reduction in Election Day voting and a shift toward mail voting instead. In 2016, 34 states saw more than half of their votes cast in-person on Election Day. In 2020, only nine did: Alabama, Connecticut, Delaware, Louisiana, Missouri, Mississippi, New Hampshire, Oklahoma, and Pennsylvania. Only in Alabama and Mississippi did over two-thirds of the vote come on Election Day.

CONCLUSIONS AND TAKEAWAYS

The 2020 presidential election was run under the unprecedented adverse conditions of a global pandemic. In the months leading up to the November election, states made dramatic changes to their voting practices, and voter attitudes toward different forms of voting changed as well.

While some predicted that these obstacles and changes might have diminished voter turnout, the opposite was true. Under trying conditions, the 2020 election had the highest voter turnout in modern history by a large margin. Both in the increase in number of votes cast and percentage of eligible voters voting, the 2020 election shattered previous records in the modern era, nearly 160 million votes cast and nearly 67 percent of the voting-eligible population (VEP).[2]

Every state saw an increase in total number of votes cast and eligible voter participation, with ten states showing a more than 20 percent increase in votes cast.

With these changes in turnout, there were dramatic changes in the modes by which voters cast their ballots. Voting by mail and voting early in-person have been gradually and steadily increasing as modes of voting over the past 30 years. Election Day voting has been dropping over this period. In 2020, we saw the most dramatic shift in these forms of voting, with voting by mail nearly doubling as a percentage of the vote, voting early in-person increasing, and voting on Election Day plummeting. It was the first election where voting on Election Day was not the primary mode of voting.

As always, states had different mixes of voting by mail, early in-person, and Election Day. But in 2020, every state saw some increase in the number of votes cast by mail, with some showing dramatic increases. And while the increases in early in-person voting were not as pronounced as those in voting by mail, there were significant increases, and there are still quite a number of states where early in-person voting is the dominant mode of voting. Despite the overall increase in turnout, the number of Election Day votes fell in every state; Election Day remained the dominant voting mode in only fifteen states.

An instructive counterfactual to ponder is how the November 2020 election would have been managed and how the voter experience would have fared without the outbreak of the pandemic during the primary season and the resulting need to accommodate COVID. The pandemic surge in the spring prompted all states to assess how to manage influxes of voters into new modes, and how to manage a likely capacity gap between the number of voters and resources to serve them on Election Day. Without the pandemic outbreak corresponding with the primary season, it seems unlikely that the same degree of capacity planning would have taken place ahead of the general election. If all of the increase in turnout — 21 million additional voters over 2016 — had been absorbed on Election Day, would the positive assessment of in-person voting we describe in Chapter 4 have occurred? How long would lines have been? How many polling places would have seemed chaotic?

Many election administrators and reformers have been advocating for years expanding "convenience voting," mail and in-person early voting, not only for the convenience it brings, but for the ability of these modes to take the pressure off of Election Day. The pandemic forced election officials to consider how to ensure that Election Day was not the single point of failure.

2 EAVS data reports that 159,934,200 voters participated in the 2020 presidential election. An additional 1,368,909 voters were accounted for in the five territories, resulting in a total of 161,303,109 votes cast in state and territorial elections in 2020. The EAC reports the turnout rate as a percentage of the citizen voting age population (CVAP) at 67.7 percent.

The cumulative effect of the thousands of decisions made about managing turnout during the pandemic is that most states moved quickly from offering "one-and-a-half" modes of voting to offering three modes. By one-and-a-half modes, we mean that before 2020, most states had one dominant mode, mostly on Election Day, with a few choosing mail, and one principal convenience/early mode, either mail or early in-person. The one exception was Florida. The major takeaway from Figure 2-4 is not that the 2020 graph looks so different from 2016, but that so many states were in the middle of the graph. This means that most states effectively doubled the number of elections they were running in November 2020, from one-and-a-half to three.

Whether this is a desirable or sustainable state of affairs is one of the major policy choices before election administrators and state legislatures. With investments made in new physical equipment and experience with different administrative practices, policymakers are in a position to begin making choices about what the new equilibrium in the choice of voting modes will be in each state. It is easy to imagine that few states will return in 2024 to how their voters cast ballots in 2016, but it is hard to imagine that 2024 will look like 2020.

To wrap up this chapter, we offer the following conclusions and lessons learned about turnout from the 2020 election.

1. ***The expansion of convenience voting opportunities helped state and local jurisdictions accommodate the large increase in turnout and deal with pandemic challenges.*** The expansion of mail and in-person early voting was largely undertaken as a response to COVID, but even without the global pandemic, this expansion would have helped ease the burdens felt by election officials and voters in the election. Adding the pandemic onto the analysis, if convenience voting opportunities had not been expanded, it is easy to imagine that Election Day would have seen many more stories of long lines, frayed nerves, and charges of officials trying to suppress the vote. We make no assumptions about whether expanding early in-person or mail voting is the better option to pursue. We only know that 2020 demonstrated that taking pressure off of Election Day can have salutary consequences for election administration.

2. ***The nature of the pandemic raised questions about conflicting authority amid a public health emergency that states should resolve for the future.*** Although conflict arose over how to work around the pandemic during the primary season, very little of it reached the fevered pitch seen during the general election season. Part of that is due to the fact that legal authority typically existed to postpone or move primaries, whereas postponing a federal general election is effectively impossible. States would be well served to revisit their emergency statutes and regulations as they relate to elections to ensure that lines of authority are clear when it comes to alternating election practices in a general election if a public health emergency or other "act of God" occurs close to Election Day.

3. ***States and localities should reevaluate the infrastructural needs based on new modes of voting, but they should also be cautious in assumptions they make about the near future.*** If we were certain that in all future elections, most ballots would be cast before Election Day, states and localities could undertake infrastructural planning to accommodate the new reality. Localities could plan on consolidating Election Day polling places and procuring equipment that would automate large mailing operations. Yet, it is not clear that voters will vote before Election Day at record numbers come the 2022 midterm election. Over-estimating future demand for mail balloting and shrinking resources for managing in-person voting, especially Election Day voting, could lead to unfortunate outcomes where significant Election Day voting makes a comeback. Unless a state decides to begin (or continue) mailing ballots to all voters, it would seem wise to adopt a "both and" strategy to planning for turnout levels in elections in the near-term. That is, planning both for the automation of mail procedures and for the maintenance of Election Day polling places seems like wise counsel at least through the 2024 presidential election.

APPENDIX 2

TURNOUT IN 2016 AND 2020 ELECTIONS, BY STATE

Total Ballots Counted (estimate)							
	2016	2020	Difference		2016	2020	Difference
Alabama	2,134,061	2,325,000	190,939	Montana	516,901	612,075	95,174
Alaska	321,271	361,400	40,129	Nebraska	860,573	966,920	106,347
Arizona	2,661,497	3,420,585	759,088	Nevada	1,125,429	1,407,754	282,325
Arkansas	1,137,772	1,223,675	85,903	New Hampshire	755,850	814,499	58,649
California	14,610,509	17,785,151	3,174,642	New Jersey	3,957,303	4,635,585	678,282
Colorado	2,859,216	3,295,666	436,450	New Mexico	804,043	928,230	124,187
Connecticut	1,675,955	1,861,086	185,131	New York	7,786,881	8,690,139	903,258
Delaware	445,228	509,241	64,013	North Carolina	4,769,640	5,545,848	776,208
District of Columbia	312,575	346,491	33,916	North Dakota	349,945	364,251	14,306
Florida	9,580,489	11,144,855	1,564,366	Ohio	5,607,641	5,974,121	366,480
Georgia	4,165,405	5,023,159	857,754	Oklahoma	1,452,992	1,565,000	112,008
Hawaii	437,664	579,784	142,120	Oregon	2,056,310	2,413,890	357,580
Idaho	710,545	878,527	167,982	Pennsylvania	6,165,478	6,958,551	793,073
Illinois	5,666,118	6,050,000	383,882	Rhode Island	469,589	522,488	52,899
Indiana	2,807,676	3,068,542	260,866	South Carolina	2,123,584	2,533,010	409,426
Iowa	1,581,371	1,700,130	118,759	South Dakota	378,995	427,529	48,534
Kansas	1,225,667	1,375,125	149,458	Tennessee	2,545,271	3,065,000	519,729
Kentucky	1,955,195	2,150,954	195,759	Texas	8,975,000	11,350,000	2,375,000
Louisiana	2,049,531	2,169,401	119,870	Utah	1,152,369	1,515,845	363,476
Maine	771,892	828,305	56,413	Vermont	320,467	370,968	50,501
Maryland	2,807,322	3,066,945	259,623	Virginia	3,984,631	4,523,142	538,511
Massachusetts	3,378,801	3,658,005	279,204	Washington	3,363,440	4,116,894	753,454
Michigan	4,874,619	5,579,317	704,698	West Virginia	714,423	802,726	88,303
Minnesota	2,968,281	3,292,997	324,716	Wisconsin	2,976,150	3,310,000	333,850
Mississippi	1,209,357	1,325,000	115,643	Wyoming	258,788	278,503	19,715
Missouri	2,811,549	3,026,028	214,479	Total	138,631,259	159,738,337	21,107,078

Source: United States Elections Project.

CHAPTER 3: MEETING THE CHALLENGE OF VOTING BY MAIL

Our mayor likes to mock me for it, but [we purchased] a high speed envelope opener and then [made a major investment] in our high speed tabulators for Election Day. We had planned on leasing six total machines. We doubled that and we now own a total of nine high speed tabulators, because this spring we've already had a spring primary and we are still seeing a high volume of absentee ballots. So, being able to not just plan for November but plan for the way in which COVID-19 has truly transformed elections and investing in that infrastructure going forward.[1]

+ + +

By far the biggest administrative change to voting in 2020 was the rise in voting by mail.[2] Every state saw an increase in the volume of mail ballots compared to 2016; with the exception of the existing vote-by-mail states, all saw an increase in the share of ballots cast by mail, as well. In most states, this shift required a significant change in administrative practices and the purchase or lease of expensive equipment to handle the mail volume.

The shift to mail balloting was both sudden and deliberate. The rapid onset of the pandemic and the attendant uncertainty about its path led numerous states to pivot quickly toward mail ballots in the spring during the presidential primary season. In some states, this pivot was due to extraordinary measures taken by states to encourage voters to take to the mails, such as sending ballots or applications to all registered voters. In others, the expansion of mail balloting was primarily due to voters heeding public health warnings and using existing state avenues to request and return ballots.

The shift to mail ballots in November took a different path. Certainly, the expansion of mail-ballot capacity for the general election took place at a speed rarely encountered in the evolution of election administration in the states. Nonetheless, states had months to adapt, rather than the weeks or days that were afforded to election officials and voters during the primary. In the process, some states decided that the extraordinary measures undertaken for the primaries would not be repeated for the general election, although most states did continue along the trail first blazed in the spring.

The months of lead time between the spring public health crisis and the post-Labor Day general election season gave election officials, campaigns, civic groups, and the media the opportunity to communicate with voters about how to request ballots and how to fill them out and return them so that they would arrive in time or not be rejected for the failure to follow all the instructions. Part of the successful shift to mail ballots in the general election involved the behavior of voters, who not only returned mail ballots in historic numbers, but also returned them earlier than before. In part reflecting greater attention to the details of mail balloting and in part reflecting changing policies in processing mail ballots, a greater percentage of mail ballots were accepted for counting than in past years. The result is that although the number of mail ballots cast in 2020 was more than double that of 2016, the number (not the rate) of rejected ballots was up only slightly compared to four years prior. The result was only a slight increase in "lost votes" by mail despite the danger that voters might not have adapted sufficiently to the differences between in-person and mail voting.

An important outcome of the process of expanding access to voting by mail was the development of a strong

1 Quote of Claire Woodall-Vogg, Executive Director of the Milwaukee City Election Commission, in U.S. Election Assistance Commission, "2020 Elections Learned: Funding the Election," YouTube Video, 48:07, June 30, 2021, https://youtu.be/W4KJ18Y633k , at 23:54.

2 This chapter addresses domestic absentee or mail ballots, not ballots cast by voters covered by the Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA). Data from the Election and Administration and Voting Survey (EAVS) indicates that part of the historic rise in the number of mail ballots cast in 2020 was the growth in UOCAVA ballots. The number of UOCAVA ballots cast in 2020 grew 44 percent over 2016, from 649,000 to 940,000.

partisan divide over the wisdom of this expanded access, either in the particular case of the 2020 election or in general. Prior to 2020, there was very little partisan division over the use of mail ballots; voters from both parties tended to vote by mail at roughly equal rates. The partisan divide that arose in 2020 in the use of mail ballots is not only an important point for students of political campaign tactics, but it has also undoubtedly made it more difficult in many states for state legislatures to consider bipartisan legislation to adapt long-term mail-ballot policy in light of lessons learned from the 2020 election

CHANGES IN ELECTION PROCEDURES RELATING TO VOTE-BY-MAIL

The following were the most notable of the adaptations to the 2020 election in the use of mail ballots.

- ***Mailing ballots to all voters.*** Nine states mailed ballots to all voters, with one additional state allowing counties the option to mail to all voters. Four of those states adopted the procedure in law only for the 2020 election, while the other five mailed ballots to all voters in all elections.[3] Two of these five (Hawaii and Utah) did so for the first time in 2020.
- ***Mailing mail-ballot applications to all voters.*** Eleven states mailed mail-ballot applications to all voters, with one additional state allowing counties to mail applications to all voters.
- ***Eliminating the need for excuses to vote by mail.*** Twelve states which had previously limited absentee ballots to those who provided a reason expanded their reasons to include the COVID pandemic or dispensed with reasons altogether. Four states retained excuse requirements to cast a mail ballot that did not include the COVID pandemic as an excuse.
- ***Deadlines for returning mail ballots.*** Twenty-eight states required that mail ballots be received by or before Election Day. Twenty-two states and the District of Columbia allowed ballots postmarked by Election Day to be received a certain number of days after Election Day. Due dates ranged from one day after Election Day (Texas) to 17 days after the Election (California).
- ***Preprocessing of mail ballots.*** Thirty-three states and the District of Columbia allowed some processing of mail ballots one week before Election Day or earlier. Ten allowed processing of mail ballots in the week leading up to Election Day. Seven states allowed the processing of mail ballots starting on Election Day.

THE PRIMARIES: SHAKEDOWN CRUISE FOR THE EXPANSION OF MAIL-BALLOT USAGE

In discussing the increase in the number of mail ballots, it is helpful to start with the primary season. We reviewed the primary calendar and responses to the pandemic in Chapter 1. Important for this discussion is the fact that the pandemic did not cause widespread disruptions to the calendar and other plans until the four primaries scheduled for March 17 in Arizona, Ohio, Illinois, and Florida. Ohio postponed its primary and the three other states held their primary as planned, under very difficult circumstances.

For the most part, states that had primaries scheduled after March 17 responded to the pandemic by expanding opportunities to vote by mail, if they did not already have flexible voting-by-mail laws. This expansion of opportunities had immediate effects on the volume of mail ballots cast in the remaining primaries.

This is illustrated in Figure 3-1, which shows the percentage of ballots cast by mail in 2020 compared to 2016, for those states for which data are available. Up to March 17, the 2020 mail-ballot usage was very similar to 2016. Two of the exceptions, in California and Michigan, were due to changes in those states' laws that had occurred well before the pandemic to allow for greater mail-ballot usage.[4] Arizona and Florida already had flexible vote-by-mail laws and long histories of early voting, both in person and by mail, so that voters could quickly shift to mail balloting as events unfolded.

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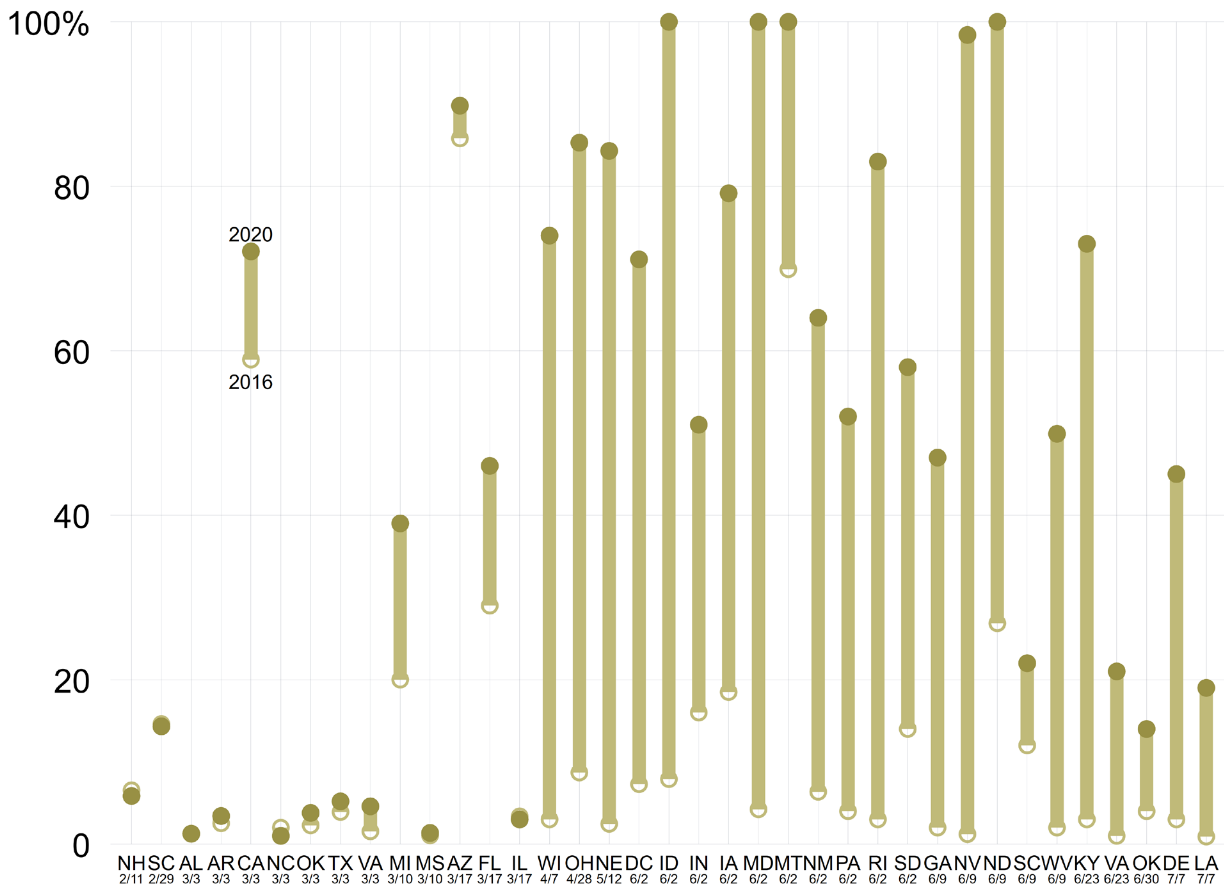
3 One of the states that temporarily mailed ballots to all voters, Vermont, subsequently passed a law continuing the practice into the future.

4 One of the provisions of the California Voter's Choice Act was to mail a ballot to all registered voters in participating counties. Michigan's Proposal 3, an initiative that passed in 2018, instituted "no reason" absentee voting in that state.

Figure 3-1. Usage Rates of Voting by Mail in the 2016 and 2020 Presidential Primaries.



Data sources: Stanford/MIT Healthy Elections Project and FiveThirtyEight.com

After March 17, every state for which we have been able to gather data saw an increase in the use of mail ballots compared to 2016. The states with the least growth were Oklahoma and South Carolina, both of which saw a ten-point growth. On average, in the primaries after March 17, the percentage of voters using mail ballots grew by 55 percentage points.

This growth occurred through a number of means.[5] Maryland and Nevada mailed ballots to all registered voters, even though they had not been heavy-use vote-by-mail states. Ohio and Idaho, on the other hand, held all-mail primaries, although voters had to request ballots. At least eight other states — Georgia, Iowa, New Mexico, New York, North Dakota, Rhode Island, South Dakota, and West Virginia — sent absentee ballot request forms to all registered voters. Finally, in many states, voters could take advantage of the existing "no excuse" laws in their states, while some other states with excuse requirements for absentee ballots allowed COVID-related factors to count as a medical excuse.

The primary season served as an unanticipated shakedown cruise for what was to come in November. In terms of the sheer number of mail votes cast, the primary elections did not compare to previous presidential general elections, however, operating elections that were heavily vote by mail served to educate voters in the mail-ballot process, and election officials in a number of states moved to expand or initiate systems such as online mail-ballot portals and intelligent barcode tracking of ballots.

Looked at another way, the primaries generally saw much higher percentages of mail ballots cast than the general election in November. None of the states that held primaries after March 17 had mail-ballot usage rates in November that were statistically above the

5 National Conference of State Legislatures, "States Test-Drive More Mail Voting During Primaries," July 8, 2020, https://www.ncsl.org/research/elections-and-campaigns/states-mail-voting-primaries-magazine2020.aspx.

rates in the primary.[6] Overall, the usage rate of mail ballots fell 28 percentage points among these states. On the other hand, most states that held primaries on March 17 or before saw an increase in the rate of mail balloting in their fall general election, but the average increase among these states was only ten points. Arizona was the only state with an early primary that saw a reduction in the use of mail balloting in the general election.

This reduction in the rate of mail balloting from the post March 17 primaries to the general election can be associated with numerous factors, but three stand out. The first is simply that the primaries were mainly competitive only in the Democratic Party, the exception being those states that combined the presidential preference primary with primaries for state and local offices. As noted elsewhere in this report, a partisan divide on attitudes toward mail balloting grew leading up to the November election, therefore it is unsurprising that when Republicans turned out in greater numbers in the general election, the overall share of mail ballots used dropped.

Second, many of the extraordinary measures undertaken during the primary to encourage the use of mail ballots in the primary were not continued into the general election. States such as Georgia, Idaho, Maryland, Montana, North Dakota, and Ohio, which effectively held all-mail primaries, did not repeat their policies in November.

Finally, the period starting in mid-March allowed planning to maintain the functionality of in-person voting options in November, even though the public health emergency required shutting down in-person voting in the spring and summer. Even though there were significant voices in the political realm that were advocating to carry over the emergency measures adopted during the primary to November, it is clear that most state and local election policymakers regarded the expansion of mail balloting in the primaries as a one-off emergency measure.

6 Two states, Oklahoma and Virginia, and D.C. had usage rates in the general election that were between one and three points greater than the rates in the primary. However, this difference was not statistically significant at the 95% confidence level.

THE GENERAL ELECTION: HISTORIC VOLUME OF MAIL BALLOTS

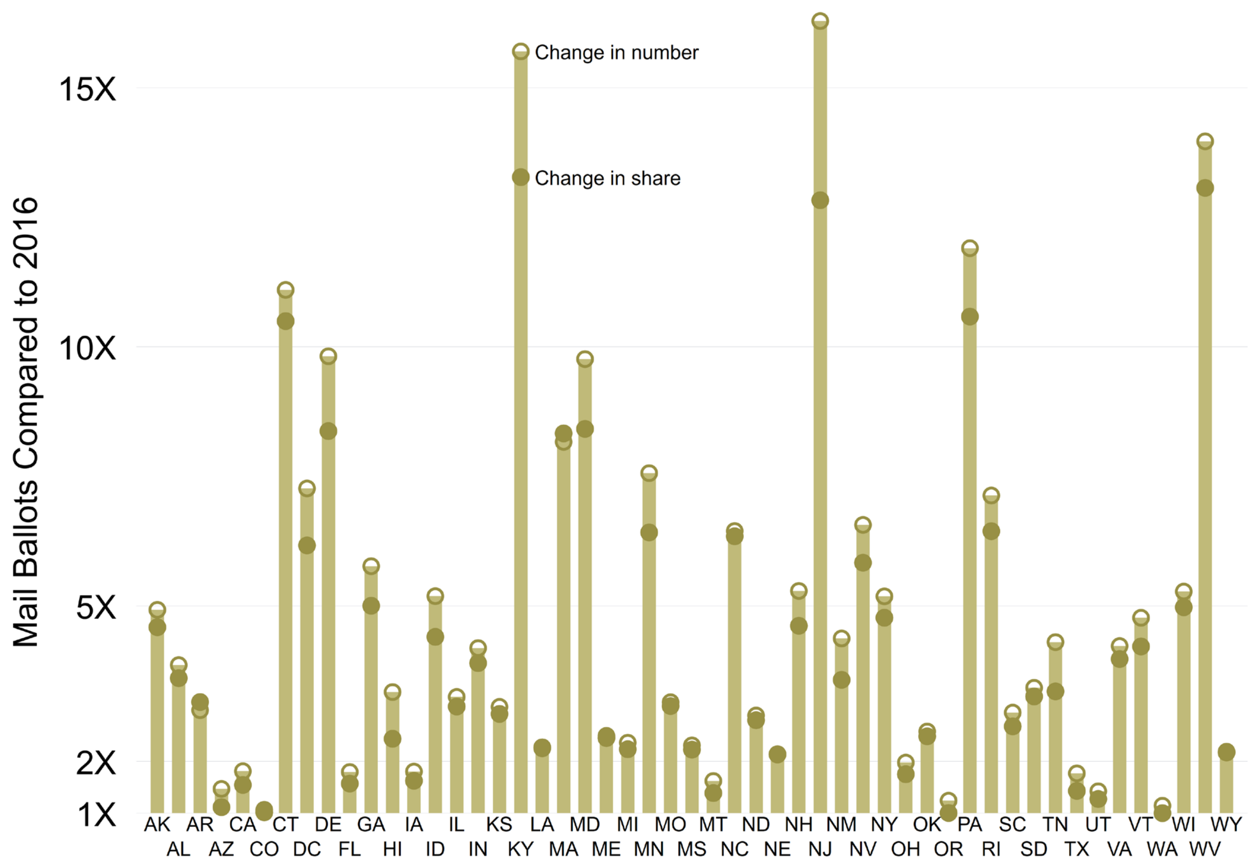
Accounts of the 2020 election have remarked on the doubling of the share of votes cast by mail compared to the 2016 election, from 21.1 percent to 43.2 percent.[7] This is indeed a significant increase, especially in light of the fact that over the past two decades, the average cycle-to-cycle growth in the share of mail ballots prior to 2020 was only 2.6 percentage points.

However, the workload of election officials is determined more by the raw number of mail ballots than by the share cast by mail. Keeping in mind that the overall number of ballots cast in the 2020 election was 21.4 million more than 2016, representing a 15.6 percent growth, the increase in the number of mail ballots was much greater than the growth in the share. In terms of the raw numbers of mail ballots cast, they went from 28.8 million to 66.4 million, which is an increase of 131 percent.

Of course, states varied both in how much turnout increased and in the growth of the share of ballots cast by mail. This point is illustrated in Figure 3-2, which reports for each state the percentage change in mail ballots using two bases of comparison, the percentage of ballots cast by mail in 2016 and the number of ballots cast by mail. With the exception of states that already had very high rates of mail balloting, such as Colorado and Oregon, almost every state experienced mail-ballot usage that was a multiple of what it had

7 We use the Voting and Registration Supplement rather than the Election Administration and Voting Survey (EAVS) survey because several states fail to distinguish between mail ballots and early in-person votes, which interferes with our focus solely on mail ballots in this chapter. The EAC policy survey notes that nine states do not report data for in-person early voting: Alabama, Connecticut, Iowa, Missouri, Mississippi, Montana, New Hampshire, Pennsylvania, and Rhode Island. A comparison of the state mail-ballot counts using the VRS and EAVS datasets indicates that EAVS shows a notably greater share of mail votes for most of these states than indicated by the VRS. We compared the estimates of mail-ballot usage between the two data sources using linear regression, both the raw numbers and the rates. In each case, the correlation between the two sources was much higher when we excluded the nine states than when we included them. This is further evidence that the VRS survey provides a better basis for comparing mail-ballot usage between the states than EAVS, and particularly that the VRS survey is a better source to use in calculating the total number of by-mail voters in 2016 and 2020.

Figure 3-2. Mail Ballots Compared to 2016.



Source: U.S. Census Bureau, Current Population Survey, Voting and Registration Supplement

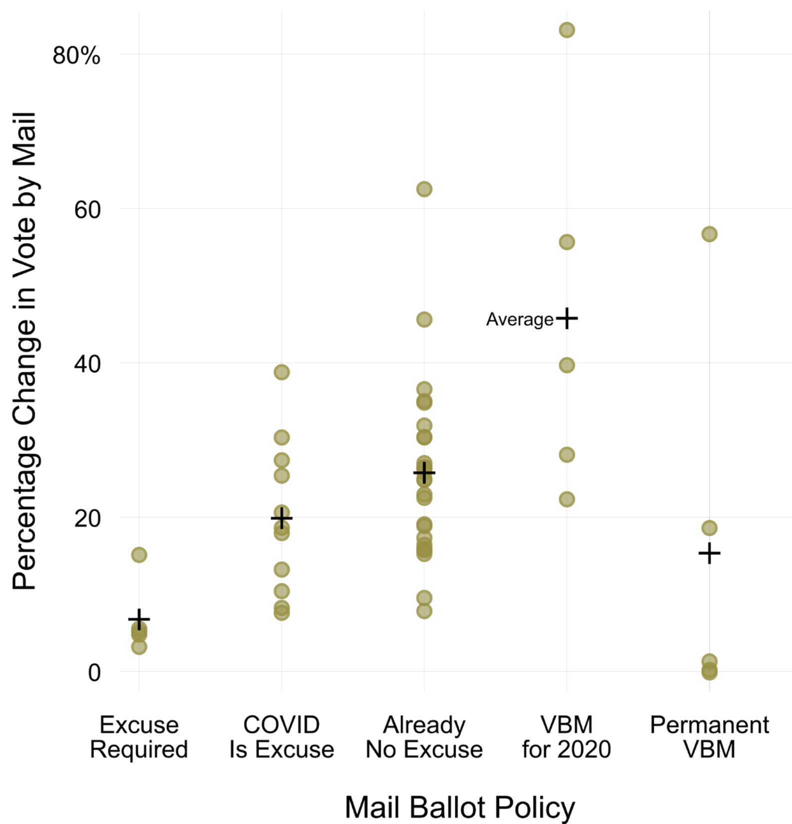
been in 2016. The growth was greater than five-fold in fourteen states, regardless of the base of comparison, and in four states (Connecticut, Kentucky, New Jersey, and West Virginia), the growth was over tenfold. Many states saw a growth in the usage of mail ballots that well exceeded nationwide growth. A few states saw the raw number of mail ballots given an additional boost because of increases in turnout, such as Delaware, Kentucky, and New Jersey.

State laws, both existing and laws changed specifically for 2020, had a significant effect on the change in mail-ballot usage. At the extremes, three states already had been mailing ballots to all active registered voters and five required an excuse to vote absentee that was not waived because of COVID. We should not expect mail-ballot usage to have changed much in 2020 in these eight states. On the other hand, eleven states that typically required an excuse adopted exceptions for COVID, and another four that typically were "no excuse" mail-ballot states mailed ballots to all registered voters on a temporary basis. In addition, another 25 states already were no-excuse states. These are the ones that should have had the biggest increase in mail-ballot usage.

Indeed, this is what we see in 2020. Figure 3-3 illustrates the pattern. Among the five states that retained their excuse requirement, the use of mail ballots increased only 7 percentage points on average. Among the three states that already had permanent vote-by-mail, mail-ballot usage did not increase at all; the big increase occurred among the two states (Vermont and Utah) that had already decided to switch to VBM for 2020 before the pandemic hit. States that did not require an excuse to vote by mail increased mail-ballot usage on average by 25 percentage points; those that allowed COVID considerations to count as an excuse saw an average mail-ballot usage increase of 20 points.

The group of states that saw the biggest average increase in mail-ballot usage was the five states that decided to mail ballots to all registered voters on a one-time basis. Their average increase was 46 points, led by New Jersey with an 83-percentage-point increase in the use of mail ballots.

Figure 3-3. Change in mail-ballot usage by mail-ballot law.



Source: U.S. Census Bureau, Current Population Survey, Voting and Registration Supplement; National Conference of State Legislatures

This change in usage of mail ballots points to the importance of policy interventions by the states in adapting to the pandemic. It also highlights the difference between allowing voters to choose to vote by mail on their own initiative versus mailing a ballot directly to registered voters. Finally, this also highlights how the more-than-doubling of the usage of mail ballots in 2020 came primarily from states that had previously had relatively low usage rates of mail ballots. Thus, the surge of mail ballots represented not only a flood of paper, but also required major changes in procedures at both the state and local levels.

THE INCREASED PACE OF RETURNING MAIL BALLOTS

Although mail ballots provided a helpful voting alternative for millions of voters and created a safe and convenient method for voters who wanted it, the shift from in-person to mail balloting came with risks to voters.[8] Among these risks, the two that gained the greatest attention were (1) the possibility that a ballot would arrive after the deadline and (2) that the ballot would be rejected because of an administrative deficiency, such as a missing signature. We address the first of these here.[9]

Return dates were controversial in the election. A major part of the legal saga associated with the expansion of mail ballots was efforts to allow mail ballots to arrive after Election Day, so long as they were postmarked by then. Most of the efforts to allow mail ballots to arrive after Election Day were led by the Democratic Party and allies, although some Republican officials supported these efforts, as well.

8 Some of these risks were discussed in Charles Stewart III, "Reconsidering Lost Votes by Mail," *Harvard Data Science Review*, 2(4). https://doi.org/10.1162/99608f92.6c591bd4.

9 A third risk identified by Stewart in the Harvard Data Science Review was the increased likelihood of committing a ballot-marking error that would register as a "residual vote," i.e., either an over- or under-vote. We do not presently have data to address this risk in the 2020 election.

Information compiled by the NCSL indicates that twenty-two states and the District of Columbia allowed ballots to arrive after Election Day, ranging from one day (Texas) to 17 days (California).[10] Few states make their absentee ballot files available to the public, therefore it is difficult to state for sure whether large numbers of ballots were rejected because they arrived late or, conversely, whether large numbers of ballots were saved from rejection because of the extended receipt windows.

On the other side of the equation, the potential risk associated with late-arriving ballots was highlighted in the media, by the campaigns, and through communications from election officials directly to voters. The importance of requesting and returning one's mail ballot early was frequently emphasized.

Messaging about late-arriving mail ballots paid off. Not only did the rate of rejections due to missing the deadline go down, but the number of rejections for this reason also declined. According to responses to the Election Administration and Voting Survey (EAVS), over 67,000 ballots were rejected for missing the deadline in 2020,[11] compared to more than 73,000 ballots in 2016.[12] A better comparison is among states that reported data about rejections for late arrivals in both 2016 and 2020. Among these states, the number rejected for arriving after the deadline declined from neary 73,000 to 57,000. Again, considering only states without missing data both years, rejections due to arriving after the deadline represented 12 percent of rejected ballots, down from 24 percent in 2016.[13] As a percentage of returned ballots, this represents less than one-tenth of one percent in 2020, down from two-tenths of a percent in 2016.

By any measure, fewer voters had their ballots rejected because of late arrivals than in 2016.

Whether the policy of allowing ballots to arrive after Election Day reduced rejections due to arriving after the deadline is less clear. Taken as a percentage of rejected ballots, states that allowed mail ballots to arrive after the deadline had lower rejection rates due to late arrivals (11.3 percent) than states that required mail ballots to arrive no later than Election Day (16.4 percent). However, states that allowed ballots to arrive after Election Day had higher rejection rates for other reasons, compared to states with Election Day deadlines for mail ballots. Thus, overall, ballots rejected for arriving late as a percentage of all mail ballots was virtually the same for states that allowed late arrivals (0.10 percent) versus those that did not (0.095 percent).

As we discuss in Chapter 5, one of the costs of allowing mail ballots to be returned after Election Day is that this policy slowed down the counting of votes overall. Because of this cost, it is important to know how many ballots were returned after Election Day in states that allowed late arrivals, and thus would have been rejected if the state had required mail ballots to be returned earlier. Because their public administrative records are readily available , North Carolina and Pennsylvania help provide a window into the issue.

For North Carolina, 16,280 mail ballots are reported having been returned in the nine-day post-Election Day window when ballots could be returned. This is 1.1 percent of the nearly 1.5 million mail ballots returned. Pennsylvania saw 2.5 million mail ballots returned, of which, 49,000 (0.02 percent) were returned in the three days after Election Day when ballots could still be returned and counted. Another 18,694 are recorded as having been returned after the three-day allowable return window.

Because this analysis is based on just two states, one should be cautious in generalizing to the nation as a whole. Additional data are consistent in painting a picture of ballots returned quicker than in 2016, and therefore less likely to be rejected for arriving late.

First, since 2008, the Survey of the Performance of American Elections has asked respondents who voted by mail when they returned their ballot. In 2020, 69.9 percent reported that they had returned their ballot over a week before Election Day, the most ever recorded. (See Figure 3-4.) In 2016, the comparable figure was 60.3 percent.

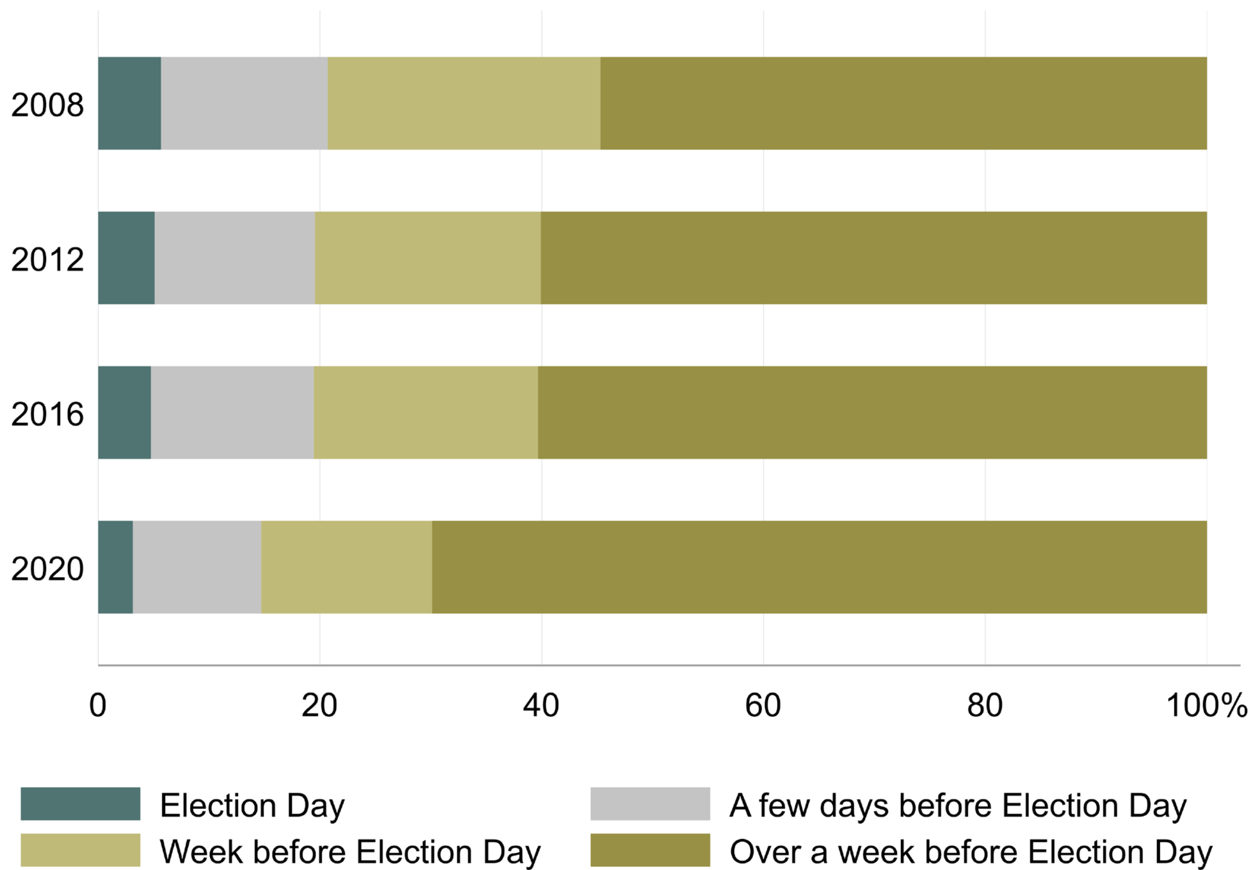
10 Recent research has indicated that allowing mail ballots to arrive after Election Day slowed down the count of ballots overall, in a dose-response pattern (i.e., longer return windows were associated with slower counting.)

11 This calculation excludes Alabama, Connecticut, and Rhode Island because of missing data.

12 This calculation excludes Alabama, Connecticut, Hawaii, Illinois, Mississippi, and Rhode Island because of missing data.

13 These calculations exclude Alabama, Connecticut, Hawaii, Illinois, MIssissippi, Rhode Island, and Vermont due to missing data for either year or both.

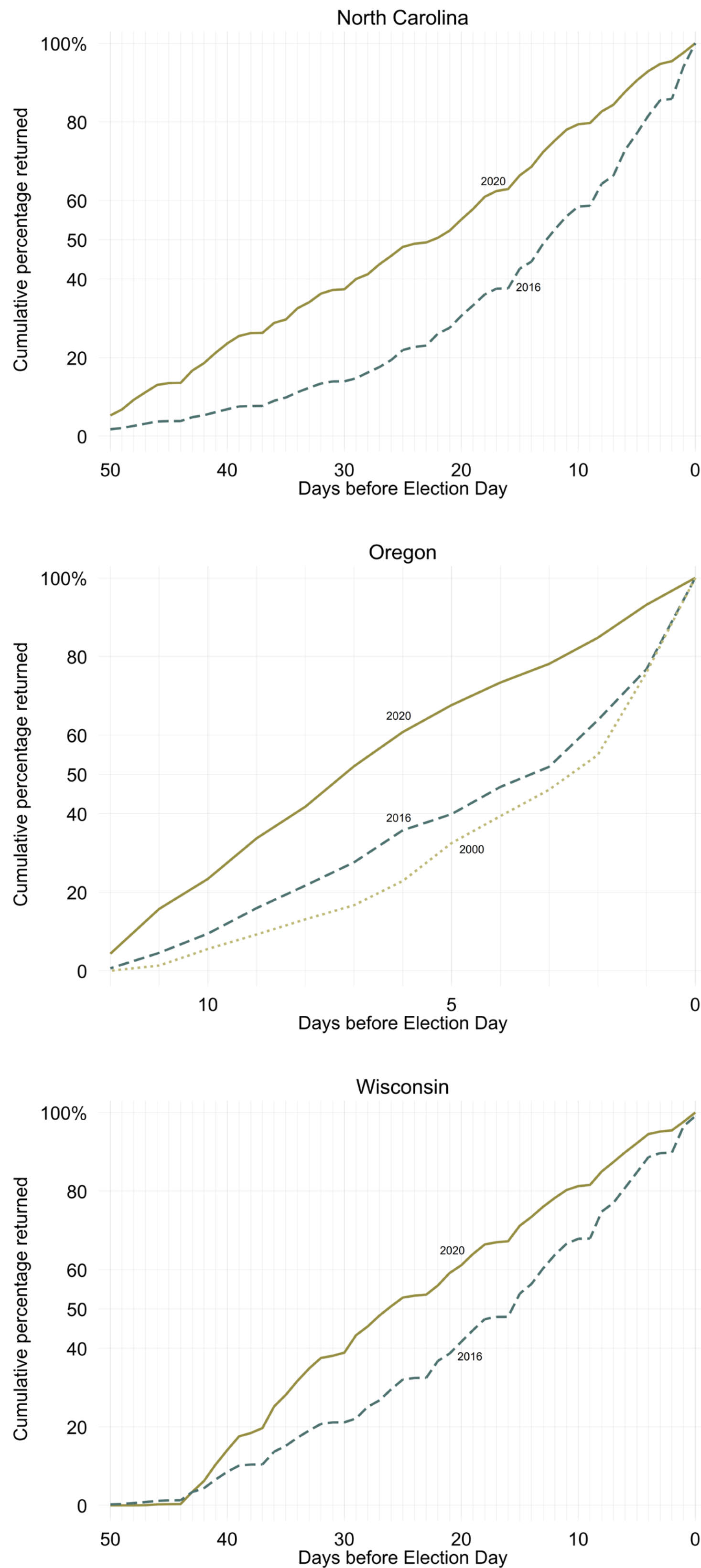
Figure 3-4. Timing of return of mail ballots, 2008 – 2020.



Source: Survey of the Performance of American Elections.

Administrative records from the states that report the return dates of mail ballots confirm this earlier arrival pace. As Figure 3-5 illustrates for North Carolina, Oregon, and Wisconsin, mail voters in 2020 returned their ballots on a steady pace, starting almost exactly at the moment when ballots were mailed out. In comparison, data from these three states show that in past years, mail voters were much slower to return their ballots.

Figure 3-5. Return dates of mail ballots from North Carolina, Oregon, and Wisconsin.



Sources: State absentee ballot files.

Thus, although many worried that the surge in mail ballots would lead to a surge in late-arriving ballots that were rejected for missing the deadline, that did not happen. Voters got the word to request and get in their mail ballots early. As a result, a potential nationwide disaster with mail balloting was averted.

MAIL-BALLOT REJECTION RATES

With the large increase in voting by mail, there was concern that rates of mail-ballot rejection would rise, especially as voters new to voting by mail made errors. But the overall percentage of mail ballots that were rejected in 2020 actually dropped substantially compared to 2016. Possible reasons include changes to requirements for submitting mail ballots, greater public attention to the mail voting process, and more robust ballot curing efforts by states.

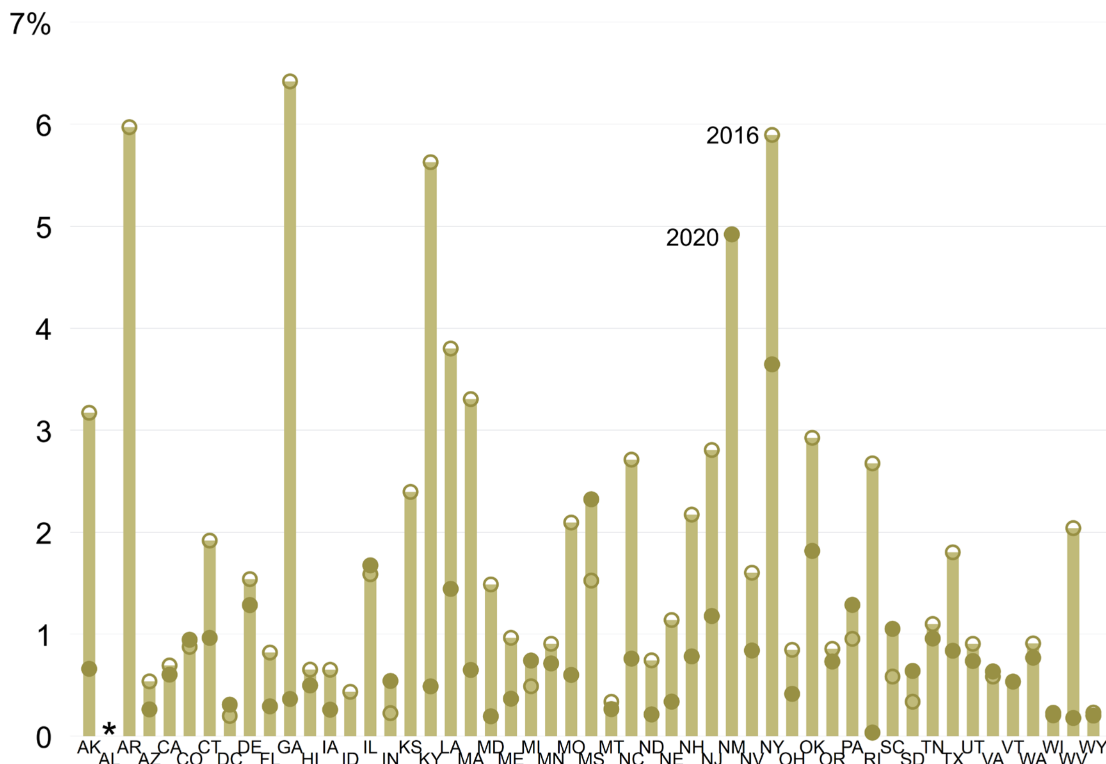
There are two ways to measure ballot rejection rates, each of which shines a light on different ways of thinking about the risks of voting by mail. The first is the more intuitive of the two: rejection rates as a percentage of all ballots returned for counting. By this more intuitive approach, rejection rates were 0.80 percent in 2020, down from 0.96 percent in 2016. If we restrict our sample to jurisdictions that provided usable data to the EAVS in both 2016 and 2020, the results are similar--0.79 percent in 2020 and 0.96 percent in 2016.[14]

Rejection rates did not fall uniformly across the nation, however. This is illustrated in Figure 3-6, where we have displayed these rejection rates for each state. Only 11 states saw rejection rates go up, while 33 states and D.C. saw them go down. Perhaps most notably from a policy perspective, only two states that had a rejection rate above 1 percent in 2016 saw them go up, which is evidence that states that had previously rejected the greatest percentage of mail ballots worked the hardest in 2020 to reduce them. As a general matter, the greater the percentage of rejected ballots in 2016, the bigger the decline in 2020.[15]

14 This missing-data restriction requires the exclusion of Alabama, Kansas, New Mexico, and Vermont.

15 The correlation coefficient measuring the relationship between the rejection rate in 2016 and the decline in 2020 is -.90.

Figure 3-6. Mail-ballot rejection rates as a percentage of mail ballots returned for counting, 2016 and 2020.



* *Alabama had missing data for both years.*

Source: Survey of the Performance of American Elections.

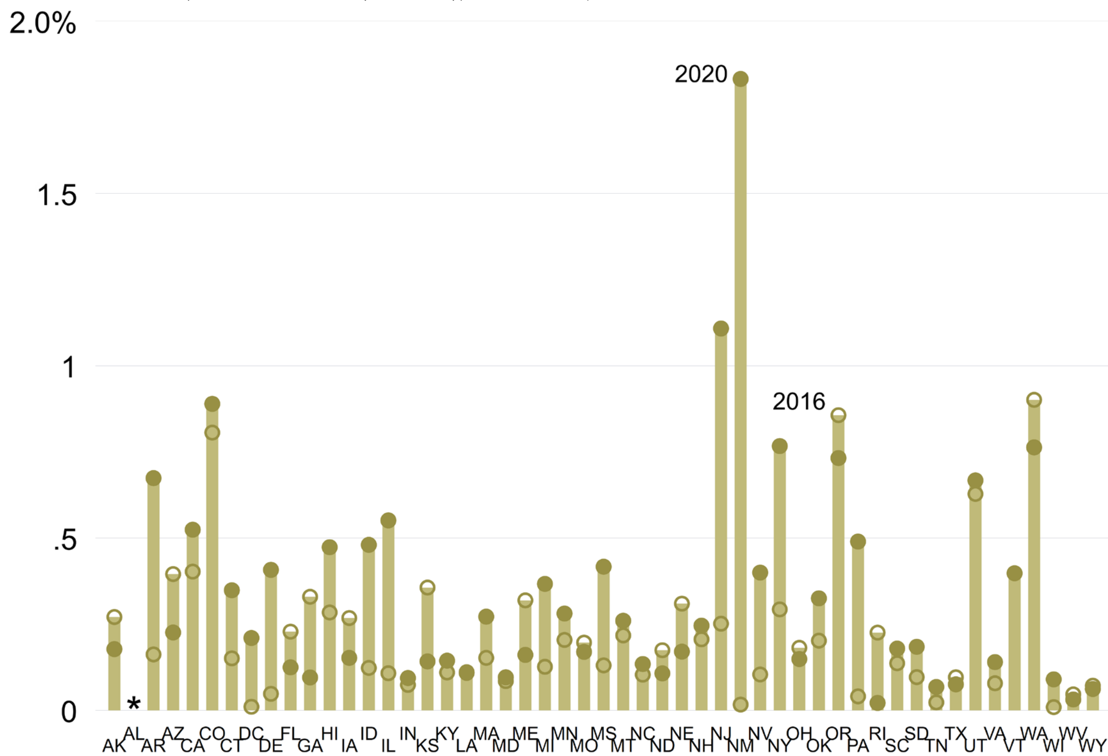
The big decline in mail-ballot rejection rates has been used as a sign in some quarters for greater laxity in the review of returned mail ballots that led to numerous ineligible voters casting ballots in the election. There are at least two major factors that would tend to refute that interpretation. First, as discussed above, ballots were returned at a faster clip in 2020 than before, which dramatically reduced the number of ballots rejected for arriving after the deadline. Second, many states previously did not have "notification and cure" procedures that allowed voters who returned a mail ballot with a deficiency to correct the defect so that it could be counted.

Georgia is an important example of how new notification and cure policies reduced mail-ballot rejections. After the 2016 election, the Georgia General Assembly passed a law that created a uniform notification and cure system for the state, following criticism of its high rejection rates that varied considerably across counties. The result is clear; Georgia's rejection rate fell from 6.4 percent in 2016 to 0.36 percent in 2020.

A second way to consider mail-ballot rejection rates is as a percentage of all votes. While this may be a less intuitive way to frame the issue, it has the advantage of quantifying the extent of "lost votes" in a state that are due to mail ballots. For this analysis, we divide the number of rejected ballots by the total number of ballots cast in each state. Measured this way, the national rejection rate in 2020 was about half of what was previously calculated, 0.36 percent rather than 0.80 percent. However, this rate is somewhat higher than 2016, when it was 0.24 percent. The reason for this rise is easily understandable, when we remember that the number of mail ballots more than doubled between 2016 and 2020, whereas the rejection rate of returned mail ballots declined by about one-sixth.

It is important to state that the 0.36 percent rejection rate calculated as a percentage of all ballots is still very small, and much smaller than other sources of lost votes, such as residual votes, which have averaged around one percent since the election of 2004. And, the small increase over 2016 may very well have been a reasonable price to pay considering a major alternative during the pandemic was just not voting at all. Nonetheless, in a small number of states, the more traditional measure of rejected mail ballots declined very little while the use of mail ballots exploded. If these states anticipate continued high levels of mail-ballot usage in the future, considering measures to reduce rejection rates in the future would seem warranted.

Figure 3-7. Mail-ballot rejection rates as a percentage of turnout, 2016 and 2020.



* *Alabama had missing data for both years.*

Source: Election Administration and Voting Survey.

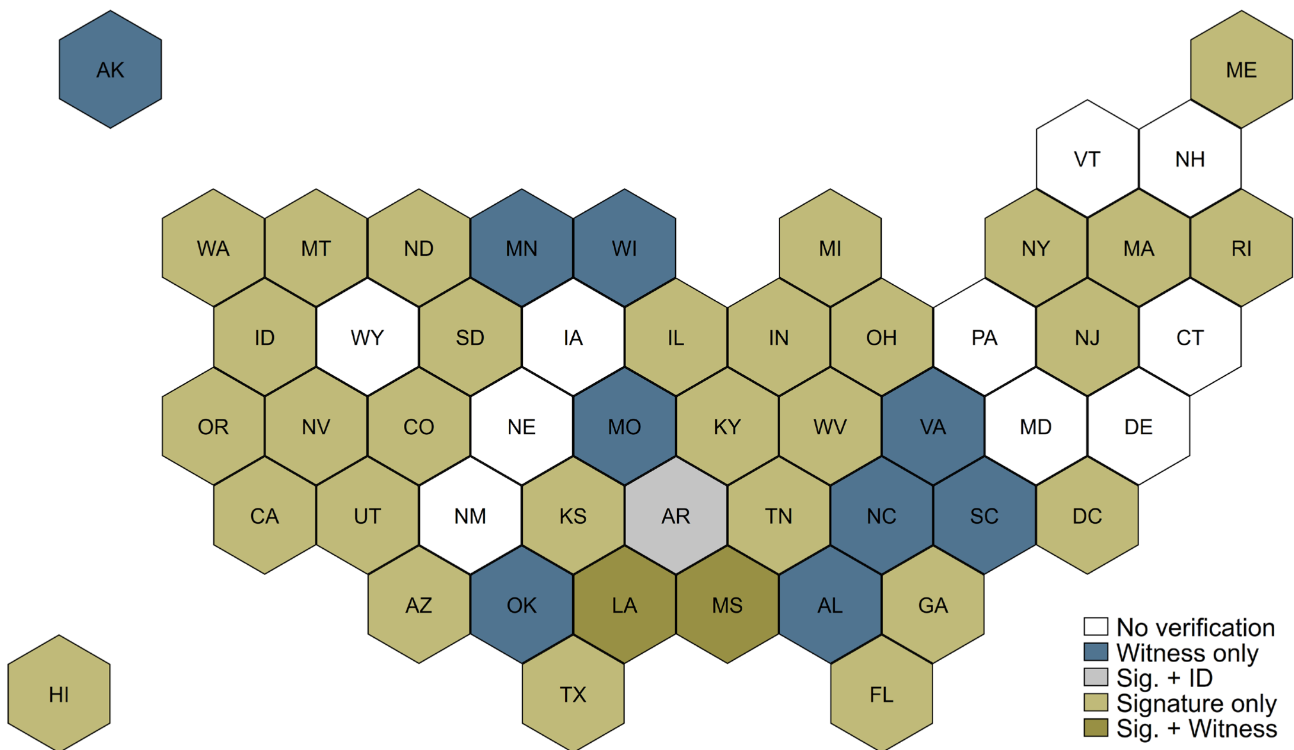
SIGNATURE VERIFICATION OF MAIL BALLOTS

The verification of voters is one of the most controversial aspects of voting by mail. The most common way to verify someone who casts a ballot by mail is by signature. Problems with verifying signatures, because they are missing or judged not to match a sample of the voter's signature, are among the most common reasons mail ballots have been rejected historically. How to manage signature verification became one of the most hotly contested administrative details of the 2020 election.

As a general matter, how states verify that a mail ballot was returned by a qualified voter can be divided into two major categories: signature verification and witness verification. Signature verification involves matching the signature on the return envelope with a sample on file with the central election office.[16] Witness verification involves someone other than the voter attesting to the fact that the ballot was marked and returned by the voter. This attestation can be by a lay witness or a notary public. In 2020, every state required voters to sign their mail ballots, either on an envelope or a separate certificate. Thirty-one states plus D.C. had an additional process to determine if the signature was from the intended voter, either through verifying the voter's signature or requiring the signature of a witness. (See Figure 3-8.)

16 These samples can vary, from a single signature on a voter registration application to multiple signatures captured when the voter provides a signature related to governmental business, including transactions unrelated to voting.

Figure 3-8. Requirements for Verification of Mail Ballots in 2020.



Source: Stanford/MIT Healthy Elections Project, "The Virus and the Vote: Administering the 2020 Election in a Pandemic," https://healthyelections.org/final-reports/the-virus-and-the-vote.

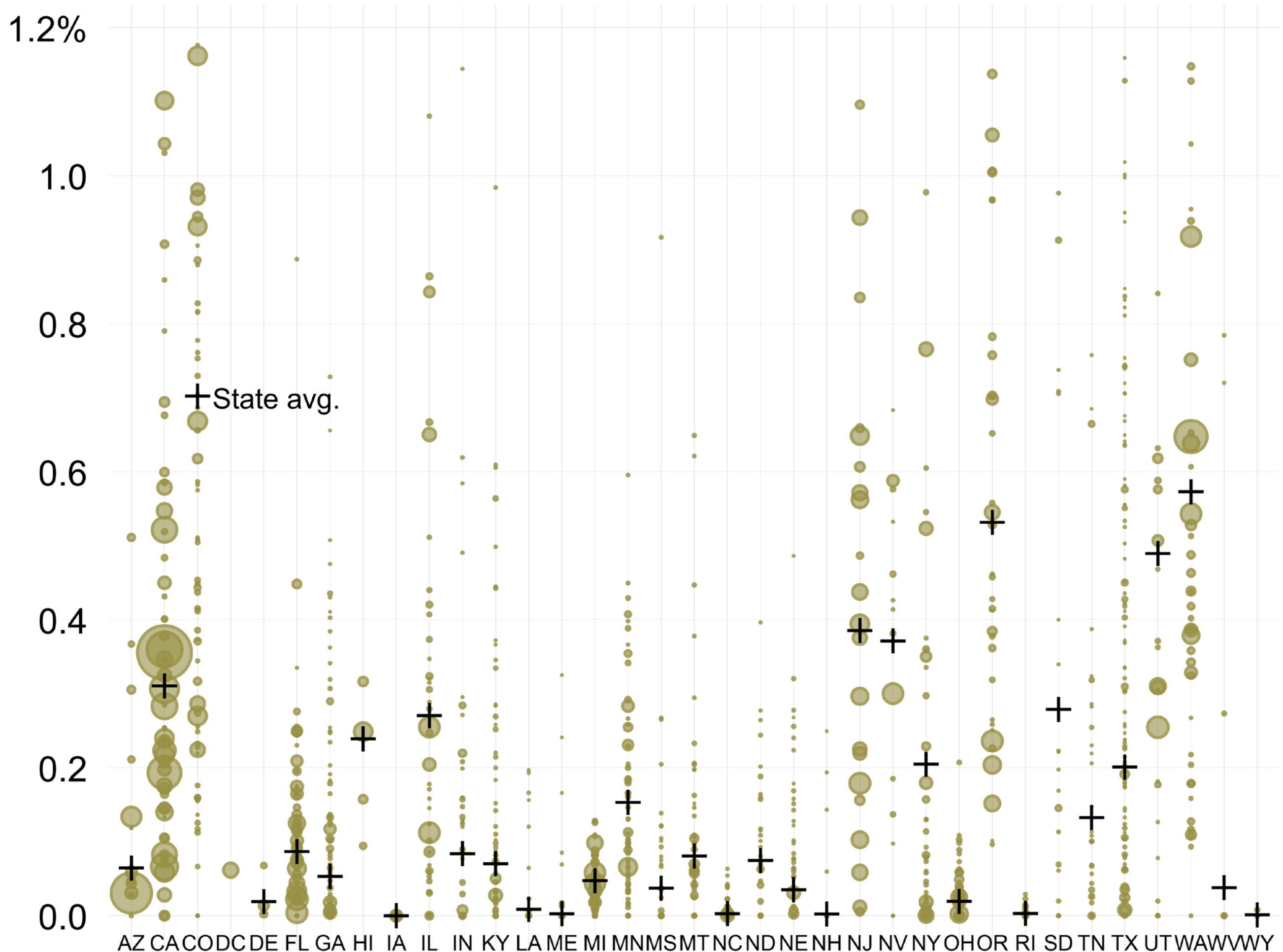
A review of the verification of mail voters by the Stanford/MIT Healthy Elections Project revealed that states with similar policies often had different practices when it came to matters such as the use of automation, training, and notification-and-cure. Indeed, counties within states could vary.[17]

Variation in verification practices is also suggested by differences in the rates by which mail ballots were rejected in 2020 because the return signature was judged not to match the sample(s) on file. The EAVS indicates that at least 157,477 mail ballots were rejected for this reason in 2020, which is roughly double the 87,647 rejected in 2016. (Including only jurisdictions with valid data for both years, the number rose to 150,397 in 2016, compared to 87,172 in 2016.) Of course, the number of mail ballots also roughly doubled, so that the percentage of returned mail ballots that were rejected because of an unmatched signature was similar in 2020 (0.27%) to 2016 (0.29%). In addition, rejections for this reason as a percentage of all rejections was also similar (34.3% in 2020, 30.3% in 2016).

It is when we look at rejection rates for unmatched signatures that we gain an appreciation for the variability, between and within states. (See Figure 3-9.) For some states, the variation around the state mean is quite small, as in Arizona, Florida, Michigan, North Carolina, and Ohio. In other states, it is much larger.

17 Stanford/MIT Healthy Elections Project, "The Virus and the Vote: Administering the 2020 Election in a Pandemic," July 1, 2021, https://healthyelections.org/final-reports/the-virus-and-the-vote.

Figure 3-9. Percentage of mail ballots rejected because they lacked a matching signature, by state and county.



Source: Election Administration and Voting Survey.

Note: Data tokens are proportional to the number of returned mail ballots in the county.

It is natural to expect some variation across counties within a state, because of demographic differences due to age, education, etc. that are out of the hands of election administration. But, variation could also arise because of local differences in policies and practices that are more amenable to administrative control, such as the use of automation, training, and the design of return envelopes. Because of the rising importance of mail ballots nationwide and the importance of uniformity in how equally situated voters are treated (especially within states), reviews of signature verifications practices would seem to be in order at the state and local levels.

RETURN OF MAIL BALLOTS AND THE USE OF DROP BOXES

Voters casting ballots by mail have typically returned their ballots through the U.S. Postal Service. However, prior to 2020 some states, most notably Colorado, Oregon, and Washington, began to allow ballots to be returned at drop-off sites and drop boxes. Washington state reports that in 2012, 38 percent of its voters returned mail ballots to drop boxes.[18] By 2016, 57 percent reported returning ballots to drop boxes, and in 2020, Washington state saw another substantial rise to 73 percent. In Colorado, 75 percent of Colorado voters chose to return their ballots to a drop box in 2016; in 2020, Colorado expanded its drop box infrastructure by adding 100 drop box locations to the 230-250 drop box locations in place in 2016.[19]

The Survey of the Performance of American Elections showed the same trend toward increased usage of drop boxes nationwide. According to respondents to the survey, 15.4 percent of mail ballots were returned to drop boxes in 2016; in 2020 the number rose to 25.6 percent. (See Table 3-1.) The same survey also showed a decrease in the number of voters returning their ballots through the postal service. Nearly seventy percent in 2016 used the postal service, but the percentage dropped to 51.3 in 2020. Other modes of return (to polling places and to election offices) also increased in 2020.

18 Washington Secretary of State, "Ballot Drop Box Usage by Year," https://www.sos.wa.gov/elections/research/ballot-drop-box-usage-by-year.aspx.

19 Colorado Secretary of State, "Colorado Secretary of State Jena Griswold Responds to Misinformation Related to Ballot Drop Boxes," August 12, 2020, https://www.sos.state.co.us/pubs/newsRoom/pressReleases/2020/PR20200812Dropboxes.html.

Table 3-1. Method of returning mail ballots nationwide, 2016 and 2020.

Return Method	2016		2020	
	All States	Excluding CO, OR, & WA	All States	Excluding CO, OR, & WA
Mailed back	69.6%	80.3%	51.3%	55.0%
Drop boxes	15.4%	5.0%	25.6%	20.7%
Election office	6.2%	6.0%	11.5%	12.0%
All other	8.8%	8.7%	11.6%	12.3%

Source: Survey of the Performance of American Elections.

Because the three legacy vote-by-mail states, Colorado, Oregon, and Washington, had already implemented extensive drop box programs prior to 2020, the shift to dropping off mail ballots is even clearer if we exclude these three states from the calculations in Table 3-1. Here we see how the use of drop boxes in the other states increased four-fold in 2020 while other delivery methods other than the postal service also increased substantially.

The EAVS does not gather data about the number of dropoff locations. We have been able to obtain data from Democracy Works about the location of dropoff locations that they used for the Voting Information Project. Those data indicate that at least 16,500 mail-ballot dropoff locations were used in 2020, which represents a 15-fold increase over 2016. Not all these locations represented stand-alone sites, and many were co-located at early voting locations and election offices.

PARTISAN DIVISIONS OVER VOTING BY MAIL

Prior to the 2020 election, voting by mail was not divided by partisanship. From 2008 to 2012, Democrats and Republicans reported voting by mail at roughly equal rates, with the small Democratic advantage appearing because states with more liberal access to mail ballots were slightly more Democratic than more restrictive states. (See Table 3-2.)

Table 3-2. Usage rates of vote-by-mail by party.

	2008	2012	2016	2020
Democrats	18%	23%	26%	60%
Republicans	19%	19%	21%	32%

Source: Survey of the Performance of American Elections.

However, a confluence of events led to a large divide in 2020, both in terms of usage and opinions about voting by mail. These events included advocacy for nationwide liberalization of mail-ballot practices by Democratic politicians and groups associated with the Democratic Party that were countered by attacks on voting by mail by President Trump, Republican politicians, and groups associated with the Republican Party. This controversy no doubt led to the large divide in the use of mail ballots in 2020 as reflected in Table 3-2.

But, the controversy went beyond usage rates to influencing confidence in the election and attitudes about policy. For instance, 40.0 percent of Republicans who voted by mail stated they were very confident their vote was counted as intended, compared to 83.4 percent of Democrats. In contrast, 51.8 percent of Republicans who voted in person were very confident, compared to 77.4 percent of Democrats. In 2016 there was virtually no difference in confidence on a partisan basis based on how voters voted: 61.5 percent of Republicans who voted by mail in that election were very confident their vote was counted as cast compared to 59.7 percent for Democrats.

Whether the partisan divide remains over mail-ballot usage into the future is an important question. Respondents were asked in the Survey of the Performance of American Elections (SPAE) about how likely they were to vote by mail in the future. Among Democrats, 64.4 percent responded they were very likely, compared to 47.7 percent of Republicans. Although this is a large partisan divide, it is narrower than the 60.2 percent-to-31.5 percent Democratic advantage in mail-ballot usage in the election. As state and local elections occur over the next several months, it is quite possible that partisan divisions over mail-ballot usage will recede. The question to ponder is whether the partisan division will grow as the midterm election comes into focus.

CONCLUSIONS AND TAKEAWAYS

Voting by mail increased dramatically in the 2020 election. Increases in voting by mail were facilitated by some states making substantial changes to their election procedures, but increases were also driven by voter behavior in states that made only small changes to procedures. Mail ballots were cast earlier in the process than in past years. And partisan differences relating to the casting of mail ballots arose, with Democrats showing increased interest and likelihood of voting by mail and Republicans showing a lower interest.

With the increase in voting by mail, issues relating to vote by mail infrastructure and policies arose in many states. The use of drop boxes increased. Issues relating to the acceptance of mail ballots, including signature match, were prominent, but on the whole, the rate of mail-ballot rejections declined even though the total number of mail ballots rose substantially. Several factors likely contributed to a lower rate of rejections: easing of requirement for accepting a mail ballot, the casting of mail ballots earlier in the process, increased opportunities to cure ballots, and a public focus on mail balloting.

Looking ahead to the future, we offer the following conclusions and lessons learned related to voting by mail.

1. A very high usage of mail ballots will likely persist in future elections, but at lower levels than in 2020. Some of the shift to voting by mail may dissipate with a return to pre-COVID conditions and efforts by legislatures in some states to rein-in the use of mail ballots. Among respondents who voted by mail in 2020, 80.0 percent said it was very or somewhat likely they would vote by mail in the future, 86.1 percent among Democrats, 65.8 percent among Republicans, and 78.5 percent among independents.

   It is also possible that mail-ballot usage will be greater in federal elections, as the national campaigns push to maximize early turnout among their supporters, leaving "off-cycle" elections (special elections, spring local elections, and odd-year state elections) at lower levels of mail-ballot usage. For instance, in the special elections held in Georgia for state offices in 2021, the fraction of votes cast by mail was less than what was seen in the November election, when most of these offices had last been regularly contested.[20]

   Thus, although it is likely that the use of mail ballots in coming elections will fall somewhere between pre-2020 numbers and those seen in 2020, it is not obvious where precisely those numbers will fall. Therefore, election officials will continue to be faced with planning for the deployment of resources across different voting modes amid an element of uncertainty.

2. Voting by mail at a very early date may recede, as the conditions of the pandemic led parties and groups to encourage voters to cast their ballots as early as possible. As with the previous point, it is unclear whether voters will continue returning their mail ballots earlier than they had prior to 2020. The early returns in 2020 were likely the result of high-intensity communications and follow-up that are unlikely to attend lower turnout races and even the midterms. Election officials would be wise to plan for mail ballots to be returned closer to Election Day than in 2020, until it is clear that the change in voter behavior observed in 2020 is permanent.

3. Drop boxes are likely to be more commonly available to and used by voters. The availability of drop boxes exploded in 2020, much to the pleasure of voters. However, there were legal and policy controversies over the use of drop boxes, and a number of states that emphasize in-person early or Election Day voting have passed legislation that make drop boxes a more limited part of the election infrastructure. Nonetheless, with ongoing concerns about the health of the postal service and the possibility that the pandemic may be with us for quite a while, providing opportunities for voters to drop off ballots that have been mailed to them seems like a wise policy choice. In addition to regularizing the use of drop boxes, states that do not currently allow absentee ballots to be dropped off at polling places may want to reconsider that policy, which would not only be a convenience to voters who had been mailed ballots but had not returned them by Election Day, it would also reduce the number of provisional ballots cast by voters (and the attendant wait times they can create) on Election Day who had been mailed a ballot but cannot drop it off at their polling place.

4. The reduction in the mail-ballot rejection rate in 2020 is to be praised, but many states had high

20 This statement pertains both to runoffs held before the effective data of Georgia Senate Bill 202 and those held after its effective date.

rejection rates and high intercounty variability. Measured as a percentage of mail ballots returned for counting, the rejection rate declined significantly in 2020. Because there has been no convincing evidence presented to suggest that this reduction allowed a widespread increase in ineligible mail ballots being cast, the likely reasons for the lower rejection rates are (1) that a greater public emphasis on mail voting led to voters more often successfully following the rules; (2) the increase in mail ballots cast very early in the process which allowed voters and election officials more time to resolve issues; and (3) states became less likely to reject ballots due to innocent administrative errors.

5. States should review their signature verification practices to provide greater transparency and uniformity to the practice. The high degree of inter-county variability in rejecting ballots because of signature mismatches and the controversy signature verification caused in the 2020 election suggests that most states would benefit from a comprehensive review of the practice. Unfortunately, one casualty of the heightened partisanship over mail ballots is the difficulty in pursuing actions that would further streamline the return of mail ballots, reduce rejections further, and reduce geographic variability while maintaining equity and security. Five actions in particular would seem to be candidates for bipartisan support. They are (1) the creation of a uniform notification-and-cure policy within each state,[21] (2) the creation of national standards for signature verification, including training curricula, (3) the redesign of ballot return envelopes and return certificates to emphasize clarity and usability, (4) a holistic reconsideration of deadlines for the request and return of mail ballots that are realistic about the speed of mail delivery and the value of counting ballots quickly, and (5) the consideration of alternatives to signature verification.

21 Our proposal does not suggest that each state should have the same notification-and-cure policy, only that each state should have a policy and that it should be applied uniformly within the state.

APPENDIX 3

MAIL-BALLOT POLICY

This table, adapted from EAC,[1] Ballotpedia,[2] and NCSL[3] sources, summarizes mail-ballot policy in effect for the 2020 general election.

State	Mailing Applications[4]	Mailing Ballots to All Eligible Voters[5]	When Ballot Processing Begins	Absentee / Mail-Ballot Receipt Deadline	Regular Absentee / Mail-Ballot Policies	Policy Changes *(Temporary Changes in effect for the 2020 general election in italics, permanent changes in bold)*
Alabama	No	No	7 a.m. on Election Day.	Noon on Election Day if postmarked the day before Election Day. Day before Election Day if returning in person.	Voters may vote by absentee if they are ill, in the military, or have a physical disability that prevents a trip to the polling place.	Alabama *suspended absentee voting requirements, allowing all voters to cast ballots by mail.*
Alaska	No	No	Seven days before Election Day.	10 days after Election Day if postmarked by Election Day.	Voters are required to have a witness sign on to their absentee ballot	Alaska *removed the witness requirement for the general election.*

1 EAC, "2020 Policy Survey," https://www.eac.gov/research-and-data/datasets-codebooks-and-surveys.
2 Ballotpedia, "Changes to election dates, procedures, and administration in response to the coronavirus (COVID-19) pandemic, 2020," https://ballotpedia.org/Changes_to_election_dates,_procedures,_and_administration_in_response_to_the_coronavirus_(COVID-19)_pandemic,_2020.
3 National Conference of State Legislatures, "Absentee and Mail Voting Policies in Effect for the 2020 Election," November 3, 2020, https://www.ncsl.org/research/elections-and-campaigns/absentee-and-mail-voting-policies-in-effect-for-the-2020-election.aspx.
4 Refers to states that are mailing applications for absentee/mail ballots to voters proactively.
5 Refers to states that are mailing ballots to all eligible voters, no request needed.

State	Mailing Applications[4]	Mailing Ballots to All Eligible Voters[5]	When Ballot Processing Begins	Absentee / Mail-Ballot Receipt Deadline	Regular Absentee / Mail-Ballot Policies	Policy Changes *(Temporary Changes in effect for the 2020 general election in italics, permanent changes in bold)*
Arkansas	No	No	Seven days before Election Day.	Election Day if returned by mail or the day before Election Day if returned in person.	Voters can request an absentee ballot if they will be "unavoidably absent" on Election Day, if they are in the military, or if they have an illness or physical disability.	Arkansas *issued an executive order allowing voters to cite concerns over COVID-19 as a valid excuse for voting absentee.*
Arizona	No	No	14 days before Election Day.	Election Day by 7pm.	N/A	N/A
California	No	Yes, for Nov. 2020.[6]	29 days before Election Day.	17 days after Election Day if postmarked by Election Day.	Any registered California voter may apply for an absentee ballot and vote by mail.	California *automatically sent mail ballots to all registered voters for the general election.*
Colorado	No	Yes, for all elections.	Upon receipt.	Election Day by 7pm.	N/A	N/A
Connecticut	Yes	No	14 days before Election Day (2020 only).	Close of polls on Election Day.	Voters can vote by absentee ballot if they will be absent from town, in the military, or have a physical disability that prevents them from voting in person.	Connecticut *extended vote by mail eligibility to any voter.* Connecticut *automatically sent mail ballots to all registered voters for the general election.*

6 Elections: vote by mail ballots, AB No. 860 (2020), June 18, 2020, https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB860.

State	Mailing Applications[4]	Mailing Ballots to All Eligible Voters[5]	When Ballot Processing Begins	Absentee / Mail-Ballot Receipt Deadline	Regular Absentee / Mail-Ballot Policies	Policy Changes *(Temporary Changes in effect for the 2020 general election in italics, permanent changes in bold)*
Delaware	Yes[7]	No	Friday before Election Day.	Close of polls on Election Day.	Qualified voters can apply for absentee ballots.	Delaware *automatically sent absentee ballot applications to all voters for the general election.*
District of Columbia	No	Yes	Signatures can be verified and the secrecy envelope removed prior to tabulation. Exact timing not specified.	10 days after Election Day if postmarked by Election Day.	Qualified voters can request absentee ballots.	DC *mailed every registered voter an absentee ballot for the general election.*
Florida	No	No	22 days before Election Day.	7pm on Election Day.	N/A	N/A
Georgia	No	No	Upon receipt.	Close of polls on Election Day.	N/A	N/A
Hawaii	No	Yes, for all elections.	Upon receipt.	Close of polls on Election Day.	N/A	N/A
Idaho	No	No	Upon receipt.	8pm on Election Day.	N/A	N/A

7 HB No. 346 (2020), https://legis.delaware.gov/json/BillDetail/GenerateHtmlDocumentEngrossment?engrossmentId=24098&docTypeId=6&link_id=38&can_id=3ce03c3d77033bbeb4c4bf7ba04c984c&source=email-morning-digest-amid-dueling-polls-gideon-demolishes-collins-in-fundraising&email_referrer=email_853488&email_subject=morning-digest-amid-dueling-polls-gideon-demolishes-collins-in-fundraising.

State	Mailing Applications[4]	Mailing Ballots to All Eligible Voters[5]	When Ballot Processing Begins	Absentee / Mail-Ballot Receipt Deadline	Regular Absentee / Mail-Ballot Policies	Policy Changes *(Temporary Changes in effect for the 2020 general election in italics, permanent changes in bold)*
Illinois	Yes	No	Upon receipt.	14 days after Election Day if postmarked by Election Day.	Qualified voters can apply for absentee ballots.	Illinois *sent mail-in ballot applications to all registered voters in the general election who cast ballots in the 2018 general election, the 2019 consolidated election, or the 2020 primary election.*
Indiana	No	No	On Election Day. (Initial signature review can be done before Election Day).	Noon on Election Day.	N/A	N/A
Iowa	Yes	No	The Saturday before Election Day (2020 only).	Noon on the sixth day after Election Day if postmarked the day before Election Day,	Qualified voters can apply for absentee ballots.	Iowa *automatically sent absentee ballot applications to all voters for the general election.*
Kansas	No	No	Prior to Election Day, timing not specified.	3 days after Election Day if postmarked by Election Day.	N/A	N/A
Kentucky	No	No	Sep. 21, 2020.	3 days after Election Day if postmarked by Election Day.	Voters can vote by absentee ballot if they will be out of the county, in the military, or have a disability.	Kentucky *expanded absentee ballot eligibility to all voters who are concerned about COVID-19.*

State	Mailing Applications[4]	Mailing Ballots to All Eligible Voters[5]	When Ballot Processing Begins	Absentee / Mail-Ballot Receipt Deadline	Regular Absentee / Mail-Ballot Policies	Policy Changes *(Temporary Changes in effect for the 2020 general election in italics, permanent changes in bold)*
Louisiana	No	No	The day before Election Day if the parish has more than 1,000 absentee ballots, or on Election Day if less than 1,000 absentee ballots.	The day before Election Day.	Voters can vote by absentee ballot if they will be temporarily outside their parish of registration, are 65 years old or older, are in the military, or are currently hospitalized.	Louisiana *expanded absentee ballot eligibility to those at higher risk because of serious medical conditions, those subject to a 'medically necessary quarantine or isolation order,' those advised by a health provider to self-quarantine, those experiencing symptoms of COVID-19 and seeking a medical diagnosis, and those caring for an individual who is subject to a quarantine order and has been advised to self-quarantine.*
Maine	No	No	Seven days before Election Day (2020 only).	Election Day.	Mail-in voter registration deadline was October 13, 2020.	Maine *extended the mail-in registration deadline to October 19, 2020 and allowed for municipalities to count absentee ballots up to seven days before the election.*
Maryland	Yes[8]	No	Oct. 1, 2020 (2020 only).	10 days after Election Day if postmarked by Election Day.	Qualified voters can apply for absentee ballots.	Maryland *sent absentee ballot applications to all voters for the general election.*

8 Maryland.gov, "Governor Hogan Directs State Board of Elections to Conduct November General Election With Enhanced Voting Options," https://governor.maryland.gov/2020/07/08/governor-hogan-directs-state-board-of-elections-to-conduct-november-general-election-with-enhanced-voting-options/.

State	Mailing Applications[4]	Mailing Ballots to All Eligible Voters[5]	When Ballot Processing Begins	Absentee / Mail-Ballot Receipt Deadline	Regular Absentee / Mail-Ballot Policies	Policy Changes *(Temporary Changes in effect for the 2020 general election in italics, permanent changes in bold)*
Massachusetts	Yes	No	Upon receipt.	3 days after Election Day if postmarked by Election Day.	Voters who are outside the county or hospitalized can vote by absentee.	Massachusetts *expanded absentee voting eligibility to all qualified voters in the general election.*
Michigan	Yes	No	In cities with population over 25,000, processing may begin the day before Election Day. (2020 only)	Close of polls on Election Day. (pending litigation)	Qualified voters can apply for absentee ballots.	Michigan *sent absentee ballot applications to all voters for the general election.*
Minnesota	No	No	Processing upon receipt and envelopes opened fourteen days before Election Day. (2020 only)	7 days after Election Day if postmarked by Election Day. (pending litigation)	Voters are required to have a witness sign on to their absentee ballot. Mail ballots must be received by November 3, 2020.	Minnesota *suspended the witness requirement for absentee ballots.*

State	Mailing Applications[4]	Mailing Ballots to All Eligible Voters[5]	When Ballot Processing Begins	Absentee / Mail-Ballot Receipt Deadline	Regular Absentee / Mail-Ballot Policies	Policy Changes *(Temporary Changes in effect for the 2020 general election in italics, permanent changes in bold)*
Mississippi	No	No	On Election Day.	5 business days after Election Day if postmarked by Election Day.	Voters can vote absentee if they will be out of the county, are 65 years old or older, are in the military, or have a physical disability that prevents in-person voting. Absentee ballots must be received the day before the election.	Mississippi *expanded absentee ballot eligibility to those who are quarantining from COVID-19 or caring for a dependent with COVID-19.* Mississippi **extended the absentee ballot postmark deadline to Election Day and the receipt deadline to five days after the election.**
Missouri	No	No	Five days before Election Day.	Election Day.	Voters can vote absentee if they will be prevented from going to the polls.	Missouri *expanded absentee voting to any registered voter subject to a notarization requirement. Voters diagnosed with COVID-19 or in an at-risk category are exempt from the requirement.*
Montana	No	Yes, counties' choice.	Signature verification upon receipt, envelopes opened three days before Election Day.	Close of polls on Election Day.	Voters can choose to vote by mail or in person.	Montana *issued a directive permitting counties to conduct their election entirely by mail.*

State	Mailing Applications[4]	Mailing Ballots to All Eligible Voters[5]	When Ballot Processing Begins	Absentee / Mail-Ballot Receipt Deadline	Regular Absentee / Mail-Ballot Policies	Policy Changes *(Temporary Changes in effect for the 2020 general election in italics, permanent changes in bold)*
Nebraska	Yes	No	Second Friday before Election Day.	Close of polls on Election Day.	Qualified voters can request absentee ballots.	Nebraska *sent absentee ballots to all registered voters in the general election.*
Nevada	No	Yes, for Nov. 2020.[9]	Upon receipt.	7 days after Election Day if postmarked by Election Day. Ballots without postmarks will be accepted up to 3 days after Election Day.	Qualified voters can request absentee ballots.	Nevada *sent absentee ballots to all registered voters in the general election.*
New Hampshire	No	No	Thursday, Oct. 29, 2020. (2020 only).	5pm on Election Day.	Voters can vote absentee if they are unable to vote in person because of a disability, military service, religious beliefs, or temporary absence.	New Hampshire *expanded absentee ballot eligibility to anyone who has concerns about COVID-19.*
New Jersey	No	Yes, for Nov. 2020.[10]	Upon receipt.	7 days after Election Day if postmarked by Election Day.	Qualified voters can request absentee ballots. Ballots must be received 48 hours after the polls close if postmarked on or before Election Day.	New Jersey *automatically sent absentee ballots to all registered voters for the general election.* See footnote.[11]

9 AB No. 4 (2020), https://www.leg.state.nv.us/Session/32nd2020Special/Bills/AB/AB4_EN.pdf.

10 Executive Order No. 177 (2020), https://nj.gov/infobank/eo/056murphy/pdf/EO-177.pdf.

11 Governor Phil Murphy issued Executive Order No. 177 on August 14, 2020 extending New Jersey's mail ballot receipt deadline to November 10, 2020 if postmarked on or before Election Day, November 3, 2020. However, the New Jersey state legislature passed AB4320 14 days later on August 28, 2020 which specified that ballots postmarked on or before Election Day received within 144 hours after the close of polls would be counted. The New Jersey Division of Elections' website instructs voters to follow the deadline outlined in Governor Murphy's executive order. We cannot reconcile the reason for the discrepancy between the executive order and the bill the state legislature passed.

State	Mailing Applications[4]	Mailing Ballots to All Eligible Voters[5]	When Ballot Processing Begins	Absentee / Mail-Ballot Receipt Deadline	Regular Absentee / Mail-Ballot Policies	Policy Changes *(Temporary Changes in effect for the 2020 general election in italics, permanent changes in bold)*
New Mexico	Yes (counties choice)	No	If more than 10,000 absentee ballots are sent in a county, they may be opened and inserted into an electronic voting machine two weeks before Election Day. If fewer than 10,000 absentee ballots are sent, processing may begin four days before the election.	Election Day.	Qualified voters can apply for absentee ballots.	New Mexico *automatically sent absentee ballot applications to all registered voters in the general election.*
New York		No	Upon receipt.	7 days after Election Day if postmarked by Election Day. Ballots without postmarks will be accepted up to the day after Election Day.	Voters who are absent from the county or borough, in the military, or are ill can vote by absentee ballot.	New York *expanded absentee ballot eligibility to anyone with concerns about COVID-19. The state launched an online absentee application portal.*

State	Mailing Applications[4]	Mailing Ballots to All Eligible Voters[5]	When Ballot Processing Begins	Absentee / Mail-Ballot Receipt Deadline	Regular Absentee / Mail-Ballot Policies	Policy Changes *(Temporary Changes in effect for the 2020 general election in italics, permanent changes in bold)*
North Carolina	No	No	Fifth Tuesday before Election Day.	9 days after Election Day if postmarked by Election Day. (pending litigation)	Absentee ballots must have two witness signatures. Absentee ballots must be received by November 6, 2020 as long as they are postmarked by Election Day, November 3, 2020.	North Carolina *reduced the witness signature requirement on absentee ballots from two to one.* North Carolina *also extended the ballot receipt deadline to November 12, 2020 so long as ballots were postmarked by Election Day, November 3, 2020.*
North Dakota	No	No	October 29, 2020. (2020 only)	6 days after Election Day if postmarked the day before Election Day.	N/A	N/A
Ohio	Yes	No	Processing may begin before the time for counting ballots. Exact timing not specified.	10 days after Election Day if postmarked the day before Election Day.	N/A	N/A
Oklahoma	No	No	10 a.m. on the Thursday before Election Day.	Election Day.	Voters who choose to vote absentee must have their ballot notarized.	Oklahoma *allowed voters to include a copy of a valid ID in lieu of a notarized or witnessed signature.*
Oregon	No	Yes, for all elections.	Seven days before Election Day.	8pm on Election Day.	N/A	N/A

State	Mailing Applications[4]	Mailing Ballots to All Eligible Voters[5]	When Ballot Processing Begins	Absentee / Mail-Ballot Receipt Deadline	Regular Absentee / Mail-Ballot Policies	Policy Changes *(Temporary Changes in effect for the 2020 general election in italics, permanent changes in bold)*
Pennsylvania	No	No	7 a.m. on Election Day.	Election Day.	Ballots must be received by 8 pm on Election Day.	See footnote.[12]
Rhode Island	Yes	No	20 days before Election Day. (2020 only)	Election Day.	Voters can apply for absentee ballots. Voters who choose to vote absentee are required to have two witnesses or a notary sign on.	Rhode Island *automatically sent absentee ballot applications to all registered voters in the general election.* Rhode Island *suspended the requirement that two witnesses or a notary sign absentee ballots.*
South Carolina	No	No	Nov. 1, 2020 at 7 a.m. (2020 only)	Election Day.	Voters who are out of the county, in the military, or ill can vote absentee.	South Carolina *extended absentee voting eligibility to all registered voters in the general election. The state also provided prepaid postage for absentee ballots.*
South Dakota	No	No	Processing may begin when sealed absentee ballots are delivered to precincts with the election supplies.	Election Day.	N/A	N/A

12 On October 19, 2020, the Supreme Court of the United States let stand a September ruling from the Pennsylvania Supreme Court allowing election officials to count absentee ballots within three days (until November 6, 2020) after Election Day, November 3, 2020, even if the ballots are not postmarked. However, on November 6, 2020, Justice Samuel Alito ordered the county boards of elections to follow guidance from Secretary of the Commonwealth Kathy Boockvar to segregate mail ballots arriving after 8 pm on Election Day. The 10,000 late-arriving ballots were not included in the state's certified totals.

State	Mailing Applications[4]	Mailing Ballots to All Eligible Voters[5]	When Ballot Processing Begins	Absentee / Mail-Ballot Receipt Deadline	Regular Absentee / Mail-Ballot Policies	Policy Changes *(Temporary Changes in effect for the 2020 general election in italics, permanent changes in bold)*
Tennessee	No	No	Upon receipt.	Election Day. Ballots must be mailed and cannot be returned in person.	Voters who are outside the county, are 60 years or older, are ill, or have religious conflicts are allowed to vote absentee. First-time voters must vote in person.	Tennessee *expanded the absentee voting eligibility to those vulnerable to COVID-19 and their caretakers.* Tennessee *suspended the law that required first-time voters vote in person.*
Texas	No	No	Upon receipt.	1 day after Election Day if postmarked by Election Day.	Texas previously did not require voters to be notified before Election Day if their ballot was rejected for a signature mismatch.	
Utah	No	Yes, for all elections.	Processing may begin before Election Day. Exact timing not specified.	Absentee ballots must be postmarked by the day before Election Day and received by noon on the day of the county canvass (which varies by county but may be as late as Nov. 17).[13]	Ballot harvesting was prohibited but not a crime.	Utah *passed a new law making ballot harvesting a class A misdemeanor, allowing some exceptions for individuals in the same household or those who need assistance.*
Vermont	No	Yes, for Nov. 2020.	Day before Election Day.	Election Day if returning by mail, the day before Election Day if returning in person.	Voters can request an absentee ballot.	Vermont *automatically sent absentee ballots to all registered voters in the general election.*

13 Confirmed with the Utah Office of Elections.

State	Mailing Applications[4]	Mailing Ballots to All Eligible Voters[5]	When Ballot Processing Begins	Absentee / Mail-Ballot Receipt Deadline	Regular Absentee / Mail-Ballot Policies	Policy Changes *(Temporary Changes in effect for the 2020 general election in italics, permanent changes in bold)*
Virginia	No	No	Before Election Day as needed to expedite counting absentee ballots.	3 days after Election Day if postmarked by Election Day.	Voters who choose to vote by absentee must have a witness sign on. The Board of Elections was allowed to accept ballots that arrived up to three days after Election Day without legible postmarks.	Virginia *suspended the witness requirement for the general election and provided prepaid postage for absentee ballots.* A Virginia circuit court *struck down this guidance and barred the state from counting ballots that arrived after Election Day without legible postmarks.*
Washington	No	Yes, for all elections.	Upon receipt.	Ballots must be received by the day before the County Canvassing Board certifies the county's election results if postmarked by Election Day.	N/A	N/A
West Virginia	No	No	On Election Day.	5 days after Election Day if postmarked by Election Day.	Voters who are outside the county, in the military, or ill can vote absentee. Voters can request absentee ballots in person, by fax, or by mail.	West Virginia *expanded absentee voting eligibility to anyone with concerns about COVID-19.* West Virginia *implemented an online portal where voters could request absentee ballots.*
Wisconsin	Yes	No	After polls open on Election Day.	8pm on Election Day.	Qualified voters could apply for absentee ballots.	Wisconsin *automatically sent most registered voters absentee applications.*

State	Mailing Applications[4]	Mailing Ballots to All Eligible Voters[5]	When Ballot Processing Begins	Absentee / Mail-Ballot Receipt Deadline	Regular Absentee / Mail-Ballot Policies	Policy Changes *(Temporary Changes in effect for the 2020 general election in italics, permanent changes in bold)*
Wyoming	No	No	On Election Day.	Election Day.	N/A	N/A

CHAPTER 4: MEETING THE CHALLENGE OF VOTING IN PERSON

We did not have closed polling places, so we did not have to relocate any of those. But our interaction with the polling places certainly changed. These are now buildings that are unstaffed. There's nobody in the schools. There's nobody in the churches. There's nobody in these buildings, so we had to do a fair amount of work to figure out how we were going to be in the buildings. . . . Poll workers, that was hard for me. We had a pretty high dropout rate and [the primary] was moved twice. So in the same way that some of those primaries will move, our main election was moved twice. . . So that's also challenging because you've got people, even the people who are committed . . . to a particular day and then you lose the election and maybe you have a little bit more drop off.[1]

+ + +

We sent everybody a vote-by-mail ballot and then we opened roughly 50 percent of our polling places, just so we could have in-person voting as well to give voters the option. But I think that one of the big things, walking away from that, was how important it was to protect the voter's health and give them the options; if they wanted to go in person and they felt comfortable doing that, they could, but they didn't have to. Some of the challenges that we faced were outside of our control, such as getting PPE for everybody. This was another reason we pushed the primary out in early spring. You could not get gloves and masks and all the supplies that you needed. Trying to find polling locations was a very unique challenge because buildings were closed. You used community centers for polling places and they were closed and they weren't open to the public.[2]

+ + +

We bought a boatload of pens. Communication on this whole thing was a challenge, as well, because for years we've been drilling into the heads of our voters, "there's a single pin. It's at the polling place. You need to use that pen, because if you use any other pen, . . ." Now, we were like, "no, no, no, don't use that pen. We're going to give you a bunch of pens and you can take it with you." We had electronic poll books, and we figured out they could sign their name with these medical-grade "Q-Tips," so you didn't have to worry about disinfecting the stylus each time. They signed their name and then disposed of that.[3]

+ + +

Despite the surge in voting by mail, maintaining access to in-person voting continued to be a priority throughout the country, even as it proved to be a challenge. The challenge arose from many sources. Among these were:

1. Estimating demand for in-person voting under unprecedented circumstances.
2. Maintaining polling places amid the potential reluctance of building owners to make facilities available.
3. Organizing polling places to accommodate consolidation while maintaining social distancing.
4. Recruiting enough poll workers, given the challenges during the primary and the fact that so many poll workers were in the age range most vulnerable to COVID.
5. Communicating with voters about changing polling locations.

1 Remarks of Brenda Cabrera, U.S. Election Assistance Commission, "2020 Lessons Learned with Brenda Cabrera and Michael Dickerson," YouTube video, 1:00:04, July 21, 2021, https://youtu.be/Lm-z0vYe2pg, at 14:20. Edited for clarity and brevity.

2 Remarks of Robert Giles, Director of the New Jersey Division of Elections, U.S. Election Assistance Commission, "2020 Elections Learned," YouTube Video, 1:01:28, March 9, 2021, https://youtu.be/SbZo5eBZf7M, at 8:34. Edited for clarity and brevity.

3 Remarks of David Stafford, Supervisor of Elections, Alachua County, Florida,, U.S. Election Assistance Commission, "2020 Elections Learned," YouTube Video, 1:01:28, March 9, 2021, https://youtu.be/SbZo5eBZf7M, at 29:29. Edited for clarity and brevity.

The evidence suggests that these challenges were largely met throughout the country. The number of in-person polling places declined only somewhat and, on aggregate, the number of poll workers was on par with 2016. Voters who used in-person polling places reported that they were easy to find, well-run, and accommodated public health needs.

The challenges responding demand for in-person were met with considerable effort and assistance from the public and non-profit groups. The need to communicate rapidly changing information, including tamping down disinformation and misinformation, was a special challenge that the community should address in preparation for future elections. The expansion of the "labor pool" for poll workers helped to fill in the gaps and brought organized efforts at all levels of government to help meet the need for a new generation of poll workers. As is often the case when nonpartisan political groups step in to help supply valuable resources to local officials, such as personnel, relationships were not always smooth. The scramble to meet the need for in-person poll workers demonstrates that much would be gained if these nonpartisan groups would continue working with election officials, and if relationships could be built over the next year, before the crush of the midterm election is upon us.

IN-PERSON VOTERS AND POLLING PLACES

It is unsurprising that the number of people who voted in person in 2020 was less than in 2016, although there is some disagreement about how many people voted in person, depending on the data source. Responses to the Election Voting and Administration Survey (EAVS), which relies on state and local election officials to report turnout statistics to the EAC, indicate that 46.0 million votes were cast on Election Day (28.8 percent of all votes cast), down from 72.2 million in 2016 (52.1 percent), and that 41.2 million votes were cast in-person before Election Day (25.8 percent), up from 24.1 million in 2016 (17.4 percent). Combining both modes together, the number of in-person votes that were cast fell from 96.3 million in 2016 to 87.2 million in 2020.

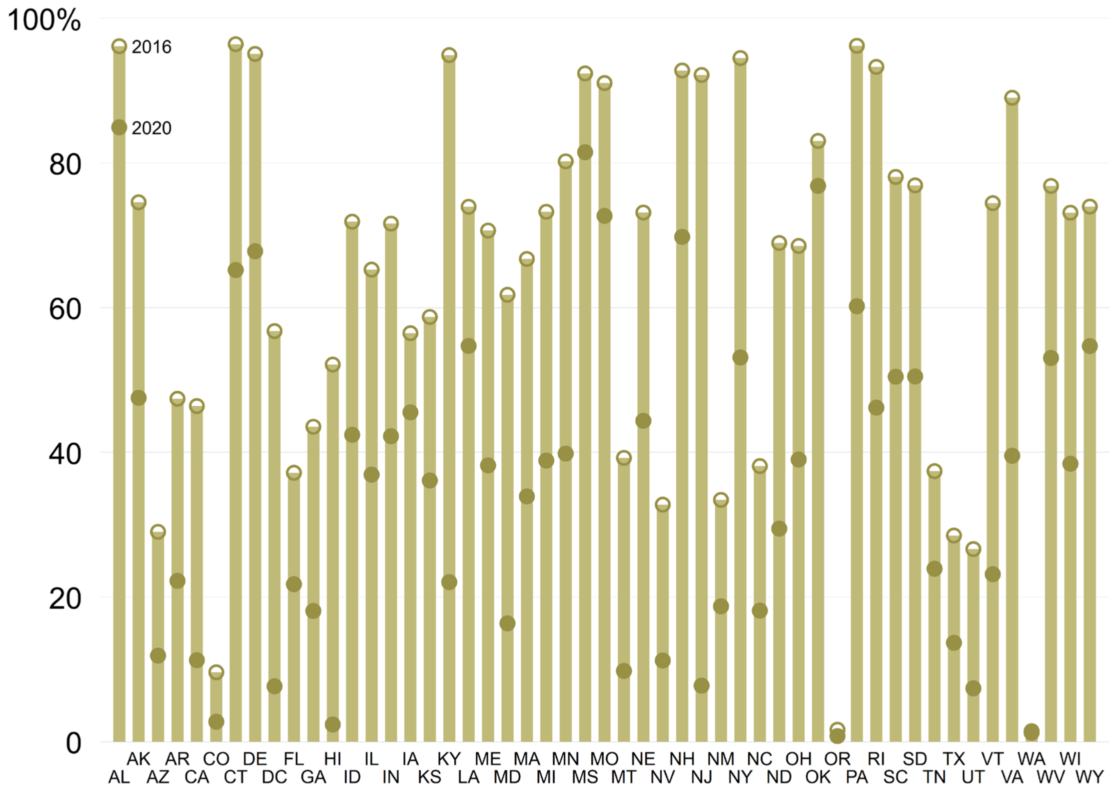
Statistics derived from the November Voting and Registration Supplement of the Current Population Survey (CPS) yield slightly different results, particularly related to Election Day voting in 2016.[4] According to the CPS, 48.3 million votes were cast on Election Day in 2020 (30.5 percent of all votes cast), down from 82.2 million in 2016 (60.0 percent). In addition, 41.2 million votes were cast in-person before Election Day (26.0 percent), up from 25.9 million in 2016 (21.1 percent). Combining both modes together using the CPS data, the number of in-person votes cast fell from 108.2 million in 2016 to 89.5 million in 2020.

In comparing the number of in-person votes in 2016 and 2020, we use the CPS data, for two reasons. First, missing data in the EAVS in 2016 depresses the number of in-person votes reported. Second, some states do not distinguish between votes cast before Election Day in person and by mail. This depresses the number of actual in-person voters both years.

Changes in the use of in-person voting varied tremendously across the states. For instance, leaving aside the three states that exclusively used vote-by-mail in 2016, the percentage of votes cast on Election Day declined in every state. The decline ranged from 6.2 points in Oklahoma to 84.4 points in New Jersey. Figures 4-1 and 4-2 summarize these state-by-state changes using a bar chart and a map.

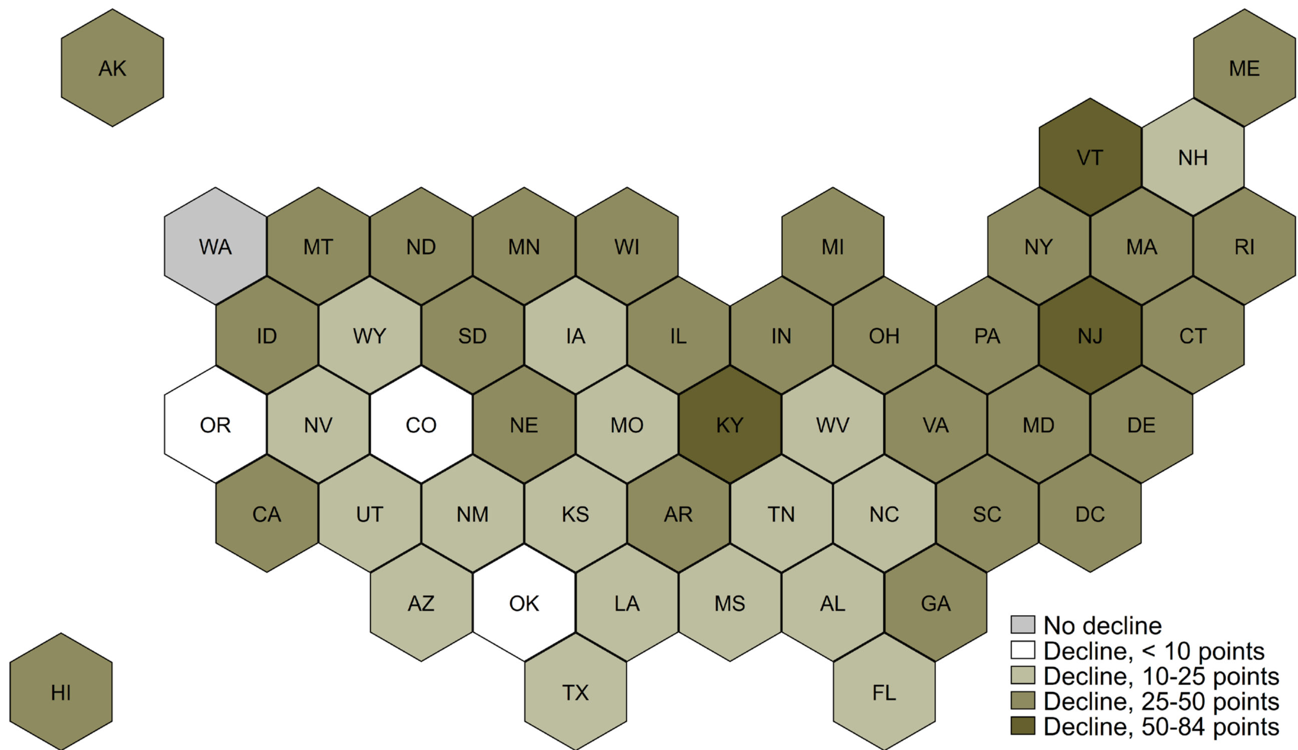
4 In 2016, Alabama, Iowa, Oregon, Utah, and Vermont did not report the number of in-person votes that were cast. In 2020, only Oregon and Washington –- which did report in-person votes in 2016 –- failed to report in-person votes.

Figure 4-1. Percentage of votes cast on Election Day by state, 2016 and 2020.



Source: U.S. Census Bureau, Current Population Survey, Voting and Registration Supplement.

Figure 4-2. Change in the percentage of votes cast on Election Day by state, 2016 and 2020.

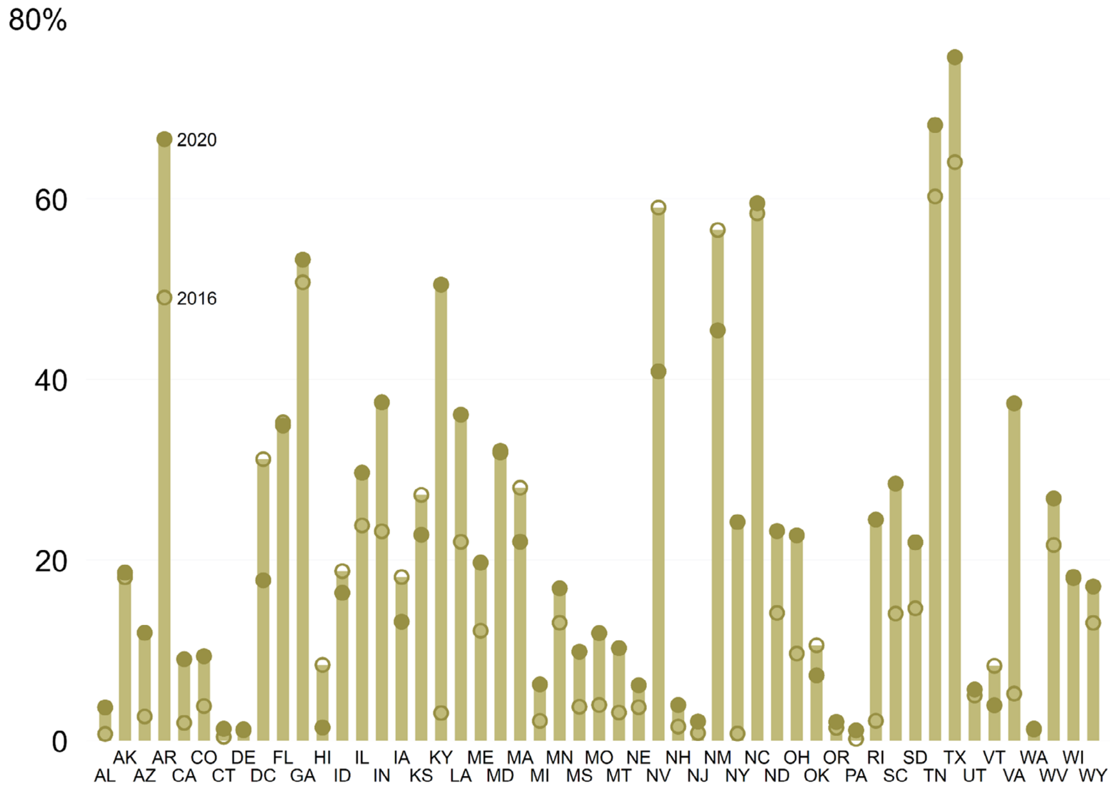


Source: U.S. Census Bureau, Current Population Survey, Voting and Registration Supplement.

The biggest decline in Election Day voting occurred for the most part in the eastern part of the country and along the northern tier of states.

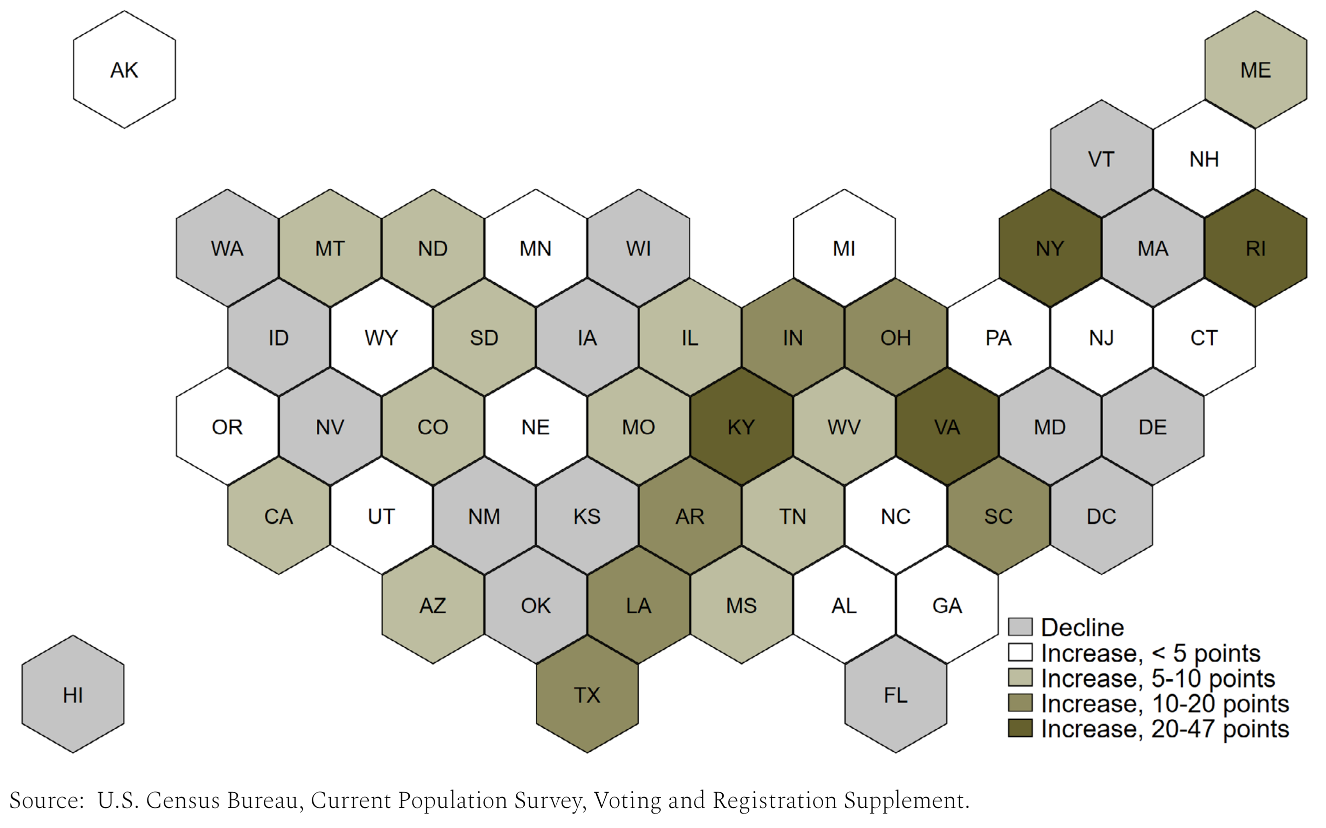
Although the number of votes cast in-person before Election Day also rose, it did not increase everywhere. Its usage was within five percentage points of 2016 rates in 24 states. Of the remaining states, including D.C., the rate of early voting rose in twenty-two and fell in five. Figures 4-3 and 4-4 summarize these state-by-state changes using a bar chart and a map.

Figure 4-3. Percentage of votes cast in person before Election Day by state, 2016 and 2020.



Source: U.S. Census Bureau, Current Population Survey, Voting and Registration Supplement.

Figure 4-4. Change in the percentage of in-person votes cast before Election Day by state, 2016 and 2020.



Source: U.S. Census Bureau, Current Population Survey, Voting and Registration Supplement.

The biggest increases in early voting occurred in the midsection of the country where, for the most part, increases in voting by mail were the least.[5]

MAINTAINING AND CONSOLIDATING POLLING PLACES

The pandemic presented numerous challenges and uncertainties related to physical polling places. The first wave of the pandemic hit just as the presidential primary season was accelerating past the opening events in late February and early March. Uncertainty -- about the course of the disease, public health measures, and the response of the public -- made maintaining in-person polling places difficult, especially for the primaries that were scheduled for April. For the most part, states dealt with this uncertainty by postponing their primaries into May or even the summer. In many cases, these postponements were coupled with often-temporary measures that allowed more expansive use of mail ballots for the primaries.

One state that did not postpone its primary was Wisconsin. The Wisconsin experience illustrated many points, both positive and negative, that informed planning for the fall.[6] On the positive side, despite the public health uncertainties associated with the pandemic, the fact that the Republican presidential primary was uncompetitive, and the Democratic nomination was close to being settled for practical purposes, turnout was robust.

5 The main exceptions to this generalization were the states of Kentucky, New York, Rhode Island, and Virginia. Including these four states, the correlation between the change in the rate of early voting and the rate of mail voting was -.35. Excluding these four states, the absolute value of the correlation rises to -.52.

6 For a thorough discussion of Wisconsin's response to the pandemic, see John Curiel and Angelo Dagonel, "Wisconsin Election Analysis", Stanford/MIT Healthy Elections Project Memo, August 6, 2020, https://healthyelections.org/sites/default/files/2020-08/Wisconsin%20Election%20Analysis%20Version%202 %281%29.pdf and Grace Scullion, et al, "Wisconsin's 2020 Primary in the Wake of COVID-19", Stanford/MIT Healthy Elections Project Memo, June 30, 2020, https://healthyelections.org/sites/default/files/2020-06/Wisconsin%E2%80%99s%202020%20Primary%20in%20the%20Wake%20of%20COVID-19.pdf.

On the negative side, several Wisconsin cities were unable to open Election Day polling sites, primarily because of a lack of workers willing to staff the polls. Overall, of the 2,495 planned polling places in the state, 387 were unable to open, 15 percent of the planned total. Closings were concentrated in the cities of Milwaukee (175 closed out of 180 planned), Madison (29 of 92), Green Bay (28 of 30), West Allis (13 of 20), Waukesha (12 of 13) and Kenosha (11 of 20). Analysis of the closings statewide indicated that they occurred disproportionately in densely populated areas and in areas with large minority populations.[7]

Wisconsin's experience with the spring primary was an extreme case, and a cautionary tale, for Wisconsin itself and for the nation. Cities that had experienced the most closures in April were operating at nearly 100 percent capacity for the August primary.[8] The same was true for November.

Compared to 2016, the number of ***precincts*** reported in the EAVS in 2020 was down only slightly, to 174,419 ***versus*** 177,574, a decline of 1.8 percent. (Confining ourselves only to jurisdictions that reported data in both years, there was a similar decline of 2.0 percent, from 166,763 to 163,489).

Of course, precincts are an administrative unit used to report tabulated election results, and may not reflect the ***places*** where voters could cast ballots on Election Day. Here is where inattention to missing data can give a misleading view of 2020. This is because states and local jurisdictions were better at reporting the number of polling places in 2020 than they were in 2016. Thus, 92,099 distinct Election-Day polling locations were reported for 2020, compared to 85,408 in 2016. However, if we confine ourselves only to jurisdictions that reported statistics for both 2016 and 2020, there was a ***decline*** in polling places, from 78,972 to 61,717 (21.8 percent). Because the EAVS is missing quite a bit of data about the number of polling places in 2016, we cannot estimate for certain how many polling places were closed nationwide in 2020, but it seems reasonable to assume that the fraction is close to the 21.8 percent estimate we get if we confine calculations to jurisdictions that reported data for both years.

With the number of ***precincts*** declining a small amount but the number of physical ***polling places*** declining by about one-fifth, this means that an increased number of polling places had to accommodate more precincts in one location. Again, confining our calculations only to jurisdictions that reported data in 2016 and 2020, the nationwide average number of precincts in a polling place rose to 2.0 from 1.6. The average number of voters per polling place fell from 1,307 to 905.

Depending on the practices and the laws of the state, co-locating more precincts per polling place could have either resulted in a small amount of additional physical crowding of equipment — if multiple precincts were allowed to share poll books, voting booths, poll workers, etc. — or heavy crowding — if each precinct had to maintain separate equipment and workers.

The closing and consolidation of Election Day polling places were also associated with a shift in the types of facilities used for voting. The most common location for polling places continued to be schools, although their use continued a decline that had also been notable in 2016. (See Table 4-1.) The one type of venue that saw a clear growth in usage was community centers, which rose to tie with churches as the second-most-common place for Election-Day voters to cast their ballots.

Table 4-1. Reported location of Election Day voting, 2008 – 2020.

How would you describe the place where you voted?

	2008	2012	2016	2020
School	32%	32%	30%	28%
Church	21%	22%	22%	21%
Community Center	15%	16%	16%	21%
Other government building	10%	9%	9%	10%
Library	2%	3%	3%	4%
All other	20%	18%	19%	17%

Source: Survey of the Performance of American Elections, various years.

7 Curiel and Dagonel, p. 35.

8 Bronte Kass, et al., "Wisconsin's August 11 Partisan Primary Election", *Stanford/MIT Healthy Elections Project Memo*, September 16, 2020, p. 6.

One type of location that gained attention in 2020 was sports arenas.[9] As many as 70 large, major league sports venues were turned into voting "super centers." In addition, even areas without major league teams turned to local stadiums, colosseums, and convention centers to provide the capacity needed to maintain social distancing in the face of difficulties finding more traditional polling places.

The Survey of the Performance of American Elections included "sports arena" in the category of facilities that respondents could indicate they voted in in 2020. Despite the publicity devoted to the issue, usage of sports arenas seems to have been slight — only 0.86 percent of Election-Day voters reported voting in a sports arena, as did 1.9 percent of those who voted early. However, in the ten largest jurisdictions in the country, measured by registered voters, 2.9 percent of voters reported casting a vote in a sports arena. If we confine ourselves to the number of voters served, "arena voting" was more significant in providing relief to voters and administrators in large metropolitan areas than in suburban or rural areas. However, the publicity generated by major league sports franchises donating space to local election jurisdictions helped to increase the sense of community involvement in addressing the challenges of voting during the pandemic.

EARLY VOTING SITES

Maintaining early voting sites did not garner the degree of national attention that Election Day sites did, probably because of the greater flexibility that jurisdictions have in locating, staffing, and opening early voting sites.

The number of reported early voting sites skyrocketed in 2020, from 3,311 in 2016 to 19,025 in 2020. This growth includes an expansion of early voting opportunities in some states that did not allow it in 2016. But, even among the jurisdictions that reported having early voting sites in 2016, the number of sites jumped from 3,156 to 10,829. Either way, the opportunities to vote early increased substantially.[10]

The rate of expansion of early voting locations significantly outpaced the use of early voting by voters. One consequence of this is that the average number of early voters per early-voting site fell from 9,969 in 2016 to 3,708 in 2020. (The median fell from 3,965 to 1,546.) This decline is so abrupt that one wonders whether many local jurisdictions opened walk-in voting locations that served other purposes, such as drop-off sites for mail ballots.

By far, the greatest number of early voters cast a ballot in a government building that was not a school, fire station, police department, or community center. However, the use of these "other" government buildings — such as a city hall or election department office — continued a decline that has been seen for over a decade. (See Table 4-2.) Library usage also saw a decline. Replacing large government buildings and libraries was community centers, which grew to accommodate over one-fifth of early voters in 2020.

Table 4-2. Reported location of early in-person voting, 2008 – 2020.

How would you describe the place where you voted?

	2008	2012	2016	2020
Other government building	46%	44%	42%	37%
Community center	14%	14%	17%	22%
Library	17%	16%	16%	16%
School	5%	6%	6%	8%
Church	3%	4%	5%	5%
All other	16%	16%	14%	11%

Source: Survey of the Performance of American Elections, various years.

9 See for example, Devin Dwyer and Janet Weinstein, "Voting 'super centers' promise social distancing and efficiency amid pandemic," ABC News, September 14, 2020, https://abcnews.go.com/Politics/voting-super-centers-promise-social-distancing-efficiency-prepare/story?id=72915814.

10 Michael Dickerson, Mecklenburg County, North Carolina Director of Elections, discusses the directive he received from the North Carolina State Board of Elections to expand the number of early voting locations offered by his county in U.S. Election Assistance Commission, "2020 Lessons Learned with Brenda Cabrera and Michael Dickerson," YouTube video, 1:00:04, July 21, 2021, https://youtu.be/Lm-z0vYe2pg, at 21:45 and 29:25.

RECRUITING POLL WORKERS[11]

Perhaps a bigger concern in 2020 than securing in-person polling locations was securing enough personnel to staff them. In the early days of the pandemic, the U.S. Centers for Disease Control and Prevention found that age increased the risk of hospitalization or death from COVID, with the greatest risks coming from those aged 85 or older.[12] With poll workers disproportionally drawn from those aged 65 and older, election administrators faced a major strategic staffing challenge.

However, the impending shortage of poll workers led to a counter-mobilization aimed at filling the predicted staffing shortage. State and local election officials redoubled their efforts to seek out new volunteers for these positions and came up with innovative ways to meet their staffing challenges. The U.S. EAC helped focus national attention on the issue by designating September 1, 2020 as National Poll Worker Recruitment Day.[13] State and local election departments increased efforts to identify poll workers. The media ran numerous stories about the possibility of poll worker shortages, often highlighting celebrities who were encouraging Americans to step forward. Nonprofit organizations emerged specifically to address the looming poll worker shortage, including Power the Polls and Poll Hero. They were joined by many existing youth voting and civic engagement groups, including the Campus Vote Project, Campus Compact, and Students Learn Students Vote Coalition.

We asked respondents to the Local Election Official Survey which tactics, out of a list of six, they employed to recruit poll workers for the general election. The one nearly universal response was that voters volunteered in traditional ways more than they had in the past. (See Table 4-3.) The smallest jurisdictions, which dominated the sample, relied almost exclusively on volunteers coming forward on their own accord. However, many jurisdictions in even the 5,000 - 25,000-voter categories relied on more active recruitment, through social media and websites.

11 Analysis in this section was informed by Evie Freeman, et al, "Poll Worker Recruitment in the 2020 General Election," Stanford-MIT Healthy Elections Project, March 10, 2021, https://healthyelections.org/sites/default/files/2021-06/Poll_Worker_Recruitment.pdf.

12 U.S. Centers for Disease Control and Prevention, "Older Adults and COVID-19," February 26, 2021, https://web.archive.org/web/20210301030223/https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/older-adults.html.

13 U.S. Election Assistance Commission, "National Poll Worker Recruitment Day," n.d., https://www.eac.gov/election-officials/national-poll-worker-recruitment-day.

Table 4-3. Tactics employed by local election officials to recruit poll workers in 2020.

Which of the following methods did you use to recruit poll workers for the 2020 general election? Check all that apply.

	Number of registered voters					
	0-5k	5k-25k	25k-100k	>100k	All	All, weighted by voters
Tailored marketing on social media	3.3%	21.6%	34.2%	37.2%	13.1%	50.0%
Tailored marketing using traditional media (TV, newspapers, etc.)	3.9%	7.8%	16.0%	20.0%	7.0%	16.5%
Tailored marketing on my website	6.0%	16.2%	35.3%	39.9%	13.5%	51.4%
Outside groups that recruited pollworkers	3.6%	16.9%	35.8%	39.9%	13.5%	51.4%
State assistance	0.0%	26.8%	49.7%	44.5%	14.9%	37.5%
People volunteered more than in the past	82.1%	85.9%	86.1%	77.5%	83.3%	61.0%
N	381	176	70	33	660	660

Source: Local Election Official survey conducted by the authors.

As a general matter, the larger the jurisdiction, the more strategies employed by local officials. Particularly notable in Table 4-3 is the difference in the distribution of responses when we weight by the number of registered voters. (This is the last column of Table 4-3.) We can think of this column as describing the percentage of voters nationwide that may have been subject to recruitment efforts, rather than the percentage of local election offices that employed these efforts. Viewed this way, most voters were the target of social media and web marketing efforts to recruit them as poll workers. It was also these very large jurisdictions where officials relied on nonprofit organizations and the state to identify volunteers. Conversely, these very large jurisdictions were less likely to rely simply on volunteers self-identifying.

From the perspective of the officials who responded to the survey, the results recruiting workers were surprisingly positive. We see this both in the LEO survey and from responses to the EAVS. In the LEO survey, a majority of respondents were very satisfied they had sufficient poll workers in 2020. However, because the very largest jurisdictions were less satisfied than the rest, when we weight by the number of registered voters, this percentage drops below 50 percent. (See Table 4-4.) Nonetheless, regardless of the weighting scheme, a majority of officials were at least satisfied with poll worker recruitment.

Table 4-4. Satisfaction among local election officials that they could recruit sufficient poll workers in 2020.

Looking back to the November 2020 election, how satisfied are you that you were able to obtain a sufficient number of [poll workers]?

Size	Very satisfied	Satisfied	Somewhat satisfied	Not at all satisfied	N
0 - 5,000	58.7%	28.2%	12.6%	0.5%	372
5,001 - 25,000	53.5%	28.6%	15.3%	2.6%	167
25,001 - 100,000	49.7%	29.9%	15.3%	2.6%	65
> 100,000	53.2%	33.2%	12.7%	1.0%	29
Total	56.2%	33.2%	12.7%	1.0%	633
Total, weighted by total registration	41.8%	46.1%	10.8%	1.3%	630

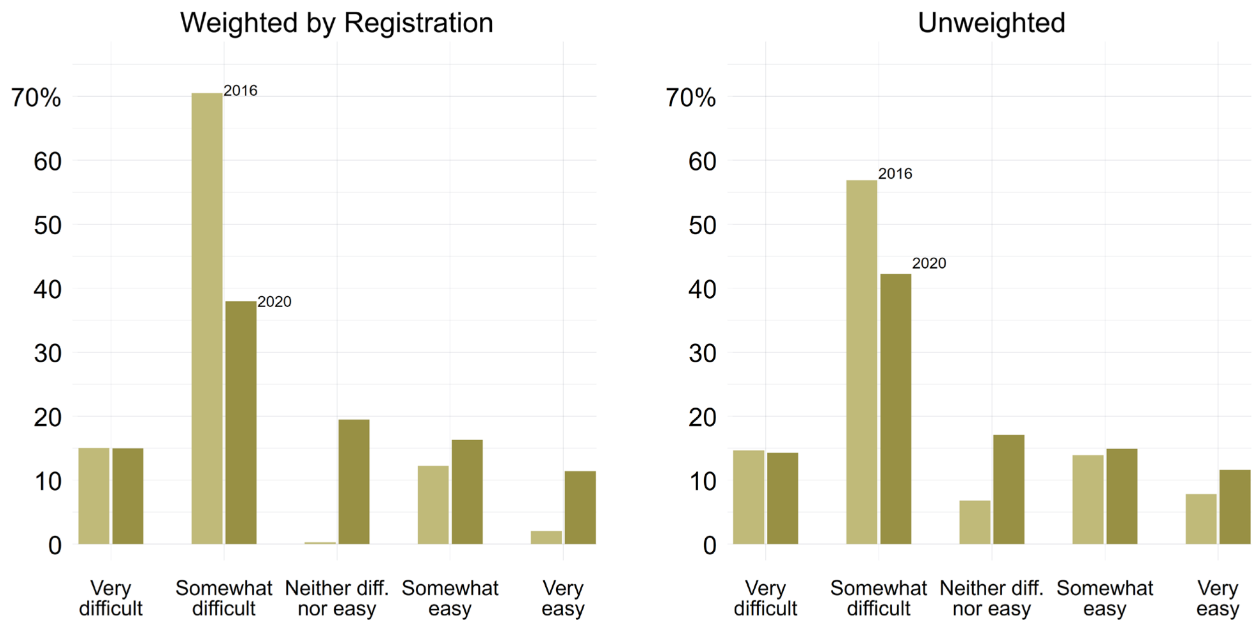
Source: Local Election Official survey conducted by the authors.

We also asked election officials to identify up to three things that went especially well or were big concerns in their districts. Above, we provide a general discussion of these results. Here, we note that the availability of poll workers was one of the five items that were above-average on both going especially well and being a big concern. Further analysis (not presented here) indicates that poll worker recruitment was considered an equal challenge regardless of the size of the jurisdiction, but that it went the best in the smallest (smaller than 5,000 registered voters) and largest (greater than 100,000) jurisdictions.

Responses to the EAVS are consistent with the LEO survey, suggesting that recruiting poll workers was difficult, but in the end, less difficult than in 2016. This is illustrated in Figure 4-5, which shows the distribution of the answers to the question posed in the EAVS, "How difficult was it for your jurisdiction to obtain a sufficient number of poll workers for" the general election?[14] In both 2016 and 2020, a majority of jurisdictions responded that it was either very or somewhat difficult. Nonetheless, there was a notable shift in responses away from the "difficult" end of the scale. Statistical analysis (not presented here) indicates that the biggest positive shifts occurred in the largest jurisdictions.

14 Note that Figure 4-5 only includes responses from jurisdictions that answered the question in both 2016 and 2020, so that the direct comparison is easier to make. If we include all responses, the results are similar, with the results shifted even further in the less-difficult direction for 2020.

Figure 4-5. Difficulty Recruiting Poll Workers, 2016 and 2020.



Source: Election Administration and Voting Survey.

Note: Only jurisdictions responding to the question in 2016 and 2020 are included.

That statistical analysis also indicates that recruitment difficulty varied as much across states as it does within states. In other words, some states reported greater difficulty than others, even when we accounted for the fact that some states have larger jurisdictions than others. This suggests that factors that were common to states — whether they be laws, practices, levels of cooperation — played as much of a role in determining recruitment difficulty as the specific strategies employed by local election officials.

The proof of the pudding was in the actual level of poll worker recruitment. We do not know how many poll workers who might have served declined to do so because of COVID, nor do we even know the number of first-time poll workers and how that compared to past years. But, we do know the number of poll workers and their age distributions.

Before considering missing data, EAVS reported 889,653 poll workers in 2016, declining by 14.8 percent to 757,678 in 2020. Taking missing data into account, and including only jurisdictions that reported data in both years, the decline was only 3.7 percent (from 696,378 to 670,344). Either way, this decline was less than the decline in the number of Election Day polling places of 20.8 percent that was reported above.

Open-ended responses to the LEO survey and to EAVS provide some nuance into the recruitment issues that local officials face. In the LEO survey, nineteen respondents (out of 417 who answered the final question) specifically address poll workers. (Of these nineteen, nine had identified poll worker recruitment as one of the top three challenges, and only two said recruitment had gone especially well.) About two-thirds of these comments, examples of which are shown below, touched not only on issues of recruiting enough poll workers, but starting recruitment earlier and budgeting for additional poll workers.

- We would have started earlier trying to get the amount of poll workers needed for the election.
- Added a few more poll workers.
- Started looking for poll workers sooner.
- I would have been more diligent on [sic] getting support for additional poll workers.
- Budgeted more money for salaries for poll workers to help with early voting and processing the absentee ballots.

Furthermore, about one-third of those who commented about poll workers focused on training, not recruitment:

- Smaller poll workers training groups.
- Better and more in depth poll worker training, especially about provisional ballots.
- Had more training for all poll workers.

The issue of training new poll workers came up frequently in the video interviews conducted by the two recent chairs of the U.S. EAC in the Commission's "Lessons Learned" series. Michael Dickerson, director of elections in Mecklenburg County, North Carolina stated

> *But the training part was the hardest part when you realize, gosh . . . I've got a lot of newbies coming in here. They don't know how to actually do all this. So, we incorporated training processes into stuff where we could get the brand new ones into the office and in somehow, way, shape or form work with us for a few minutes, so that they could get enough training and be safe. Once they did that they went out there and acted like professionals they were. You always make sure you add a talented, a guided smart site coordinator or chief judge on Election Day at every site, and you knew, you could make it through there.*[15]

EAVS asks jurisdictions specifically to comment on difficulties they faced recruiting poll workers. In 2016, comments were highly varied, and mostly pertained to specific circumstances in specific counties. Of the 193 unique comments made in 2016, one-fifth (41) mentioned issues related to difficulties recruiting through the political parties:

- Hard to find Democrat workers.
- Can be difficult to get party balance. . .
- . . . not enough democratic judges in the county. Only had one R and one R working each.
- Somewhat difficult to obtain Republican judges.
- Our biggest challenge is finding differing parties to work.

Comments in 2020 were of a different quality. Not surprisingly, most of the 214 unique comments made mention of COVID, COVID-19, or the pandemic. While almost all of these COVID-related comments documented problems related to shortages, many also reflected the uncertainty and challenges related to recruitment throughout the entire year. Some examples of these comments, randomly chosen:

- . . .the same poll workers have worked in our county for many years. This year, 2020 was different for those poll workers as most were older and wanted to stay away from working polls for covid exposure reasons. We had to find many new workers this year.
- We were fortunate that some of our new poll workers from may were able to work in November and some of our "regulars" who didn't work in May, due to covid, came back to work in November.
- The pandemic made it more difficult to recruit and maintain workers from the past cycles.
- I sent a note in March to all my poll workers to let me know if they would serve or not. because of COVID. All replied and for those choosing not to serve, they were eager to say that if things would be better in November (which we know were not), they would like to be put back on the list. Most of those people serving just love to help out and do not consider it a job - rather an opportunity!
- Due to COVID-19 / Hurricane Harvey.

Perhaps surprisingly, difficulties associated with the need for party balance were much less common in 2020. Fewer than one-tenth (18 of 216) of comments mentioned issues related to the need to balance parties in polling places or difficulties getting cooperation from party officials.

THE AGE OF POLL WORKERS

The pandemic placed special pressure on the recruitment of poll workers because the disease was particularly virulent among older people, and the age distribution of poll workers tends to skew older. Almost one-tenth of the comments (19 of 218) in the EAVS related to recruitment difficulties mentioned age-related issues, which is nearly the same rate (20 of 193) as in 2016. While most of the comments in 2020 addressed the issue of older voters being hesitant to work the polls and younger people being unavailable because of work and family obligations, some also addressed tensions that arose when neophyte younger workers were paired with older, more experienced workers.

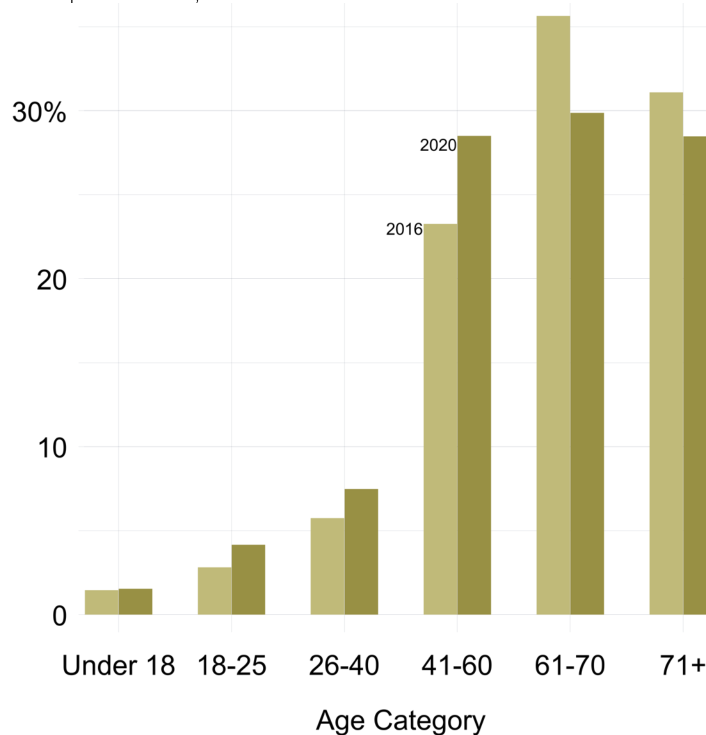
In the end, poll workers in 2020 were slightly younger than in 2016. Focusing on jurisdictions that responded to the poll-worker-age item in both 2016 and 2020, the fraction of workers who were 60 and younger went up in every category, while the fraction 61 and older (especially 61 – 70) went down. (See Figure 4-6.) With-

15 U.S. Election Assistance Commission, "2020 Lessons Learned with Brenda Cabrera and Michael Dickerson," YouTube video, 1:00:04, July 21, 2021, https://youtu.be/Lmz0vYe2pg, at 25:09.

in these jurisdictions, the average poll worker age declined somewhat, from 57.0 to 55.1.[16]

16 For the full sample, it declined from 61.1 to 58.9 years. The average age was calculated using a common method for estimating averages when one has binned data. The age bins used by the EAVS are less than 18, 18 – 25, 26 – 40, 41 – 60, 61 – 70, and 71 and older. The method starts by setting the age of everyone in each bin to the midpoint of the bin's end points. For instance, poll workers in the 18 – 25 age group are assigned the midpoint of 21.5, because (18+25)/2 = 21.5. Poll workers in the under-18 bin were assigned the age of 17 and those in the 71-and-older bin were assigned the age of 75.

Figure 4-6. Age distribution of poll workers, 2016 and 2020.

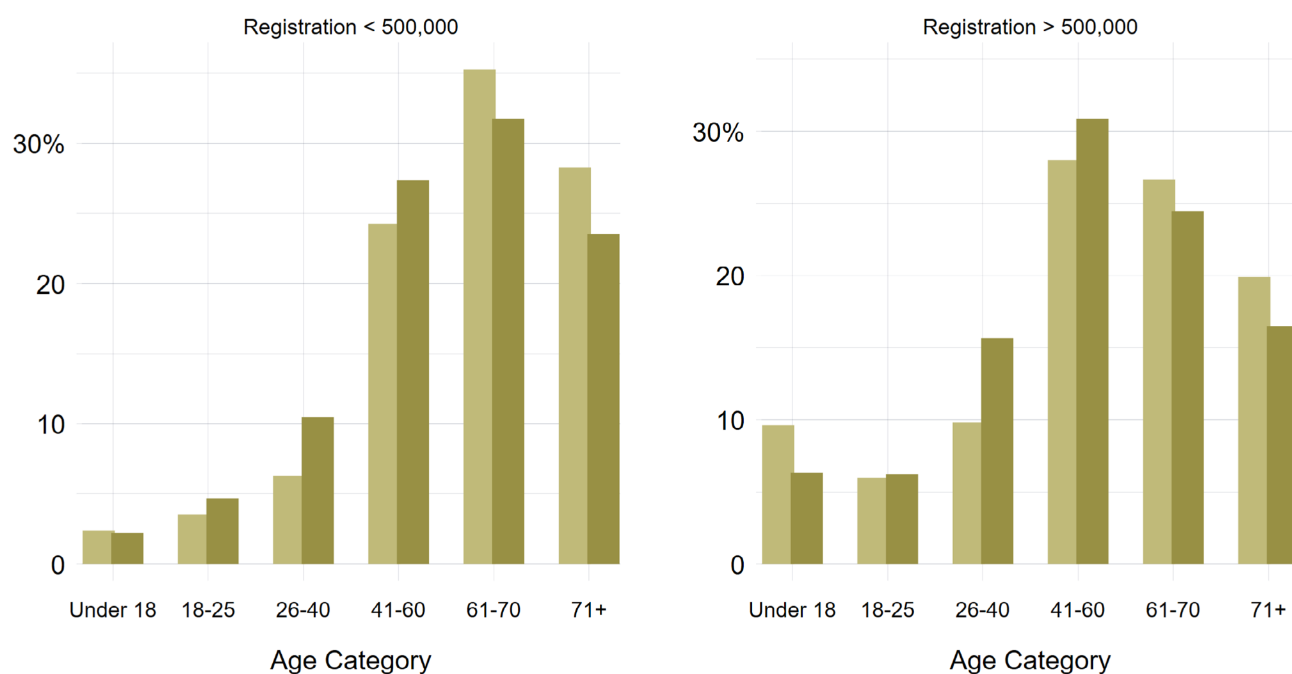


Source: Election Administration and Voting Survey.

Note: Only jurisdictions responding to the question in 2016 and 2020 are included.

Further investigation of the changing age distribution of poll workers reveals larger jurisdictions started out with slightly younger poll workers, on average, and that the age distributions declined in all size categories, even though jurisdictions had different starting places. This pattern is illustrated in Figure 4-7, which compares the age distribution of poll workers of jurisdictions with more than 500,000 registered voters to jurisdictions with fewer registered voters. Note that in the larger jurisdictions the most common ages of poll workers were in the 41 – 60 year range, whereas in the smaller jurisdictions, the most common age was in the 61 – 70 year range. In both jurisdictions groups, the reduction in poll worker ages was accomplished by reducing the fraction of poll workers 61 and older and replacing them with workers aged 18 to 60.

Figure 4-7. Age distribution of poll workers, 2016 and 2020, by number of registered voters.



Source: Election Administration and Voting Survey.

Note: Only jurisdictions responding to the question in 2016 and 2020 are included.

It is likely that the age distribution of voters in small jurisdictions is older than in large distributions, but the stark discontinuity in the age distribution in large jurisdictions in 2020 suggests that the change was due to factors beyond the underlying age distributions of the voting population. Reflecting back on the responses to the LEO survey, recall that the larger the jurisdiction, the more tactics used to recruit poll workers. These methods were more likely to involve social media and web recruitment. In addition, the larger jurisdictions were more likely to rely on the citizen groups that were recruiting poll workers and then referring them to election jurisdictions. These groups relied primarily on websites to recruit and screen potential workers.

THE EXPERIENCE OF VOTERS IN POLLING PLACES

Despite the challenges inherent in organizing in-person voting during the 2020 election, local election officials reported that for the most part they met those challenges, by recruiting sufficient locations and poll workers. Voters, in turn, reported a positive experience when they went to vote in person — qualitatively similar to past years. The only dimension on which performance in polling places was not as positive as in recent elections was that of waiting in line to vote.

The Survey of the Performance of American Elections has been inquiring of voters about their Election Day experience since the 2008 presidential election. That survey asks five questions about five dimensions of the in-person voting experience. For Election Day voters:

- 2.9 percent said it was either "very" or "somewhat" difficult to find their polling place; 9.5 percent responded "fairly easy" and 88 percent responded "very easy."
- 2.1 percent reported a problem with their voter registration when they tried to vote.
- 3.2 percent encountered a problem with the voting equipment or ballot that may have interfered with their ability to cast their ballot as intended.
- 2.8 percent reported that their polling place was run either "terribly" or "not well;" 17 percent stated it was "okay" and 80 percent stated it was run "very well."
- 6.0 percent stated that the job performance of poll workers was "poor" or "fair;" 28 percent stated it was "good" and 66 percent rated it "excellent."

For early in-person voting, the results were very similar:

- 2.3 percent said it was either "very" or "somewhat" difficult to find their polling place; 13.4 percent responded "fairly easy" and 84 percent responded "very easy."
- 2.1 percent reported a problem with their voter registration when they tried to vote.
- 2.3 percent encountered a problem with the voting equipment or ballot that may have interfered with their ability to cast their ballot as intended.
- 1.7 percent reported that their polling place was run either "terribly" or "not well;" 12 percent stated it was "okay" and 86 percent stated it was run "very well."
- 4.5 percent stated that the job performance of poll workers was "poor" or "fair;" 20 percent stated it was "good" and 76 percent rated it "excellent."

These results were virtually identical to responses to the same questions in the elections of 2008, 2012, and 2016.[17]

17 Charles Stewart III, "How We Voted in 2020: A Topical Look at the Survey of the Performance of American Elections," *MIT Election Data and Science Lab Report*, 2020, http://electionlab.mit.edu/sites/default/files/2021-03/HowWeVotedIn2020-March2021.pdf.

One dimension of the in-person voting experience that was unlike the past pertained to public health precautions. In-person voters who responded to the SPAE were asked whether they observed one of eight different public health precautions when they voted in person. (See Table 4-5.) A majority of voters in in-person polling places, both on Election Day and during early voting, saw poll workers wearing masks, hand sanitizer, and markings on the ground to help maintain distance between voters. A majority also saw voting booths spaced out more than usual. Less common were observing barriers between poll workers and voters, single-use marking pens, voting booths cleaned after each voter, plastic barriers between voting booths, and poll workers using face shields. Voters were slightly more likely to observe all these precautions during early voting than on Election Day.

Table 4-5. COVID-precautions observed by in-person voters.

	Election Day	Early
Poll workers wearing masks	85.6%	88.8%
Hand sanitizer	70.9%	78.1%
Markings on the ground or floor to keep people apart	61.2%	74.2%
Voting booths placed further apart than usual	54.0%	60.8%
Plastic/glass barriers between poll workers & voters	40.8%	49.7%
Marking pens that could only be used once	40.0%	43.4%
Voting booths cleaned after each voter used it	38.0%	44.7%
Plastic/glass barriers between voting booths	32.1%	36.6%
Poll workers wearing plastic face shield	31.1%	34.6%

Source: Survey of the Performance of American Elections.

The end result was that voters were overwhelmingly confident that the layout of the polling place protected them from being infected with COVID-19, both on Election Day and during early voting (Table 4-6).

Table 4-6. Confidence that the layout of the polling place protected them from being infected with COVID-19.

	Election Day	Early in-person
Very confident	59.1%	58.6%
Somewhat confident	29.0%	31.3%
Not too confident	5.4%	5.5%
Not at all confident	2.2%	1.5%
I don't know	4.1%	3.2%
N	4,489	4,304

Source: Survey of the Performance of American Elections.

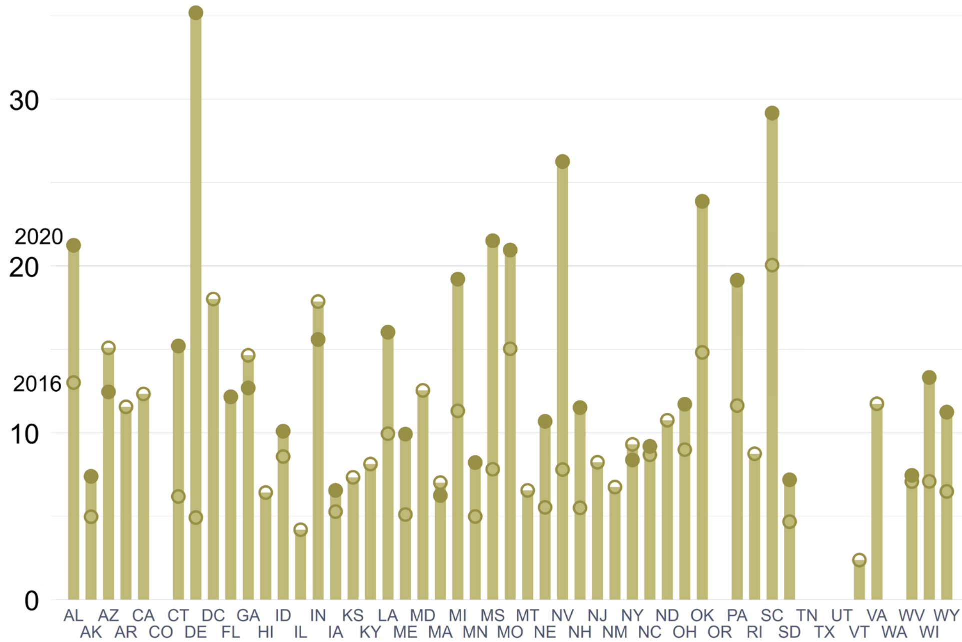
The one performance dimension of in-person voting that was not on a par with voting in 2016 was wait times, particularly during early voting. The average reported wait time to vote on Election Day 2020 was 14.3 minutes, compared to 10.4 minutes in 2016. Judging against the benchmark established in 2014 by the Presidential Commission on Election Administration, that no voter should wait more than half an hour to cast a ballot,[18] 14.2 percent of Election Day voters waited longer than 30 minutes, compared to 8.5 percent in 2016.

Wait times to vote early rose much more in 2020 than on Election Day. The average early voting wait time was 22.3 minutes, compared to 13.0 minutes 2016. Using the PCEA benchmark, 21.6 percent waited more than half an hour to vote, compared to 10.6 percent in 2016.

Increases in reported wait times did not occur consistently across all states, or across all areas within states. As Figures 4-8 and 4-9 show, some states showed dramatically greater increases than others, and some even showed decreases.

18 U.S. Presidential Commission on Election Administration, The American Voting Experience: Report and Recommendations of the Presidential Commission on Election Administration, January 2014, p. 14.

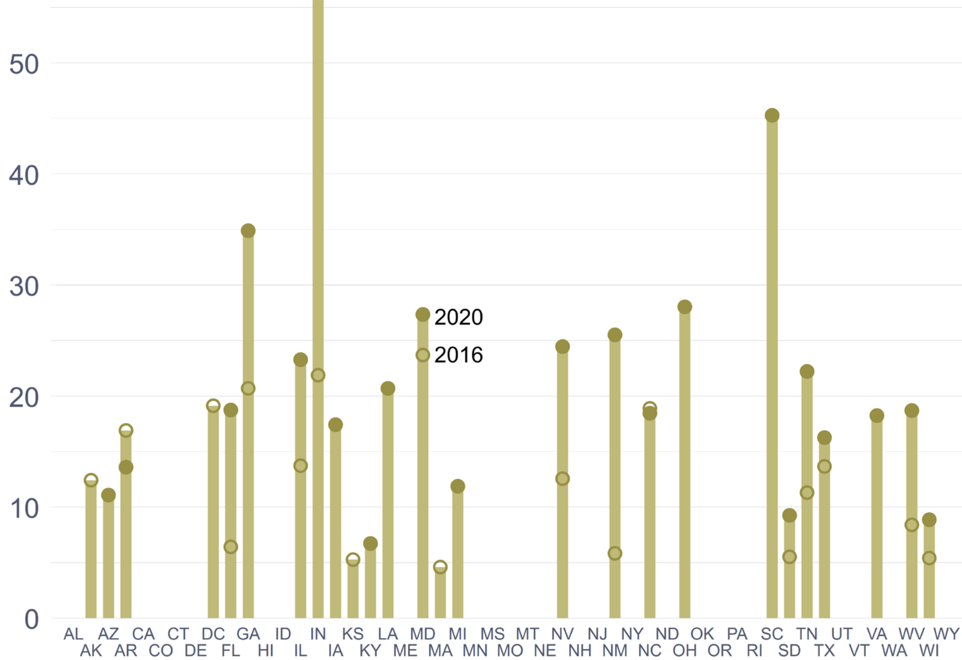
Figure 4-8. Average reported Election Day wait times, by state, 2016 and 2020.



Source: Survey of the Performance of American Elections.

Note: States were only included if more than 50 respondents from the state indicated they voted on Election Day.

Figure 4-9. Average reported early voting wait times, by state, 2016 and 2020.



Source: Survey of the Performance of American Elections.

Note: States were only included if more than 50 respondents from the state indicated they voted on Election Day.

Within states, the longest wait times tended to be in the most densely populated counties for both Election Day and early voting, although the principal discontinuity is between rural counties and those that are exurbs of large cities. (See Table 4-7.[19]) All types of communities experienced increases in wait times, although the greatest increases tended to occur in mid-density areas, not in rural or highly urban areas.

Table 4-7. Reported average wait time, in minutes, by population density of county of residence. (**Numbers in parentheses are the 95% confidence intervals.**)

	Election Day			Early voting		
Density	2016	2020	Diff.	2016	2020	Diff.
1st quartile (<171/mi2) "Rural"	6.6 (0.6)	9.5 (0.8)	2.9 (0.6)	7.1 (0.9)	11.5 (1.0)	4.3 (0.9)
2nd quartile (171 - 529/mi2) "Exurban"	11.4 (1.2)	18.1 (1.5)	6.7 (1.0)	11.8 (1.7)	22.3 (1.9)	10.5 (1.3)
3rd quartile (529 - 1,530/mi2) "Small city/suburban"	11.4 (1.2)	15.0 (1.5)	3.6 (1.2)	13.1 (2.)	27.4 (2.9)	14.3 (1.5)
4th quartile (>1,530/mi2) "Large city"	12.3 (1.6)	16.3 (3.5)	4.0 (2.0)	20.4 (3.6)	28.4 (3.5)	7.6 (2.3)

Source: Survey of the Performance of American Elections.

Noting that wait times increased in 2020, especially for early voting, is not intended as a criticism of election officials. These increased wait times were no doubt due to changes in all the factors that determine how long voters will wait: service times to check-in and vote, the number of check-in stations and voting booths or machines, and the number of voters per unit time. As noted above, the number of voters per polling place, both on Election Day and during early voting, increased, which would tend to drive up wait times. Undocumented by this report — and undocumented anywhere else, as far as we know — is the time it took to check in voters and for them to vote. But, it is reasonable to assume that COVID-19 protocols increased the amount of time it took to check-in voters, and for them to mark their ballots.

The administrative challenge for the near future — i.e., for the 2022 and 2024 elections — is re-calibrating the balance between the resources available for in-person voting and demand for voting in-person. For the next year, a major effort by national, state, and local election officials should be undertaken to ensure that the distribution of in-person voting resources matches demand for in-person voting.

CONCLUSIONS AND TAKEAWAYS

Despite the significant shift of voters to the use of the mails in 2020, in-person voting remained robust. To manage demand for in-person voting, election officials often had to scramble to find new polling locations and replace poll workers. In the end, the experience reported by in-person voters was positive. Based on survey responses, the quality of the overall experience was comparable to past years. The one exception was

19 Table 4-7 reports wait times broken down by population density of counties. The first quartile of counties are those with population densities of 171 people per square mile, or less. Counties near this cut-off include Carbon County, Pennsylvania; Florence County, South Carolina; and Napa County, California.

wait times to vote. In-person voters reported satisfaction with measures taken in response to the pandemic.

With this general positive assessment in mind, voting during the pandemic did stress the in-person voting process in a great many places. While these stresses are likely to be less in the future as voters and election administrators learn to conduct elections in the face of public health challenges, they also reveal issues that the elections community should be attentive to. We highlight five of those here.

1. ***In-person voting is here to stay.*** With all of the attention rightfully devoted to rapidly expanding access to voting by mail, in the end, most voters cast ballots in person. And, while the "new normal" in elections will not see voting by mail going back to pre-2020 levels, neither will those levels remain where they were in November 2020, at least in most states. This means that the strains placed on in-person voting in the 2020 general election will continue in the near future, although those strains will be relaxed somewhat and election officials will face them with a new lode of experience to draw on. The resilience of in-person voting is due to a number of factors, some political and others based on the preferences of voters themselves. Either way, even as most local jurisdictions adjust to greater mail loads in their elections, many of the logistical challenges due to in-person voting will continue largely as before.

2. ***In-person voting continues to rely on the availability of multi-user public buildings.*** One of the highlighted challenges of in-person voting during the pandemic was the reluctance of building owners and managers to open their facilities to hundreds of "outsiders." This was a general concern, but it had special currency for facilities with vulnerable populations, such as retirement facilities and schools, and with many first responders, such as fire and police stations. Although the nation did see a small shift away from these types of facilities toward community centers and other general-use government buildings, buildings that have been traditionally used for in-person voting, such as schools and churches, ended up bearing a significant load for in-person voting. We know that many school districts closed their facilities to voting, and yet it also appears that most schools that had previously been used for voting remained in use. Because of the functional needs of polling places, public facilities with potentially vulnerable populations such as schools and senior centers remain the largest obvious pool of in-person polling sites. Reluctant school leaders can learn from school districts that hosted polling places about how to do so safely. And, they can refer to resources available through nonprofit projects such as URIVotes[20] and the Stanford Design School[21] about how to design polling places that are optimized for public health.

3. ***Election officials should reconsider how resources are allocated to polling places to minimize wait times.*** With all the uncertainty about demand for in-person voting, the availability of polling places and workers, and the additional time it would take to vote amid new public health protocols, it is unsurprising that wait times grew in 2020. However, with experience gained about how to navigate in-person voting given new realities, local officials are in a position to re-examine how they deploy resources — poll workers, poll books, voting machines, and voting booths — to keep wait times close to the benchmark set by the Presidential Commission on Election Administration, that no voter should wait longer than 30 minutes to vote. Numerous free resources are available to election administrators to help them plan the resources they need, from URIVotes, the Stanford-MIT Healthy Elections Project,[22] the Caltech-MIT Voting Technology Project,[23] and the Center for Tech and Civic Life.[24]

4. ***The pool of Election Day poll workers may continue to come disproportionately from the elderly.*** A great deal of attention was paid to the age profile of poll workers and considerable effort was expended to recruit younger poll workers. In the end, there was some success in lowering the average age of poll workers, but the difference was slight. Most poll workers were still over 60 years of age. The resistance to dramatically changing the age demographic of poll workers in 2020, despite all the effort, underscores how the nature of the poll work-

20 URIVotes, https://web.uri.edu/urivotes/.

21 Stanford d.school, "Healthy+Elections," https://healthy-polls.stanford.edu/.

22 Stanford-MIT Healthy Elections Project, "Tools for Designing Healthy In-person Polling Places," https://healthyelections.org/tools/designing-in-person-polling.

23 Caltech/MIT Voting Technology Project, "Line Optimization and Poll Worker Management," http://web.mit.edu/vtp/calc1.html.

24 Center for Tech and Civic Life, "Polling Place Resource Planner," https://www.electiontools.org/tool/polling-place-resource-planner/.

er position is distinctly suited for retirees. And indeed, many election officials like it that way, because many retired poll workers are experienced at the job and have a lifetime of job-related experience to devote to elections. Although recruiting new generations of poll workers will continue to be a priority, so long as elections are held on workdays, poll worker positions will continue to be dominated by people who are not currently employed. This suggests that just as important as recruitment of poll workers is ensuring the safety of poll workers when they are doing their jobs, including maintaining public health protocols in polling places for the foreseeable future.

5. ***Election officials and civic organizations should enter into long-term partnerships to recruit poll workers.*** One of the many heartening responses to the challenges of in-person voting in 2020 was how groups dedicated to recruiting poll workers sprouted up across the country. Like many private efforts to assist election officials, some of these efforts arose while local officials were already in the middle of their planning for November. In the end, many local election officials had good things to say about their relationships with these groups, but they could be cemented. Now — over a year before the next federal election — is the time for these groups to begin their outreach to election officials to help recruit poll workers for 2022, and even 2024. Some of these groups were pop-up organizations that may no longer exist, but many were affiliated with permanent civic-engagement organizations.

6. ***Partisan balance requirements may be the biggest barrier to poll worker recruitment.*** We were somewhat surprised to read in the responses to our Local Election Official Survey and in the open-ended comments to the EAVS how often local officials cited the need to ensure partisan balance in polling places as being a barrier to poll worker recruitment. Addressing this issue is no doubt complicated. Certainly the history of bipartisan oversight of polling places is deeply rooted in much of the U.S. Given current controversies over access to polling places, now is probably not the time to discourage well-regulated oversight of the voting process by political parties. However, a distinction needs to be made between poll workers who are required to implement election laws without respect to partisanship and systems that allow political parties to observe the process to ensure fair treatment. Indeed, given current controversies, the time may be ripe for reconsidering partisan balancing requirements among those actually staffing polling places, so that the distinction between partisan observers and poll workers can be more clearly drawn. Doing so would have the salutary effect of removing one of the greatest barriers to poll worker recruitment as identified by local officials themselves.

CHAPTER 5: COUNTING THE VOTE AND CERTIFYING ELECTION RESULTS

Counting votes and certifying election results are complex tasks in a normal presidential election, but challenges were magnified in the 2020 election with so many changes in voting rules and procedures and with significant shifts from Election Day voting to voting by mail or absentee (hereinafter "mail ballots").

Four factors have characterized the counting of votes and certification of elections in recent presidential elections. First, the initial, unofficial count of votes a couple of days after Election Day has slowed, with more ballots being counted later in the process. Second, the slower early counting is related to the rise in late arriving mail ballots and provisional ballots. Third, recent elections have seen some evidence of a "blue shift," where late-counted votes lean more toward the Democratic Party and final certified election results are more Democratic leaning than initial, unofficial early returns. Fourth, states have a great variety of deadlines for election certification and some of those deadlines are very close to the dates when the presidential electors meet.

In the 2020 presidential election these factors continued, but the electoral changes implemented often meant that there was a more complex story of how votes were counted and elections certified. In general, the large increase in voting by mail seems to have added to a slower count of votes, but as states have very different rules for counting mail ballots, states with increases in voting by mail did not all see longer counting or certification times. In general, states that did not allow the pre-processing of early ballots and with more late arriving mail ballots were slower counting, although other differences such as central counting of mail votes and different procedures for releasing vote totals may have also contributed to differences. Some states seem to have had difficulty implementing new procedures for mail voting when they faced higher volumes of mail voting, but most did not.

The blue shift was also present in the 2020 election, with the late-counted votes being more favorable to Democrats in this election. But again, the state by state differences in voting procedures meant that this was not true everywhere. And, in an important way, whether there was a blue shift at all depends on when the clock starts.

In 2020, states retained their wide range of dates in law and in practice by which they certified their elections, but quite a number of states have election certification dates that make the resolution of a contested election by the appropriate date very difficult.

Finally, the post Election Day process often includes post-election auditing. Thirty-four states have some form of audits in state law, and 2020 saw an increase in a new form of auditing, the "risk limiting audit" (RLA).

TRENDS IN VOTE COUNTING PRIOR TO 2020

The Velocity of Vote Counting

Ballot counting has slowed over the past forty years. More specifically, the percentage of ballots unofficially reported as counted in the first two days after Election Day has declined. A key reason for this slowing is the increase in ballots that are not ready to be counted by Election Day; these ballots include provisional ballots and mail ballots that are late arriving or uncounted by Election Day, either because of their volume or because local officials are prohibited from processing ballots early.

Using a method of comparing early reports of the vote count in the New York Times and comparing these to the final election results, Foley and Stewart showed that since 1980, the early count of ballots reported has become a smaller percentage of the final total.[1] In other words, a voter who opened up the ***New York Times*** on the Thursday morning after Election Day to look at election results in 1980 would have seen a much greater share of the final vote reported than would that same voter in 2016. The portion of the vote uncounted by Thursday morning was termed the "overtime vote."

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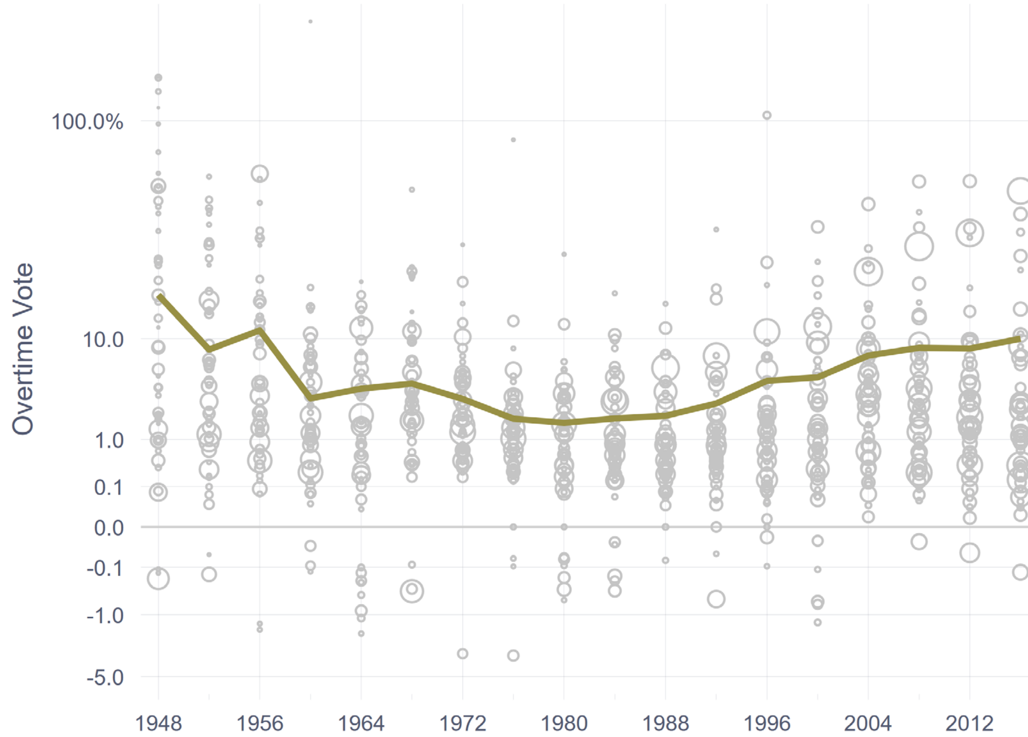
1 Edward B. Foley and Charles Stewart III. "Explaining the Blue Shift in Election Canvassing," *Journal of Political Institutions and Political Economy* 1, no. 2 (2020): 239 – 265.

Figure 5-1. Size of Presidential Overtime Vote, by State and Nationwide, 1948–2016.

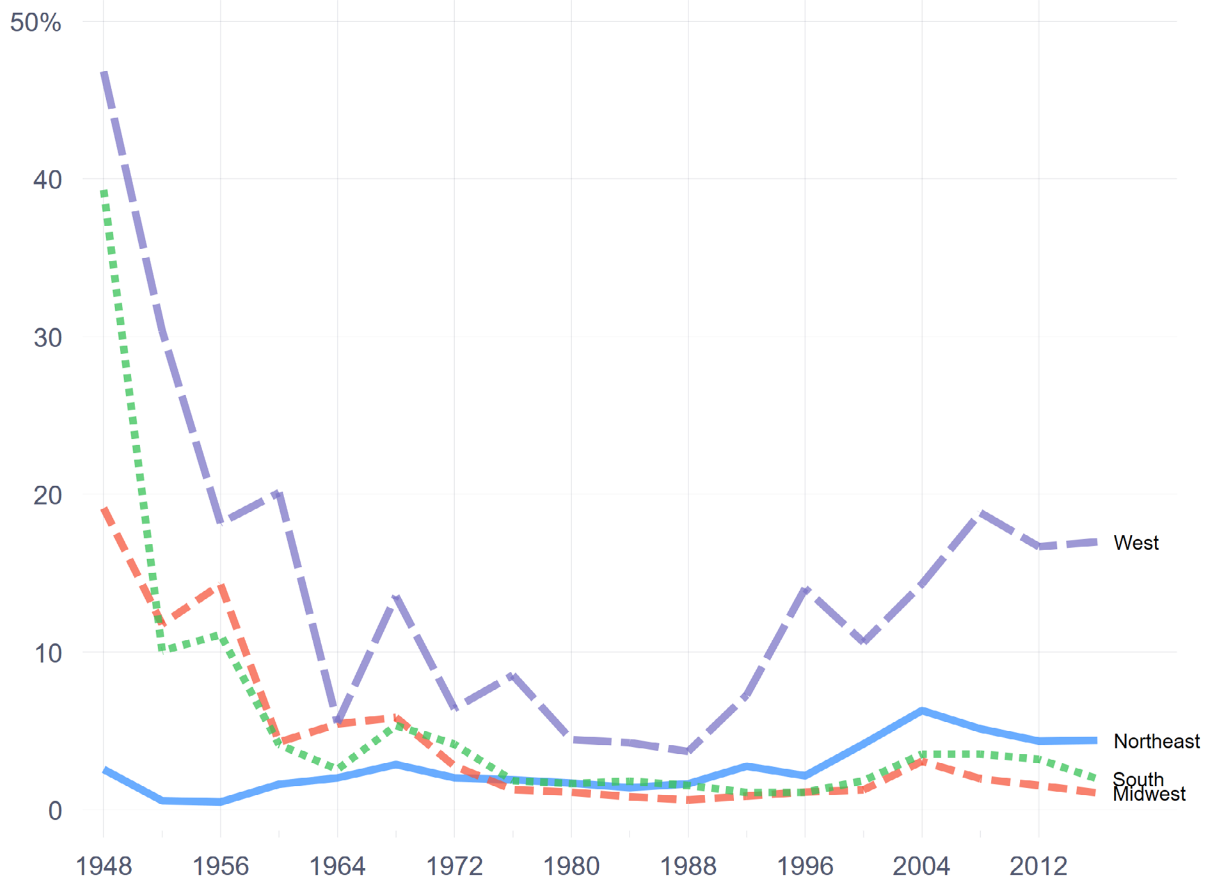


Notes: The y-axis has transformed the data by taking cube roots. This figure originally appeared in Edward B. Foley and Charles Stewart III. "Explaining the Blue Shift in Election Canvassing," *Journal of Political Institutions and Political Economy* 1, no. 2 (2020): 239 – 265.

The size of the overtime vote from 1948 – 2016, by state and nationwide, is shown in Figure 5-1.

A key reason for this trend has been the rise in ballots that cannot be counted on Election Day, which increasingly include some absentee or mail ballots (hereinafter "mail ballots"). The trend since 1980 is starker when considered regionally. The Western States, which have seen a great rise in voting by mail, have shown a much greater increase in the time to process and ballots. (See Figure 5-2.)

Figure 5-2. Size of Presidential Overtime Vote, by Census Region and Nationwide, 1948–2016, regionally.

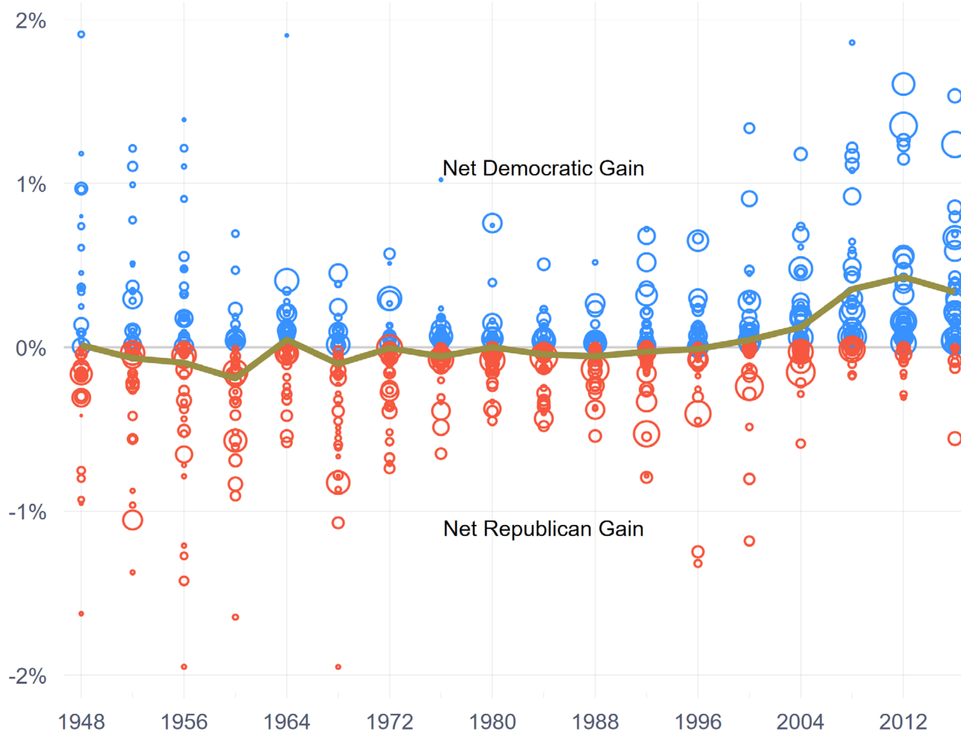


Note: This figure originally appeared in Edward B. Foley and Charles Stewart III. "Explaining the Blue Shift in Election Canvassing," *Journal of Political Institutions and Political Economy* 1, no. 2 (2020): 239 – 265. The Census Bureau regions are currently as follows: **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, New York, and Pennsylvania; **Midwest:** Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota; **South:** Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, District of Columbia, West Virginia, Alabama, Kentucky, Mississippi, Tennessee, Arkansas, Louisiana, Oklahoma, and Texas; **West:** Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming, Alaska, California, Hawaii, Oregon, and Washington.

Blue Shift

In addition to the slowing of the initial counting of ballots, scholars have noted that the ballots counted later have tended to trend toward the Democratic Party, a phenomenon which has been referred to as the "blue shift." Since 2000, in presidential elections, late-counted ballots have trended more Democratic than the overall election results, as illustrated in Figure 5-3.

Figure 5-3. Net Partisan Gain by State in Presidential Elections, 1948 – 2016.



Note: This figure originally appeared in Edward B. Foley and Charles Stewart III. "Explaining the Blue Shift in Election Canvassing," *Journal of Political Institutions and Political Economy* 1, no. 2 (2020): 239 – 265. Positive values indicate a gain to the Democratic candidate, relative to the Republican candidate; negative values indicate the reverse. Data tokens reflect state values; token sizes are proportional to the number of votes cast. To aid in legibility, data tokens for states with net partisan gains of greater than 2 percentage points are excluded. However, these states are included in calculating the nationwide average.

The reasons for this blue shift are likely related to the differences in voting methods. States that have seen a greater rise in voting by mail have seen a lengthening of the counting time, and these states have been on the whole more Democratic leaning than Republican.[2] In addition, within states, larger jurisdictions have tended to report more mail ballots, which has left more Democratic leaning ballots to be counted after Election Day in states that did not preprocess absentee ballots. Further reasons could include the way in which mail ballots are processed, especially the presence of central counting in larger jurisdictions, which lean more Democratic.

VOTE COUNTING TRENDS IN 2020

Prior research into vote counting velocity and the blue shift has been based on the analysis of highly aggregated election returns that were reported by national media organizations starting hours after the polls were closed. In 2020, the MIT Election Data and Science Lab was also able to web scrape reports of election reports that were distributed by the National Election Pool and reported by the ***New York Times***. These vote reports were scraped several times each hour, starting the moment polls closed in a particular state. The data gathering continued until the votes were certified. Therefore, we are able to report on vote counting velocity with greater precision than ever before.[3]

In doing so, we provide one important caveat. The election return reports we describe in this section are ***media reports of unofficial*** election results. As media reports, they lagged somewhat behind when local jurisdictions completed counting votes and sometimes contained transcription errors. Comparison of the media reports with official websites shows that the media reports followed close behind when states and local jurisdictions released new unofficial results to

2 Foley and Stewart, p. 41.

3 Details about the data-gathering process and findings of the research appear in John Curiel, Charles Stewart III, and Jack Williams, "The Blue Shift in the 2020 Election," *MIT Election Data and Science Lab Report*, n.d., https://electionlab.mit.edu/sites/default/files/2021-04/Blue-Shift-in-2020-Election.pdf.

the public. Double checking the media reports also reveals a small number of errors that were eventually corrected.[4] As unofficial results, they had not been subject to the scrutiny that comes in the canvassing and certification processes, at least in the early hours and days. The canvassing process also reveals gaps, inconsistencies, and errors that are corrected before the final certification.

Despite these caveats, the streaming reports of unofficial election results is an invaluable data source that allows us to learn what the actual patterns of counting and reporting were, and thus draw informed conclusions about how policy and procedures influenced the reporting of election results in 2020.

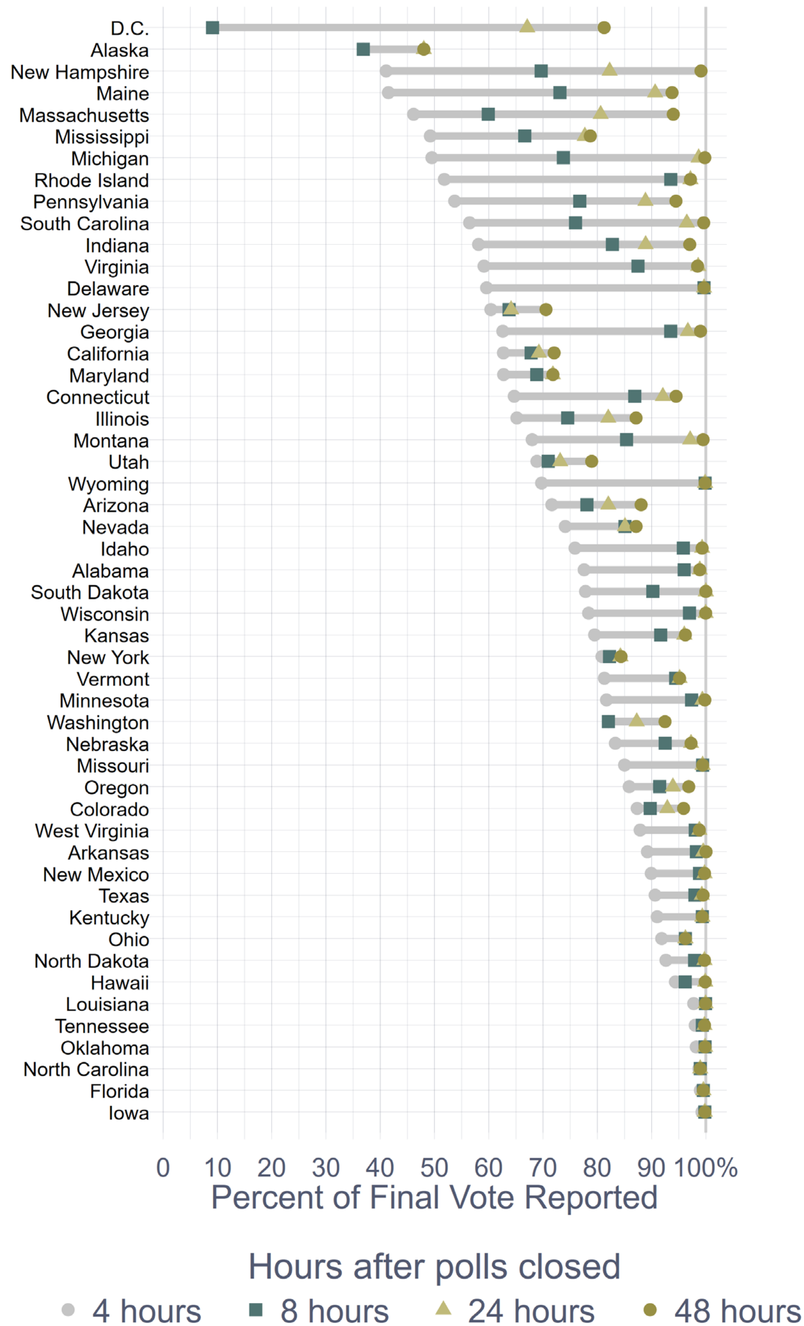
The Velocity of the Vote Count in 2020

In general, the 2020 election exhibited the same trends as recent elections in the slower counting and the blue shift. But 2020 saw many changes to election processes and in voter patterns that affected state specific vote counting, thus altering previous patterns somewhat.

At the national level, the velocity of the vote count showed nearly the same pace as 2016. But at a state level, states counted at very different rates, which is illustrated by Figure 5-4, which reports the percentage of the final vote reported by states at four slices in time, 4 hours, 8 hours, 24 hours, and 48 hours after polls closed. Most states counted nearly 100 percent of their final totals of ballots within 48 hours of polls closing on Election Day. Six states — Iowa, Florida, North Carolina, Oklahoma, Tennessee, and Louisiana — counted nearly one hundred percent of their total ballots within four hours of polls closing. But there were outliers that counted more slowly. Alaska did not report even half of their votes within 48 hours. Seven other states reported initial counts of fewer than 90 percent of their total ballots 48 hours after the close of their polls.

4 It also bears mentioning that one other national organization, the Associated Press, also provided media outlets with reports of unofficial election results. Competitive pressures between the AP and the NEP worked to spur both organizations to report results quickly and accurately.

Figure 5-4. Election counting velocity.



Source: National Election Pool as gathered from web reports of the *New York Times*.

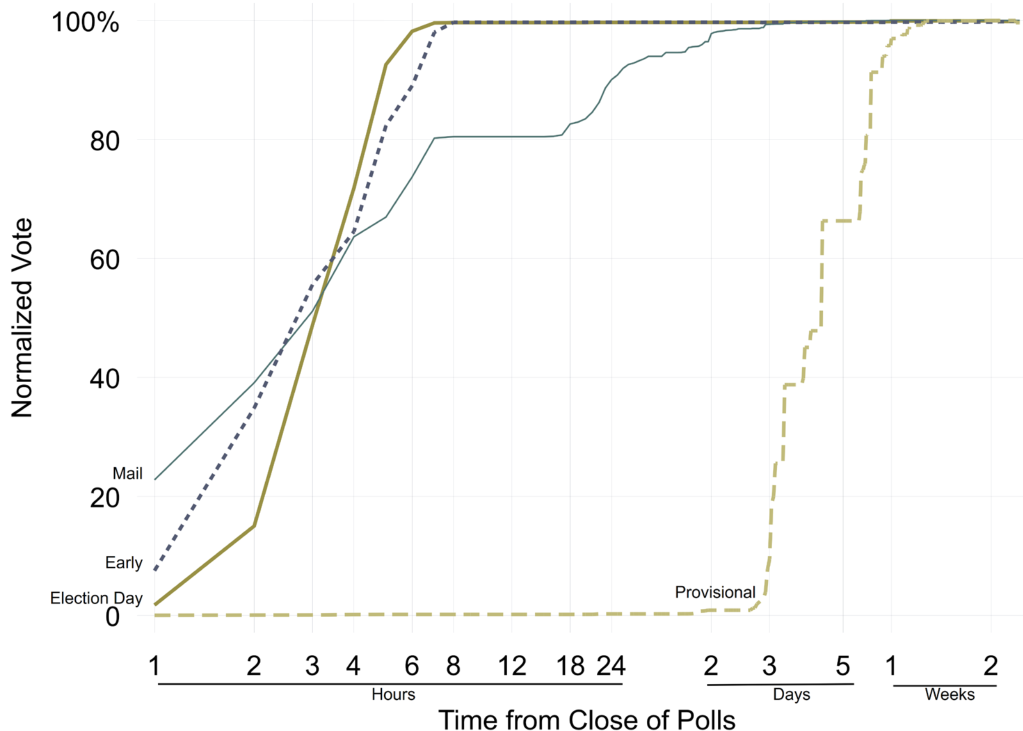
Research by John Curiel, Charles Stewart III, and Jack Williams on the 2020 election has given more specificity on the reasons for why the velocity of counting varied across the states. They found that three factors were associated with the variation in speed with which states counted votes: (1) states with a larger percentage of mail ballots took longer to process their ballots than states with a smaller percentage; (2) processing of mail ballots before Election Day sped the counting of ballots; and (3) requirements that mail ballots be received by the close of the polls on Election Day also sped the counting of ballots.[5]

5 John Curiel, Charles Stewart III, and Jack Williams, "One Shift, Two Shifts, Red Shift, Blue Shift: Reported Election Returns in the 2020 Election" (July 9, 2021). [Available at SSRN: https://ssrn.com/abstract=3888756](https://ssrn.com/abstract=3888756).

The research by Curiel, Stewart, and Williams also provided more precise insights into how the different paces of counting different types of ballots contributed to lags in vote counting and partisan trends as different types of votes were counted. Every few minutes, they were able to download the official returns from several states that reported those returns broken down by ballot modality. One such state was Georgia, which we discuss here.

Figure 5-5 shows the percentage of the eventual vote cast using Georgia's four modalities (Election Day, mail, in-person early, and provisional) on an hourly basis starting an hour after polls closed in the state and ending once the results became official. (Note that the time scale is logarithmic, which allows us to see the detail of changes in the earliest hours after polls closed, which is when vote totals changed the most.)

Figure 5-5. Percentage of Eventual Votes Cast by Mode in Georgia on an Hourly Basis.



Source: Georgia Secretary of State.

Note: The time scale along the x-axis is logarithmic.

One hour after the polls had closed, many counties reported the results of a large number of mail ballots, whereas no provisional ballots had been reported and a very small number of votes cast in person were reported. Although the very first votes reported were dominated by mail ballots, as election night progressed, the counting and reporting of in-person votes picked up the pace, so that by the third hour, early and Election Day votes had surpassed mail ballots. By eight hours following polls closing, virtually all in-person votes had been counted, although only 80 percent of mail ballots had been. Allowing for overnight breaks, the counting of mail ballots continued steadily for another two days, until they were nearly completed at the end of Day 3.

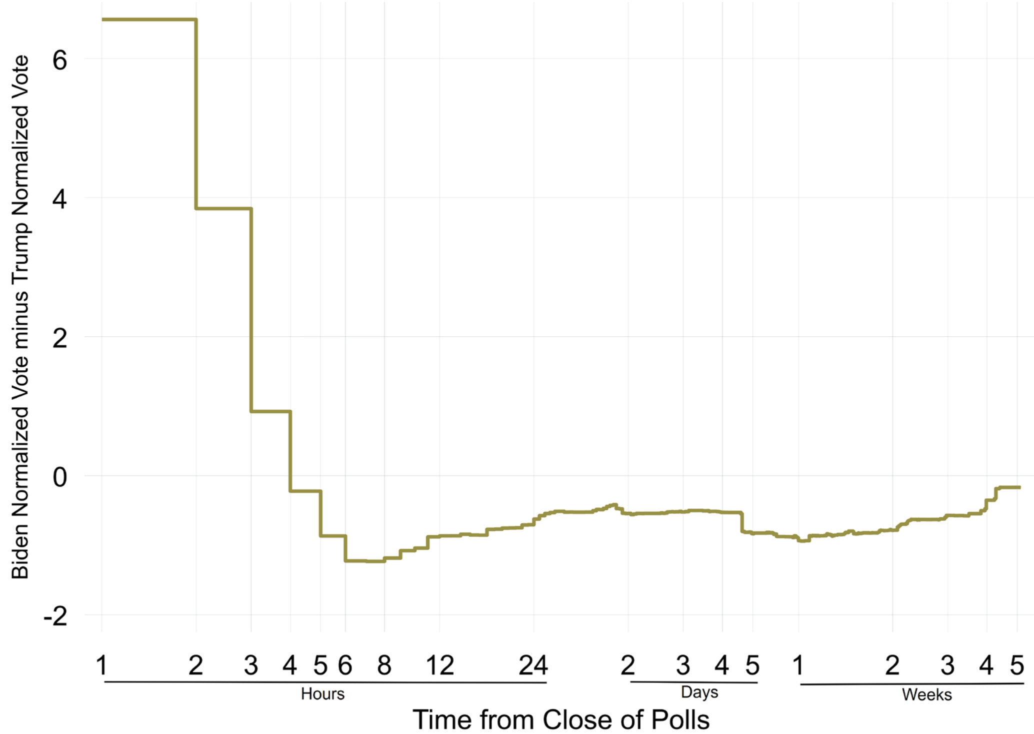
Blue Shift in 2020

In 2020, with a pandemic, with shifts in voting procedures, and with a rise in mail voting, many commentators expected that perhaps the "blue shift" seen in recent elections would increase. Indeed, if we take our perspective Thursday morning following Election Day, then Joe Biden's vote share did grow about one percentage point from then until all the states had completed their counting. However, the Curiel, Stewart, and Williams research shows that the blue shift had different magnitudes if we start at different points. Indeed, if we start with the first few hours following the close of polls, there was a "red shift."

This latter point is illustrated in Figure 5-6, which shows the difference between the vote share reported for Biden on an hourly basis and the final nation-

al vote share once all the votes had been counted. In the end, Biden's share of the two-party vote was 52.3 percent. However, if we take the results reported by all the states one hour after polls had closed, Biden's share was 57.1 percent, or 6.1 points above his final share. This difference in currently reported vote share and the final share declined rapidly, so that by Hour 4, Donald Trump's reported vote share outstripped the final reports. This difference favored Trump until virtually all the votes were counted.

Figure 5-6. Average Difference in Reporting Pace of Biden and Trump Votes, by Time Since Polls Closed.



Source: National Election Pool as gathered from web reports of the *New York Times*.

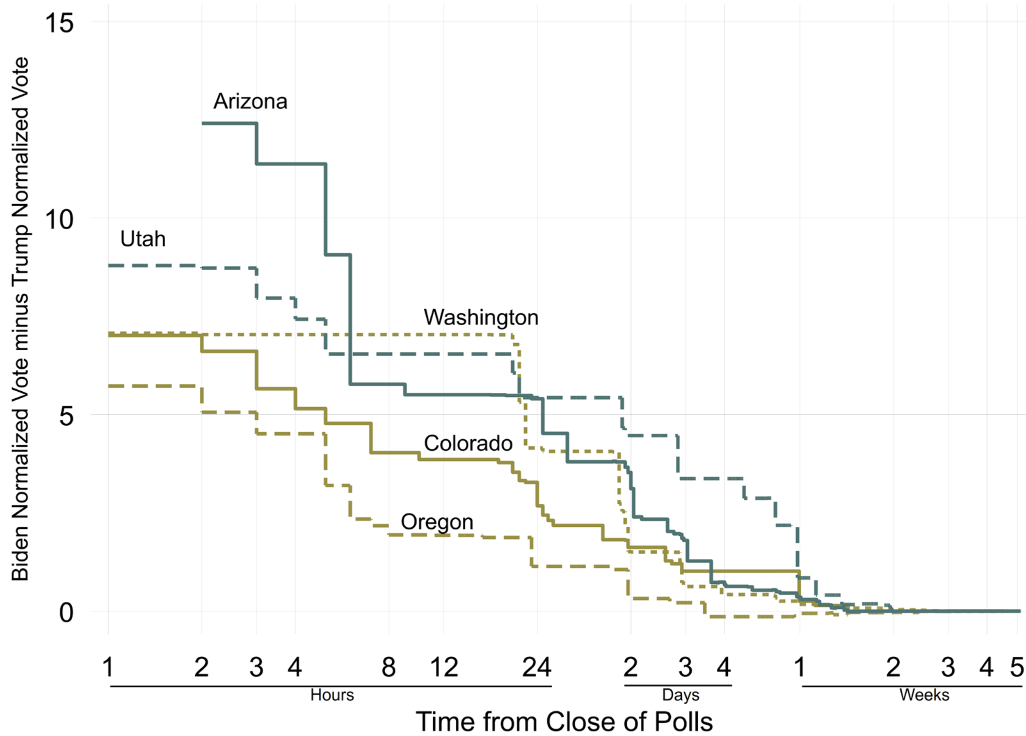
Note: The time scale along the x-axis is logarithmic.

In 2020, the very first vote reports were typically mail ballots that were disproportionately Democratic, followed close behind by in-person ballots that were disproportionately Republican. After these initial reports were made in the hours immediately after the polls closed, a second wave of mail ballots began to be reported, which caused the running tally for the two candidates to reverse direction again, and for Democratic tallies to begin to inch upward. This is the essence of the blue-shift phenomenon.

While this was the most frequent pattern, there were others. A common one in states with large numbers of mail ballots was for the first reports to be predominantly Democratic, as in the other states, but for later-counted mail ballots to be increasingly Republican. These were states that experienced "red shifts," because the trend in the running tally was consistently in a Republican direction.

We illustrate this in Figure 5-7, where we show the normalized vote share for Biden in five states: the long-standing vote-by-mail states of Colorado, Oregon, and Washington, and two states with historically high levels of mail ballots, Arizona and Utah. (Utah was an all-mail state in 2020, having gradually moved in that direction for the past few elections.) Appendix 5B shows the graphs for all states. In each of the states in Figure 5-7, the early running tally showed Biden well ahead of his final vote share, but as more votes were counted, his vote share steadily declined, as later-arriving ballots and ballots counted in more Republican counties were reported.

Figure 5-7. Difference in Reporting Pace of Biden and Trump Votes among Five States, by Time Since Polls Closed.



Source: National Election Pool as gathered from web reports of the *New York Times*.

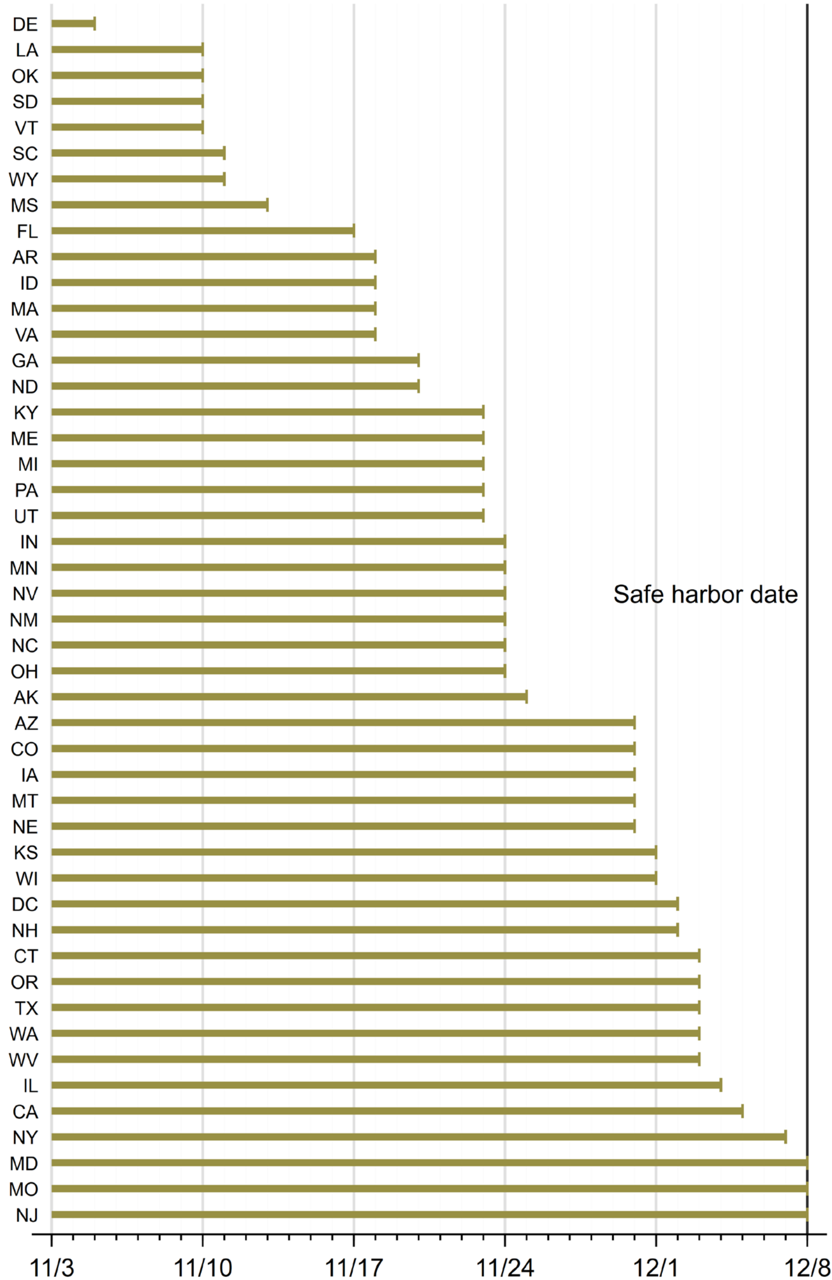
Note: The time scale along the x-axis is logarithmic.

STATE LAWS AND CERTIFICATION OF ELECTIONS

Presidential elections have significantly tighter deadlines for their resolution than other federal and state elections. Presidential electors meet roughly six weeks after Election Day in mid-December, and a federal law encourages states to reach a final resolution of their elections six days in advance of that date. In 2020, the presidential electors met on December 14, and the "safe harbor" date was December 8, just over five weeks after Election Day.

States have widely varying deadlines for the certification of presidential election results. (See Figure 5-8.) In 2020, Vermont required certification one week after the election on November 10 and New Jersey, Missouri, and Maryland had a certification deadline of December 8th, the last possible certification date to meet the "safe harbor" deadline.

Figure 5-8. Certification deadlines.



Source: Ballotpedia.

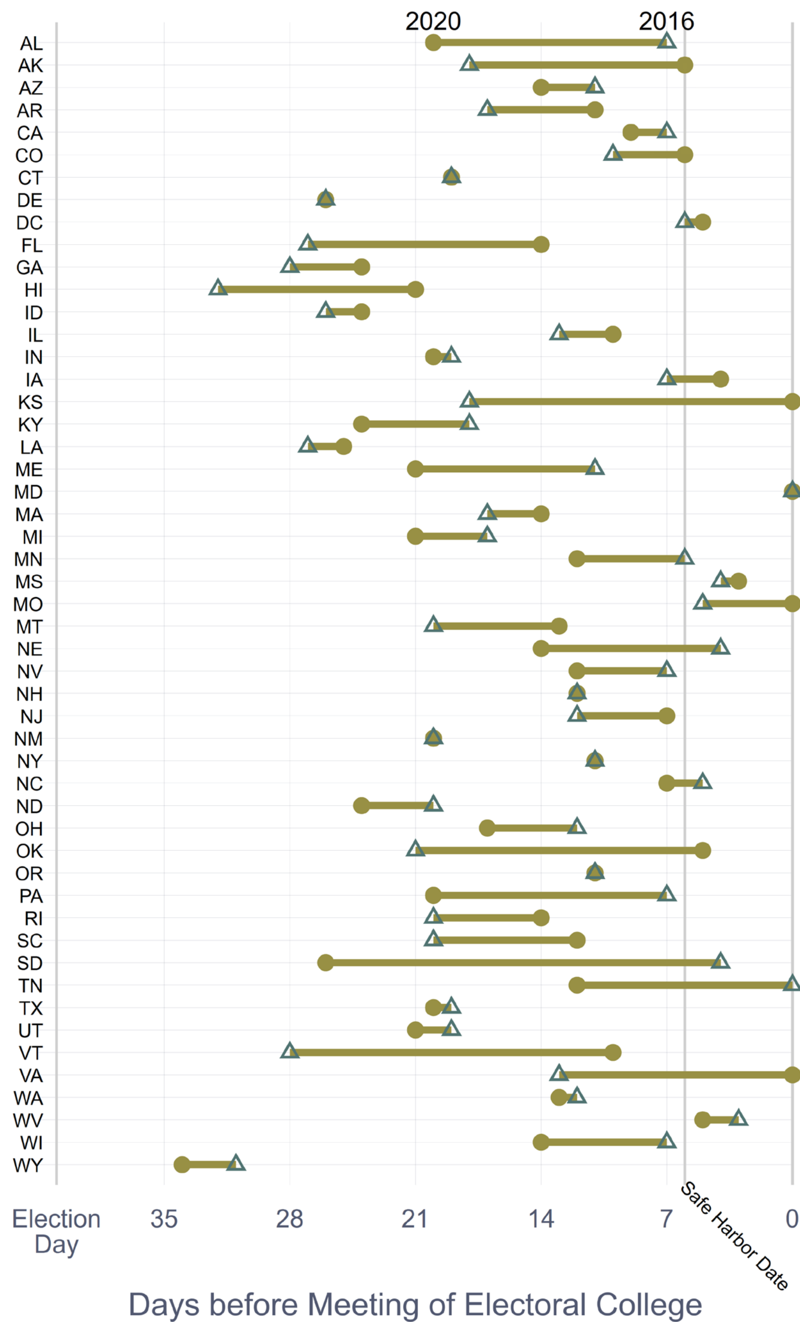
Note: Hawaii, Rhode Island, and Tennessee do not have fixed certification deadlines.

After the votes have been certified, the states are responsible for forwarding certificates of ascertainment to Washington, specifying the election results and the identity of the presidential electors selected from their state. In Figure 5-9, we have reported the dates when the states forwarded their certificates of ascertainment in both 2016 and 2020.

In 2016, states sent certificates of ascertainment to Washington, DC an average of 14.4 days before the meeting of the Electoral College. In 2020, states were slightly slower in sending their results and names of electors to Washington,13.9 days before the Electoral College met, about one-half day later on average than in 2016.

Quite a few states have election certification deadlines on the last possible date to meet the "safe harbor" deadline. And in practice, a number of states send their election results to Washington on or just before

Figure 5-9. Ascertainment Dates.



Source: U.S. National Archives and Records Administration.

the date that the presidential electors meet. Given the possibility of recounts and judicial challenges, many of these deadlines and practices risk not being adequately resolved in a timely manner.

AUDITING THE VOTE

Finally, auditing the vote is often built into a state's election process, with significant variation from state to state. According to the EAC's 2020 Election Administration Policy Survey, 37 states and D.C. required some form of post-election policy audit, by statute or rule.[6] The year 2020 was also a watershed for a new kind of audit that seeks to provide an efficient way to determine whether voting technology has

6 U.S. Election Assistance Commission, *Election Administration and Voting Survey 2020 Comprehensive Report*, n.d., Policy Survey Table 10.

accurately recorded votes. This type of audit has been labelled the "risk limiting audit," and its use increased from 2016 with one state, Colorado, to 2020 when four states held legally required risk limiting audits and five others who held either pilot audits or allowed selected jurisdictions to hold these audits.[7]

CONCLUSIONS AND TAKEAWAYS

More than in any previous year, the process and timing of vote counting was a major issue in the 2020 election. This concern arose for many reasons, ranging from uncertainty about how the massive shift from in-person to mail balloting would affect election administration to concerns that shifting vote margins during the counting process would be fodder for mis- and disinformation efforts.

Even with the shift to mail balloting, the count was not drawn-out in most states. The nation was transfixed for several days by the evolving election margins in a couple of states. In some cases, the vote count would have been faster if the states had adopted policies to allow the count to be faster, such as allowing the pre-processing of ballots. But, we should bear in mind that the outcome of the election was very close, and even slight delays, for whatever reason, would have been magnified in the public's mind as a consequence. The nation may have been especially attuned to the speed of the count and to the blue shift dynamic in 2020, but these are phenomena that were already known to close observers of vote counts. Indeed, it is likely that efforts by state legislatures to allow pre-processing of mail ballots and local officials to minimize misinformation opportunities sped up the count and shortened the period when there were large changes in the running tally.

Still, this attention on the speed of the count underscores the importance of counting ballots quickly and accurately. The scientific evidence that has emerged in recent months shows that mail ballots can be longer to count, but that this tendency can be overcome if election officials are able to begin processing ballots (but not announcing results) before Election Day. Requiring all ballots to be returned by Election Day also speeds up the count measurably.

The running tally of who is ahead and who is behind is determined largely by which counties report and the patterns of the types of votes cast. The stereotype that large, urban counties are later in reporting than small, rural counties is somewhat correct, and can explain why the running tally looks so different as election night progresses. However, Florida — a large state with many urban centers — demonstrated that the size of these patterns and length of time in which they persist can be minimized, by allowing preprocessing and requiring tabulated mail and early in-person votes to be reported soon after the polls close.

With the election so close in 2020, attention was also paid to the interaction of state vote-counting deadlines with the federal timetable for the meeting of the Electoral College. Some states require canvassing to be finished well before the deadlines associated with the Electoral College, which gives those states latitude in the event of recounts or challenges. Other states have longer canvassing periods and certification deadlines, which give local officials more time to double check the results, but creates the real possibility that in a close or disputed election, legal disputes could play out under a rush schedule.

With these conclusions in mind, we offer the following four takeaways related to vote counting and tabulation.

1. ***States should take a holistic look at their election processes to identify changes that would increase the speed of counting ballots.*** Election officials regularly state that it is more important to get the vote tally correct than it is to get it done quickly. Although this is true, 2020 illustrated that the longer it takes to tally the vote, the more opportunity there is for controversy over the count to grow and for rumors to arise and spread. And, it needs to be remembered that because of the hard Electoral College deadline, there is a zero-sum tug-of-war between the time to certify the election and the time to engage in the legal dispute process. Anything states can do to speed up the counting of ballots while not degrading the quality of the count is to be encouraged.

2. ***States should examine their laws for certification of election with an eye to getting a certified, final count by six days before the meeting of the presidential electors.*** Many states have late deadlines, or in practice get their final certifications very close

7 National Conference of State Legislatures, "Post-Election Audits," October 25, 2019, https://www.ncsl.org/research/elections-and-campaigns/post-election-audits635926066.aspx. Also see the EAC's *EAVS 2020 Comprehensive Report*, p. 79 and Policy Survey 10 (especially the footnotes) for a discussion of the various ways states are approaching post-election tabulation audits, https://www.eac.gov/sites/default/files/document_library/files/2020_EAVS_Report_Final_508c.pdf.

to the prescribed deadlines. If states wish to have time to count the votes, potentially to recount them, and to entertain judicial challenges, they should consider carefully how to structure those processes so that the election can be resolved on time.

3. ***States should be more transparent in reporting their unofficial, running total of results, giving the public a detailed accounting of how the vote totals change each day and where the newly counted votes come from.*** Information about where votes have been counted and the mix of mail and in-person ballots comes from national media organizations that can be subject to charges of manipulation. States that report this information in real time, such as Georgia and Pennsylvania, provide a level of transparency that many other states do not provide. Of course, doing so would require many states to reconsider their canvassing practices and election reporting systems. However, the payoff would be to give election officials more tools to demonstrate to an increasingly skeptical public that any patterns they see in the returns have understandable reasons.

4. ***States should have a formal, comprehensive program of post-election auditing.*** With an increasingly skeptical public, having rigorous ways of demonstrating that election outcomes are correct become important. And, even if elements of the public cannot be convinced, the rising litigiousness of elections puts a premium on having high standards for demonstrating to courts that the results were correct. States that have post-election audits that occur before the certification of elections are on the firmest footing for demonstrating that the results were correct. Those with risk-limiting audits are on the firmest footing yet. Post-election audits are undoubtedly time and resource intensive, and for many states, the changes to post-election procedures to implement them will be complicated and expensive. This is especially true for risk-limiting audits. Considerable work has been done in recent years by election officials, citizen groups, and academics to expand the scope of election audits. This work can contribute important insights as state policymakers consider how to make election audits even more robust.[8]

8 On the issue of a wider lens for election audits see MIT Election Data and Science Lab and Caltech/MIT Voting Technology Project, Auditing: Key Issues and Perspectives: Summary Report of the Election Audit Summit, 2019, http://electionlab.mit.edu/sites/default/files/2019-06/Election-Auditing-Key-Issues-Perspectives_2.pdf. This report covers not only post-election tabulation audits, but also auditing of voting machines, assignment to precincts, voter registration, ballot design, and other tasks integral to a properly conducted election.

APPENDIX 5A

DATES FOR CERTIFICATES OF FINAL DETERMINATION, 2016 AND 2020

State	2016	2020	State	2016	2020
Alabama	12/12/2016	11/24/2020	Montana[1]	11/29/2016	12/1/2020
Alaska	12/1/2016	12/8/2020	Nebraska	12/15/2016	11/30/2020
Arizona[2]	12/8/2016	11/30/2020	Nevada[3]	12/12/2016	12/2/2020
Arkansas	12/2/2016	12/3/2020	New Hampshire	12/7/2016	12/2/2020
California	12/12/2016	12/5/2020	New Jersey	12/7/2016	12/7/2020
Colorado	12/9/2016	12/8/2020	New Mexico	11/29/2016	11/24/2020
Connecticut	11/30/2016	11/25/2020	New York	12/8/2016	12/3/2020
Delaware	11/23/2016	11/18/2020	North Carolina	12/14/2016	12/7/2020
DC[4]	12/13/2016	12/9/2020	North Dakota	11/29/2016	11/20/2020
Florida	11/22/2016	11/30/2020	Ohio	12/7/2016	11/27/2020
Georgia[5]	11/21/2016	11/20/2020	Oklahoma	11/28/2016	12/9/2020
Hawaii	11/17/2016	11/23/2020	Oregon	12/8/2016	12/3/2020
Idaho	11/23/2016	11/20/2020	Pennsylvania	12/12/2016	11/24/2020
Illinois	12/6/2016	12/4/2020	Rhode Island	11/29/2016	11/30/2020
Indiana	11/30/2016	11/24/2020	South Carolina	11/29/2016	12/2/2020
Iowa	12/12/2016	12/10/2020	South Dakota	12/15/2016	11/18/2020
Kansas	12/1/2016	12/14/2020	Tennessee	12/19/2016	12/2/2020
Kentucky	12/1/2016	11/20/2020	Texas	11/30/2016	11/24/2020
Louisiana	11/22/2016	11/19/2020	Utah	11/30/2016	11/23/2020
Maine	12/8/2016	11/23/2020	Vermont	11/21/2016	12/4/2020
Maryland	12/19/2016	12/14/2020	Virginia	12/6/2016	12/14/2020
Massachusetts	12/2/2016	11/30/2020	Washington	12/7/2016	12/1/2020

1 Montana amended their certificate on December 20, 2016. The date shown here is when the state canvass was completed.
2 Arizona issued two certificates of final determination on January 4 and January 6, 2021.
3 Nevada issued a certificate of final determination on December 10, 2020.
4 DC amended their certificate on December 14, 2020.
5 Georgia amended their certificate on December 7, 2020.

State	2016	2020	State	2016	2020
Michigan[6]	12/2/2016	11/23/2020	West Virginia	12/16/2016	12/9/2020
Minnesota[7]	12/13/2016	12/2/2020	Wisconsin[8]	12/12/2016	11/30/2020
Mississippi	12/15/2016	12/11/2020	Wyoming	11/18/2016	11/10/2020
Missouri	12/14/2016	12/14/2020			

Source: U.S. National Archives and Records Administration.

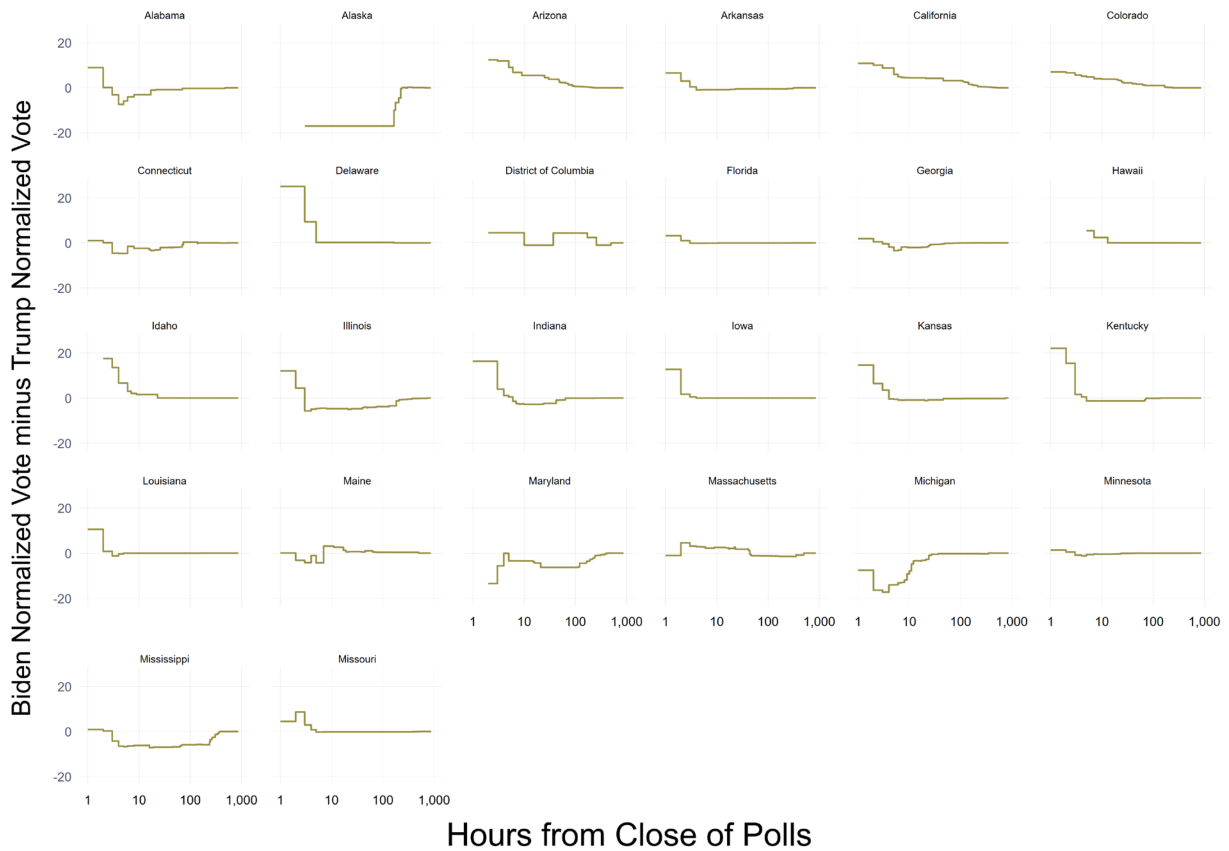
Note that some of the certificates of ascertainment were sent after the December 8th date, with some even being sent on the actual date of the meeting of the presidential electors. These certificates were sent slightly later than they were in 2016, accounting for different dates in the meeting of the presidential elections (presidential electors met on December 19 in 2016 and on December 14 in 2020).

6 Michigan amended their certificate on December 30, 2020.
7 Minnesota amended their certificate on December 20, 2016.
8 Wisconsin issued a certificate of final determination on December 21, 2020.

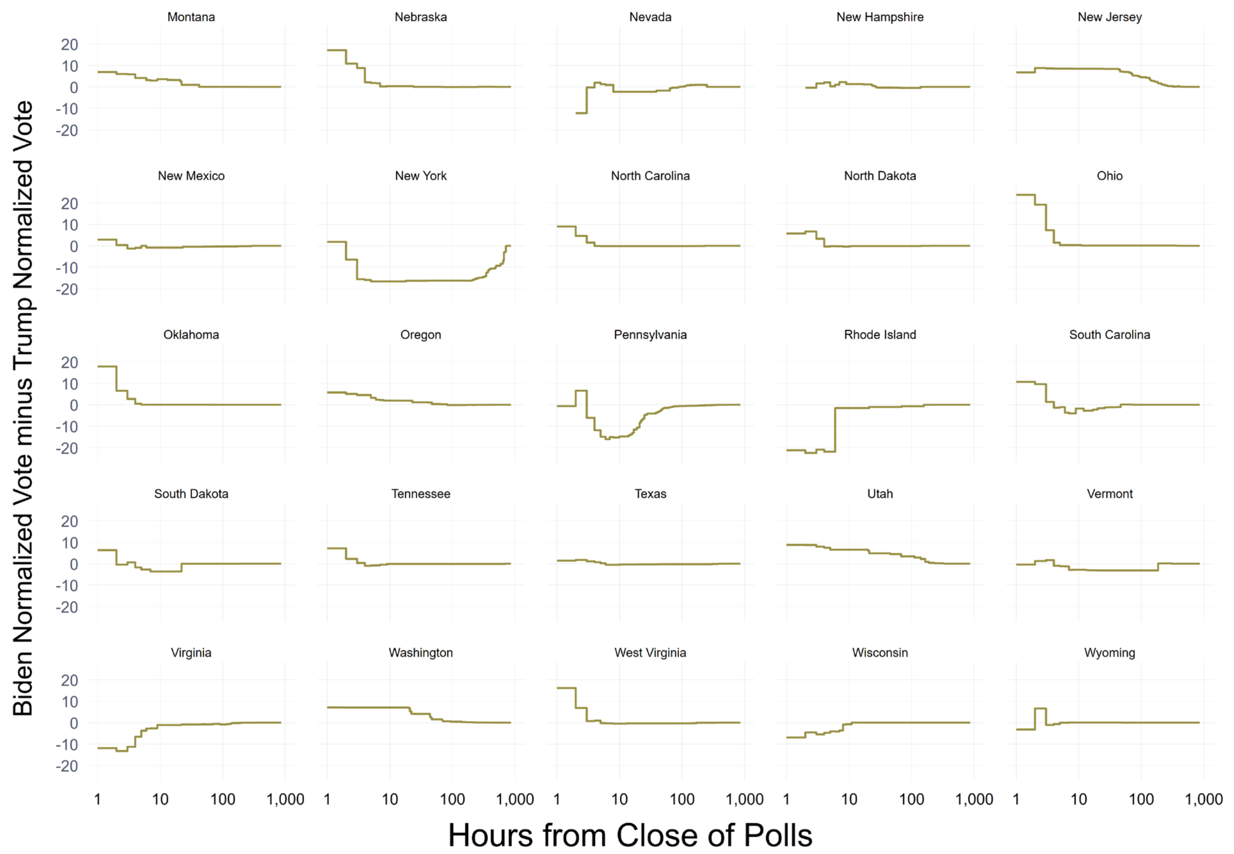
APPENDIX 5B

DIFFERENCE IN REPORTING PACE OF BIDEN AND TRUMP VOTES AMONG ALL STATES, BY TIME SINCE POLLS CLOSED.

a. Alabama - Missouri



b. Montana – Wyoming



CHAPTER 6: ELECTION COSTS AND FUNDING

In the primary, Milwaukee became the poster child for what the election should not look like. We became infamous for going down to only five polling locations for in-person voting last April. We were facing election workers who were fearful. Milwaukee's urban community was really hit the hardest by COVID. After the April election we regrouped and laid out a three prong approach. We were running three elections at all times last year: a by-mail election, an early voting election, and then Election Day, which truly triples your costs. Our budget was upended during the April election. We were able to recover and really pull off a successful — probably the most successful — Presidential Election we have seen in quite some time last fall, thanks to the funding efforts of CTCL and the Election Assistance Commission.[1]

+ + +

Postage wasn't our biggest driver. Probably our biggest one was space. We knew we had to find another location [to replace our cramped space in the courthouse], so we rented an old Sears store that was empty. This allowed us to separate our staff. That was probably one of the biggest things we spent CARES act money on. And then PPE! Everybody can tell you about those first few months trying to find PPE was hard. Plexiglass! I never thought it would be hard to find plexiglass. The amount that we paid for hand sanitizer was crazy per gallon in the first little bit. Our CARES Act money also helped us a little bit with equipment. Even though we had been doing advanced voting by mail for quite a while, it tripled. So, having just equipment that could open the envelopes was a huge purchase for us.[2]

+ + +

The 2020 election, like prior elections, was funded primarily by state and local governments, although two recent federal streams of funding provided additional funds, and there was a major infusion of funding from private philanthropy and the private sector as well.

The 2020 election, like prior elections, was funded primarily by state and local governments, although two recent federal streams of funding provided additional funds, and there was a major infusion of funding from private philanthropy and the private sector as well.

Estimates of annual election funding find a wide range of spending estimates that range from $2 billion to $3 billion or $8 to $15 per vote cast.[3] Anecdotal evidence, as well as our survey of local election officials, confirms that more was spent on the 2020 election, which was held during a global pandemic. Although the sources of funding for the 2020 election were primarily state and local governments, states and localities benefitted from federal funds that provided one-time assistance for the 2020 election. The first was two federal appropriations, in 2018 and 2019, for election security. An additional $400 million in federal funds were disbursed to states in 2020 to help them run elections during the pandemic. In addition, three major private philanthropic efforts disbursed over $300 million to jurisdictions to aid their efforts to run elections during the pandemic. Finally, not to be overlooked were corporate in-kind donations, such as the use of the arenas normally used by National Basketball Association franchises and other donations made through groups such as Business for America.

THE COST OF ELECTIONS

Determining the precise amount spent on elections is difficult. States and localities have very different

1 Quote of Claire Woodall-Vott, City of Milwaukee, Wisconsin Election Commission Executive Director in U.S. Election Assistance Commission, "2020 Elections Learned: Funding the Election," YouTube Video, 48:06, June, 2021, https://youtu.be/SbZo5eBZf7M, at 5:39. Edited for clarity and brevity.

2 Quote of Jamie Shew, Douglas County, Kansas Government County Clerk, Ibid., at 12:47. Edited for clarity and brevity.

3 Zachary Mohr, Martha Kropf JoEllen Pope, Mary Jo Shepherd, and Madison Esterle, "Election Administration Spending in Local Election Jurisdictions: Results from a Nationwide Data Collection Project," paper presented at the 2018 Election Science, Reform, and Administration (ESRA) Conference, University of Wisconsin-Madison, July 26 – 27, 2018, https://esra.wisc.edu/wp-content/uploads/sites/1556/2020/11/mohr.pdf.

practices and accounting procedures. This starts with the distribution of costs between states and local jurisdictions. In some, the state picks up the tab for large capital investments, such as equipment, while in others, those decisions are made and paid for by local governments. Even for those items that are almost always provided by the local election office, costs may be accounted for in multiple ways, if at all. [4]

For example, take the simple issue of procuring polling locations. In some jurisdictions, government buildings are used without charge to the election department, in others an internal accounting charge is made. In some places the election department is responsible for paying for all logistical support of an election (distributing voting equipment to polling places, tearing down polling places after the election etc.), while in others, this cost might be absorbed by the public works department. In almost every state some funds go to rent facilities from private entities. Computer systems, support for elections from law enforcement, voter education, and other functions may be paid for by different state and local departments.

With all of this complexity, attempts have been made to estimate the cost of elections. Our summary of the best of the literature finds that approximately $2 billion – $3 billion are spent to administer elections.[5] To provide context, this level of spending puts elections at near the bottom of spending for public services, ranking at approximately the same levels as spending by local governments to maintain parking facilities.[6]

THE HISTORY OF FUNDING ELECTIONS AND SHARED COSTS

Constitutional responsibility for running elections is given to states, but with the explicit provision that Congress may override state election laws for federal elections. In general, throughout our history most of our election laws have been passed by state legislatures and administered locally. In a few notable areas, Congress has enacted federal laws, with voting rights legislation; national standards for voter registration, reform, and regulation of elections after the 2000 election; and overseas and military voting laws.

A variety of federal agencies interface with election administration in different ways, including the Department of Justice, Election Assistance Commission, Federal Election Commission, Department of Homeland Security, and the independent agency of the U.S. Postal Service. Yet despite the important roles of these institutions, there is no direct federal administration of elections. Unlike most democracies around the world, there is no national election authority in charge of elections.

The funding of elections loosely parallels the mix of federal, state, and local responsibilities for regulating elections. States are generally responsible for managing the computerized voter registration list, with local governments responsible for all other operational expenses. The greatest variability in shared funding responsibility is usually in the area of voting technology, with some states footing the entire bill, others sharing between the state and local governments, and still others putting technology investment solely at the feet of local governments.[7]

With the primary responsibility for running elections at the state and local levels, until 2002, no federal money had been granted to state and local governments for the purpose of election administration. The Help America Vote Act in 2002 authorized federal funds to be dispersed to the states through the Election Assistance Commission to improve election administration and to comply with provisions of the Act. Over $3 billion were appropriated over several years for these purposes, and states and local entities spent this money over a number of years. In addition to these ini-

4 A useful discussion of these issues may be found in Mohr, et al., "Election Administration Spending."

5 See Mohr, et al., "Election Administration Spending;" Robert S. Montjoy, "The Changing Nature . . . and Costs . . . of Election Administration," *Public Administration Review* 2010, 70:867 – 75; Randy H. Hamilton, "American All-Mail Balloting: A Decade's Experience," *Public Administration Review* 1988, 48: 860 – 66. Barry C. Burden, David T. Canon, Kenneth R. Mayer, and Donald P. Moynihan, "The Effect of Administrative Burden on Bureaucratic Perception of Policies: Evidence from Election Administration," *Public Administration Review* 2012 (72): 741 – 51; Robert Stein and Greg Vonnahme, "The Cost of Elections," unpublished manuscript, Rice University 2009; Brennan Center, "The Machinery of Democracy: Voting System Security, Accessibility, Usability, and Cost," 2006.

6 U.S. Census Bureau, "2018 State & Local Government Finance Historical Datasets and Tables," 2018, https://www.census.gov/data/datasets/2018/econ/local/public-use-datasets.html.

7 A helpful, if slightly dated overview of shared federal, state, and local responsibility for funding elections may be found in National Conference of State Legislatures, "Election Costs: What States Pay," August 3, 2018, https://www.ncsl.org/research/elections-and-campaigns/election-costs.aspx.

tial HAVA funds, federal funding for elections-related items has also been provided in appropriations bills for the Defense Department, Health and Human Services, and the General Services Administration.[8]

Prior to Fiscal Year 2018, most federal funds for elections were associated with the initial passage of HAVA. The largest HAVA-related amounts were authorized for complying with the various requirements of HAVA ($2.6 billion) and for replacing lever and punch card systems ($650 million). Another $166 million was authorized through a variety of sources, the largest of which ($80.8 million) was through HHS for polling place accessibility. Although the funds authorized and later appropriated by HAVA and other acts were spent over many years, no additional legislation authorized federal grants to states and localities for election administration until FY 2018.

In 2018, Congress authorized and then appropriated $805 million to states and localities, administered by the EAC, to improve election security and combat outside interference in elections. More specifically, funds were used "... to improve security in state election systems, train staff in cyber security and build better cyber security into systems." In 2020, Congress authorized and appropriated $400 million of CARES Act funding to run elections during the COVID pandemic.

As of the writing of this report, a full accounting of state expenditures of these funds was not available. In guidance to the states, the EAC had stated that the following items were appropriate expenditures under the Act:[9]

- Printing of additional ballots and envelopes for potential higher levels of absentee or vote by mail processes
- Voter Registration List actions to improve the accuracy and currency of registrant addresses
- Upgrades to statewide or local databases to allow for online absentee or mail ballot requests or change of address
- Additional mailing and postage costs, including ballot tracking software
- Acquisition of additional voting equipment, including high speed or central count tabulators and hardware and software associated with signature comparison of returned absentee or mail ballots
- Installation and security for absentee or mail drop-boxes
- Temporary elections office staffing
- Cleaning supplies and protective masks and equipment for staff and poll workers in early voting, vote center, or election day polling places
- Overtime salary and benefit costs for elections staff and poll workers
- Training of poll workers on sanitization procedures for in-person voting
- Public communication of changes in registration, ballot request options, or voting procedures, including information on coronavirus precautions being implemented during the voting process
- Mailings to inform the public on changes or determination of procedures of coronavirus precautions, options in voting, and other voting information
- Pre- and post-election deep cleaning of polling places
- Leasing of new polling places when existing sites must be closed
- Additional laptops and mobile IT equipment
- Additional automated letter opening equipment

As of July 2020, states had requested $397 million of the $400 million available. With the state-required matching funds, the CARES Act resulted in the spending of $479.5 million new dollars to deal with election costs associated with the pandemic.[10] Post-primary and -election spending snapshots suggested that at least 68 percent of federal and state funds had been spent by (or immediately after) Election Day.[11] CARES Act funding was granted to the states, with many of them turning around and subgranting to localities, often on a formula basis tied to the size of the jurisdiction.[12]

8 Congressional Research Services, "Election Administration: Federal Grant Funding for States and Localities," CRS Report R46646.

9 U.S. Election Assistance Commission, "Election Assistance Commission Plans for Use of CARES Act Report to the Pandemic Response Accountability Committee,"https://www.eac.gov/sites/default/files/paymentgrants/cares/15011_Report_on_CARES_Funding.pdf.

10 U.S. Election Assistance Commission, "Election Assistance Commission - CARES Funding Grant Chart," July 22, 2020, https://www.eac.gov/sites/default/files/paymentgrants/cares/FundingChart_CARES.pdf.

11 U.S. Election Assistance Commission, "Estimated CARES Act Expenditures as Reported 20 Days Post Primary and General Election Reports," https://www.eac.gov/sites/default/files/paymentgrants/cares/CARES_Grant_Expenditure_Snapshot.pdf.

12 See U.S. Election Assistance Commission, "2020 Elections Learned: Funding the Election," YouTube Video, 48:06, June, 2021, https://youtu.be/SbZo5eBZf7M, *passim*.

PRIVATE FUNDING IN 2020

There is a history of private funding of elections, although the historical amounts are likely small, and there is no central tracking of such funding. For example, in some jurisdictions, private entities help with the costs of running specific polling locations. Some private companies have allowed their employees to serve as poll workers without having to take vacation time or otherwise forfeit pay. In recent years, nonprofit groups and universities have written software to help election officials manage the logistics of elections and made it available to election officials at no cost — software that would have cost hundreds of thousands to dollars to develop in-house or buy from a vendor.[13]

In 2020, at least three major efforts of private philanthropy brought hundreds of millions of dollars directly to state and local election administration. The largest was due to the donation of approximately $400 million dollars by Priscilla Chan and Mark Zuckerberg, with the primary distributor of funds the Center for Tech and Civic Life (over $250 million) and a second distributor, the Center for Election Innovation and Research ($65 million). In addition, the Schwarzenegger Institute of the University of Southern California distributed several million dollars donated by Arnold Schwarzenegger, primarily to ensure the availability of polling places.

Grants were given to local election jurisdictions in the case of CTCL and Schwarzenegger and states in the case of CEIR.

The CEIR grants were intended to "support states' efforts to provide nonpartisan, accurate, and official voting information to the public."[14] The program's nearly $65 million was distributed to 23 states.[15] Approximately 85 percent of expended funds went to paid media to communicate quickly with citizens, followed by 11 percent for direct mail and 4 percent for other communications.

The Schwarzenegger Institute grants were available "for local and state elections officials who want to reopen polling stations they closed because of a lack of funding."[16] Funds were awarded to 32 local jurisdictions in eight states.[17] The lion's share of jurisdictions reported using their funds to hire more poll workers or to provide hazard pay. Significant numbers of jurisdictions also reported procuring more polling locations and buying personal protective equipment for poll workers. The rest of the jurisdictions used funds for a variety of other polling-place related expenses, such as providing curbside voting, mobile voting sites, and "supercenters."

The largest and most substantively broad of the three major private philanthropy programs was overseen by the Center for Tech and Civic Life (CTCL), distributing over $400 million in Chan-Zuckerberg funds. The CTCL lists 2,518 separate recipients, only two of which were states (North Carolina and Pennsylvania), in addition to the District of Columbia.

As Tiana Epps-Johnson, Executive Director of the CTCL said to then-EAC chair Ben Hovland, in the "Lessons Learned: Funding the Election" video,

> *The CTCL COVID-19 response grant program was a nationwide open call. We invited every single local election department in the country that had any role in administering the November election to apply for a grant because the need was quite large. We guaranteed that every election department that we were able to verify was a legitimate election department would receive a grant. That meant that at the end of the day, we received and we provided grants to nearly 2500 election departments across 49 states.*
>
> *When we designed the grant program we wanted to make sure that any level of funding we provided to election departments was a meaningful amount that they could actually use for things that they needed to purchase. So, we set a funding floor rather than a funding cap. The minimum grant we offered was $5,000 to smaller cities and towns, across the country*

13 In the 2020 election, numerous university and citizen groups developed such software tools and made them available for free or at a heavily subsidized rate. Many of these tools were catalogued by the Stanford-MIT Healthy Elections project and are available at https://healthyelections.org/tools.
14 Center for Election Innovation and Research, "2020 Voter Education Grant Program," March 26, 2021, https://election-innovation.org/download/16514/, p. 1.

15 These states were Arizona, Connecticut, Florida, Georgia, Illinois, Iowa, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Vermont, and Washington, plus the District of Columbia.

16 U.S.C. Schwarzenegger Institute, "Arnold Schwarzenegger's Letter to Election Officials," https://pollingaccess-grants.org/.

17 Alabama, Arizona, Georgia, Mississippi, North Carolina, South Carolina, Texas, and Virginia.

and then the amount scaled with jurisdiction size up to 19 million, which was awarded to New York City. Over half of our grantees are election departments that serve fewer than 10,000 voters, meaning that the majority of our grantees are some of the smallest election departments by population in the country. But, of course, we also supported folks that really ranged across the different sizes and populations across the U.S.

The program, from the start, was about keeping elections functioning during the pandemic and keeping everyone safe. The grants spanned four core buckets of how folks could use the funds. One was around ensuring safe and efficient Election Day administration. The other broad bucket was around expanding voter education and outreach, recognizing how critical that was given all of the changes to the process. The other was launching poll worker recruitment and training and safety efforts, so that we could have enough folks at the polls to actually keep places open and well-run. And the last bucket was supporting both early in-person voting and voting by mail, recognizing the increase on both of those that we anticipated that we would see in advance of November.

We know that no election departments are exactly the same, and certainly not across geographies or state lines. So while we kept the focus of the impact of the grants on the pandemic, we gave local election offices as much discretion as possible to allow them to use the funds and whatever areas matched most acutely with their specific highest needs.[18]

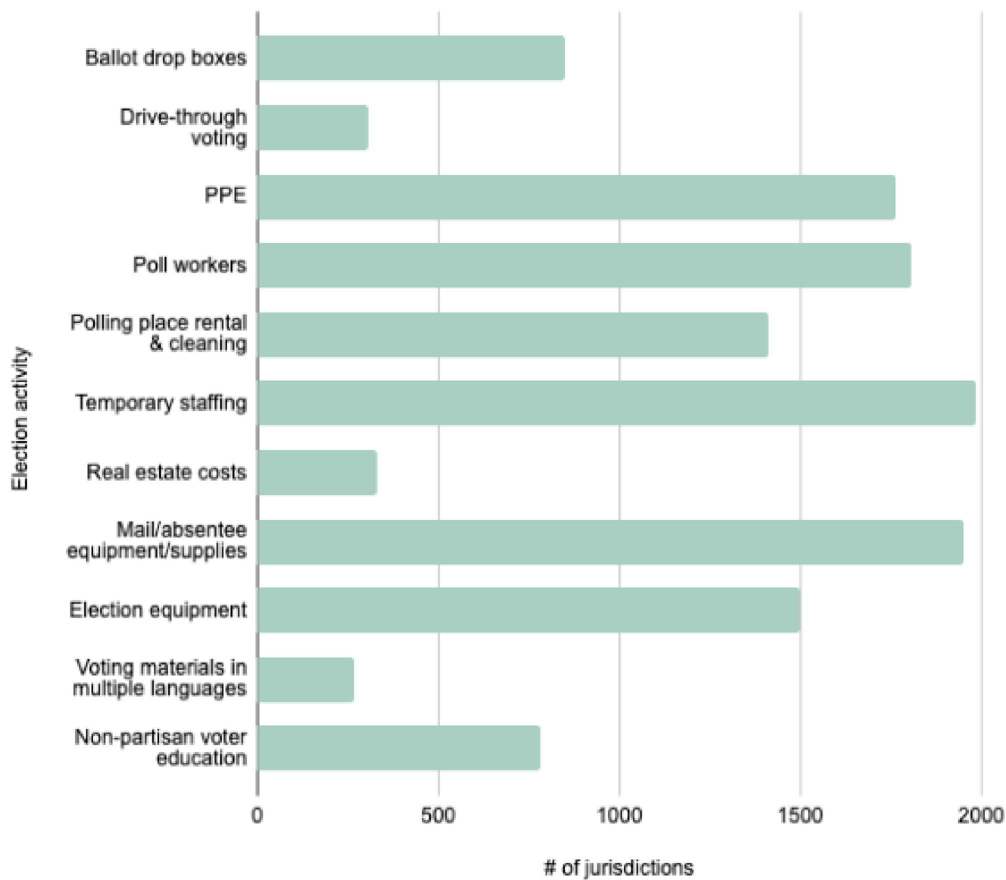
The CTCL has not yet released a final report about the use of these funds, but its preliminary report indicates that the uses of the funds they distributed were similar to those of the two more narrowly focused grant programs, with one important exception, absentee/mail balloting. (See Figure 6-1.[19]) Most jurisdictions anticipated using their funds for temporary staffing, mail/absentee ballot supplies, poll workers, PPE, election equipment, and polling place rental/cleaning. Many fewer anticipated using funds for ballot drop boxes, drive-through voting, real estate costs, materials in multiple languages, and voter education.[20]

18 Quote of Tiana Epps-Johnson, Center for Tech and Civic Life Executive Director, in U.S. Election Assistance Commission, "2020 Elections Learned: Funding the Election," YouTube Video, 48:06, June, 2021, https://youtu.be/SbZo5eB-Zf7M, at 15:31. Edited for clarity and brevity.

19 See Alexandra Popke, Erin Pang, and Neil Wary, "Supply Chain Performance in the 2020 Election," Stanford-MIT Healthy Elections Project, March 10, 2021, https://healthy-elections.org/sites/default/files/2021-06/Supply_Chain_Performance.pdf, pp. 21 – 26 for a summary of CTCL funding allocations by state as of October 2020.

20 The statistics in Figure 6-1 are based on the number of jurisdictions, unweighted by the number of registered voters or turnout. It is therefore not possible to put these statistics in the context of the number of voters.

Figure 6-1. How Election Offices Anticipated Spending CTCL Grant Funds.



Source: Center for Tech and Civic Life, "A First Look at CTCL Grant Program Impact," November 13, 2020, https://www.techandciviclife.org/grant-update-november/.

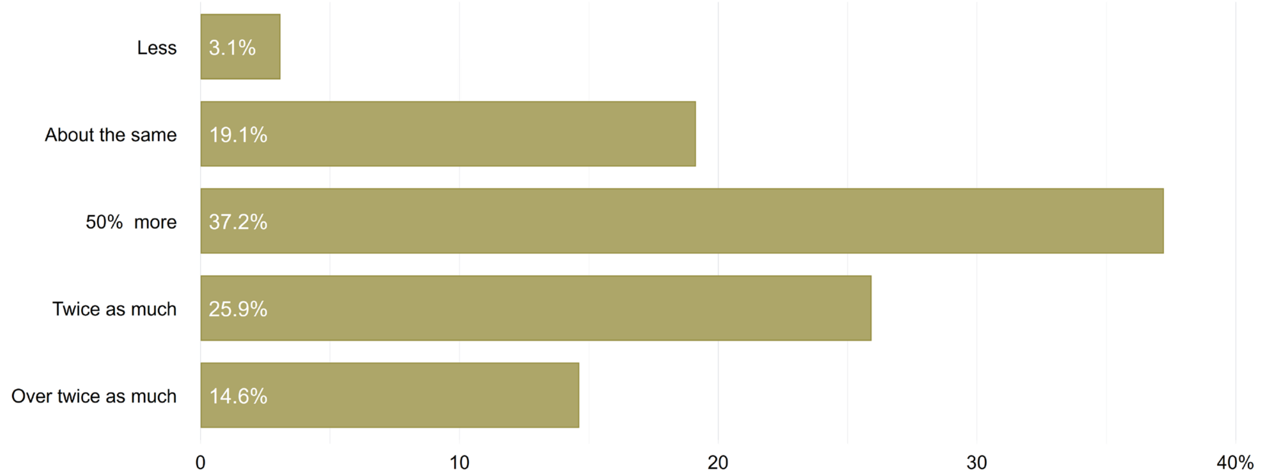
HOW MUCH MORE EXPENSIVE WERE THE 2020 ELECTIONS?

With the distribution of federal funds in 2019 and 2020, the granting of over $400 million in private funding in 2020, and additional emergency appropriations by states and localities, the total spent to conduct the 2020 election was surely greater than in the past. Unfortunately, there is no good comprehensive way to track total spending to administer elections in the United States. Therefore, to understand what it cost to run the 2020 election, and how much of that came from various sources, requires some approximation.

To help establish the general ballpark of spending in 2020 compared to past years, we asked respondents to the LEO survey, "compared to a typical presidential election, which statement most accurately describes what it cost to conduct the November 2020 election, even if the statement isn't exactly right?" The response categories were "less," "about the same amount," "about 50 percent more," "about twice as much," and "more than twice as much."

Most jurisdictions answered in the range of "50 percent more" and "twice as much." (See Figure 6-2). Answers to this question varied slightly by size of jurisdiction, with the smallest jurisdictions (those with fewer than 5,000 registered voters) slightly less likely to report larger spending amounts than all the rest. For instance, among those expressing an opinion, 28 percent of LEOs from jurisdictions with fewer than 5,000 registered voters reported spending no more in 2020 than in a typical election, compared to only 14 percent of LEOs in larger jurisdictions.

Figure 6-2. Compared to a Typical Presidential Election, Which Statement Most Accurately Describes What It Cost to Conduct the November 2020 Election, Even if the Statement Isn't Exactly Right?



Source: Local Election Official Survey.

If it typically costs between $2 billion and $3 billion to conduct a presidential election, and if the 2020 election was between 150 percent and 200 percent costlier than average, that suggests the cost in 2020 was in the range of between $3 billion and $6 billion. That is quite a large range, but it does allow us to put the various infusions of funds into context and also to estimate the degree of local effort devoted to the election on top of what was expected before the pandemic hit.

New federal funds plus philanthropic donations added around $1.2 billion to support the presidential election. If we accept the low end of typical spending and the low end of the increase in federal spending, then this would suggest that spending to conduct the election occurred with little-to-no additional local financial support.[21] If we accept the high end of these estimates, then that would suggest that localities came up with around $2 billion in additional funds. This, too, is a large range. If we adopt the rule of thumb that "the truth is probably somewhere in the middle," then it seems reasonable to conclude that localities came up with around $1 billion in additional appropriates to help fund the conduct of the election, which would be greater than the additional federal support and private philanthropy combined.

21 We can reject the conclusion that support for the election came with no additional state or local support, since the federal appropriations required a state match.

CONCLUSIONS AND TAKEAWAYS

Local election officials reported that much more money was spent on the 2020 election than in 2016. Two streams of federal funding for election security and for running elections during the pandemic added to baseline state and local funding. This baseline funding was augmented by additional efforts made by state and local governments to support the election, although it is unclear by how much. In addition, there was a large infusion of private philanthropy funding.

This additional money was spent on election-based activities across-the-board. The most prominent story of the 2020 election was the shift to voting by mail in much of the country; there was certainly evidence that much of the additional spending went toward supporting that effort — buying high-speed mailing equipment, hiring back-office staff, etc. Still, officials also reported spending significantly more on securing in-person voting — hiring more poll workers, renting more polling places, providing hazard pay, and procuring PPE for poll workers and voters. Every aspect of the election was more expensive; it would be a mistake to attribute the increase solely to voting by mail.

This review of spending suggests several take-aways and best practices to consider in improving elections for the future. Here, we highlight two.

1. ***There is a great need for better and more standardized reporting of election funding. The lack of clear information likely hindered efforts to advocate for increased funding for 2020.*** The total budget for running American elections is opaque because of

the decentralized nature of elections, the resulting differences in how elections are run, and the expenditure of funds at the state, local, and federal levels. The best information we have on election funding comes from grant reporting of federal and private funding, not the baseline funding of states and localities.

The lack of comprehensive accounting of election costs undoubtedly provided a roadblock to estimating how to respond financially to the possibility of an election crisis when the pandemic first hit. Certainly, expert organizations and individuals provided useful guidance about what it would cost, for instance, to stand up a complete vote-by-mail operation from scratch.[22] Still, insufficient financial information likely put election administration at a strategic disadvantage as election officials advocated for assistance alongside other deserving government functions.

The efforts to estimate spending needs and to advocate those needs underscores the importance of developing standard financial accounting standards within election administration, which would align it with most other areas of public administration, and then reporting spending statistics in a uniform way. A few states already do this, but only a small number do. Establishing a "foundational budget" for elections and standardized ways of accounting for election administration budgets is a longstanding wish within the elections community. Work on this topic will not be easy, but responding to voting during the pandemic illustrates the importance of standardized election budget accounting.

2. Private philanthropy provided a critical lifeline to a diverse group of election jurisdictions that would have been unnecessary had the emergency election response been adequately funded by the state and federal governments. The most controversial topic of funding election administration in 2020 was the role of private philanthropy. As of the writing of this report, five states have passed laws limiting or prohibiting private donations to pay for the conduct of elections. Despite some concerns that these funds may have been given with partisan intent, there is no evidence that the funds were distributed on a political basis. And, there is positive evidence that the jurisdictions receiving the funds were given discretion to spend the funds as they sought fit, within the broad parameters of the grant programs.

The role of private philanthropy in 2020 highlights two important aspects of the support for elections in the United States. The first is that even in "normal" times, election administration relies on partnerships with nonprofit organizations who help to provide functional capabilities that would be out of the reach of many local election jurisdictions if they had to procure them on the market. The second is that election administration generally is conducted on a shoestring, and election administrators are not as effective as they might be in advocating for greater funding in times of crisis. It is this condition that makes private philanthropy — what could be called "bake sales for democracy" — attractive during times like the pandemic.

Financing models and commitments need to be made to make large scale financial support of election administration by private philanthropy unnecessary. A first step in this direction would be to make progress in developing standardized modes of election financing, as has already been discussed. A related step is to use those models to help engage appropriators in a dialogue that would create a framework for the adequate funding of elections on a regular basis, and for the consideration of how to respond to crises when they inevitably occur in the future.

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22 Two notable examples were Christopher R. Deluzio, et al., "Ensuring Safe Elections: Federal Funding Needs for State and Local Governments during the Pandemic," *Brennan Center for Justice*, April 30, 2020, https://www.brennancenter.org/sites/default/files/2020-04/2020_04_5StateCostAnalysis_FINAL.pdf; Amber McReynolds, "Vote at Home Scale Plan," *National Vote at Home Institute*, March 2020.

CHAPTER 7: VOTING TECHNOLOGY

Going to an all-vote-by-mail model had challenges. Obviously, printing costs that were not budgeted for. New equipment. To get all these ballots back we needed additional scanners. We needed mail-opening equipment. When a county or state puts its budget together, you could never anticipate that you have to buy all new equipment. And you have printing costs that have been tripled or quadrupled.[1]

+ + +

What was really well done was the encoded barcode. It was scanned on the way out, so I knew exactly that it went out. The voters were able to track themselves, because they could see when they asked for it and when it went out. When it came back, the barcode would let me scan it back in, and know exactly what it is. What was really cool about all of that was, it certainly made checking signatures so much easier. When the ballot would come in and we would barcode it, it would automatically pull up that person's signature. You could automatically check right then and there, and you could say, "I accepted it" or "I'm rejecting it because its signature doesn't match." So it gave voters information saying it's been accepted or it was rejected, because the signature didn't match. [If it was rejected,] it automatically sent the voter a letter or an email saying, "We have a mismatch. We need you to sign this affidavit. We need to cure your signature. There's obviously some discrepancy."[2]

+ + +

Two drivers of change prompted many state and local jurisdictions to alter the voting technologies they used in 2020: the shift from in-person voting to mail balloting and the migration away from direct recording electronic (DRE) voting machines toward hand-marked optical scanners. The former prompted many jurisdictions, especially larger ones, to purchase high-speed optical scanners to manage large numbers of paper ballots centrally. The latter continued a trend that has been underway for the past decade.

The confluence of these two trends resulted in the biggest shift in how votes were counted in at least two decades. Even jurisdictions that continued to use DREs saw increases in votes cast by mail, which resulted in these jurisdictions having to process an increased number of hand-marked scanned ballots.

In addition to the accelerated use of scanners to tabulate hand-marked paper ballots, 2020 saw an explosion in the use of electronic poll books to check in voters. Used by less than a majority of large local jurisdictions in 2016, they became nearly ubiquitous in jurisdictions with more than 100,000 registered voters; they were common even in jurisdictions with fewer than 100,000 registrants.

The expanded use of technology in the 2020 election did not stop with the tabulation of ballots and checking in of voters. The growth in mail ballots elicited technological change of its own. Of particular note was the need to process mail ballots at a scale that was often 10-to-20 times greater than before. This increased demand for, and the use of, sophisticated mailing equipment that helped automate packaging outgoing mail ballots and processing them upon their return. Furthermore, the rising tide of mail ballots returned for counting led to an increased reliance on automated systems that help to assess signatures on returning ballots. Finally, ballot tracking software became nearly universal, as all but six states provided some method to track mail ballots.[3]

1 Remarks of Robert Giles, Director of the New Jersey Division of Elections, U.S. Election Assistance Commission, "2020 Elections Learned," YouTube Video, 1:01:28, March 9, 2021, https://youtu.be/SbZo5eBZf7M, at 36:01. Edited for clarity and brevity.

2 Remarks of Gabrielle Summe, Kenton County, Kentucky County Clerk, U.S. Election Assistance Commission, "2020 Elections Learned with Leslie Hoffman and Gabrielle Summe," YouTube Video, 50:10, July 2, 2021, https://youtu.be/p9hts1rBriQ, at 22:22. Edited for clarity and brevity.

3 Bree Baccaglini, Gabriella Garcia, and Matthew Waltman, "Voter-Facing Ballot Tracking: How and Where It's Heppning Across the U.S." report of the Stanford-MIT Healthy Elections Project, October 9, 2020, https://healthyelections.org/sites/default/files/2020-10/Ballot_Tracking_0.pdf (last accessed August 2, 2021).

Finally, the adoption of new technologies in so many jurisdictions at once put pressure on the supply chain of materials needed to conduct the election. The pressure on the supply chain not only affected important commodity items, such as personal protective equipment, pens, and envelopes, but also the provision of services needed to make the voting technologies run, such as allots and ballot applications.[4]

IN-PERSON VOTING TECHNOLOGY

Because the lion's share of ballots has historically been cast on Election Day, the greatest attention to voting technology has been directed at the devices used to mark and tabulate votes in a traditional precinct setting. The 2000 presidential election had highlighted deficiencies in punch-card devices and mechanical lever machines, which led to their being prohibited in federal elections by HAVA.

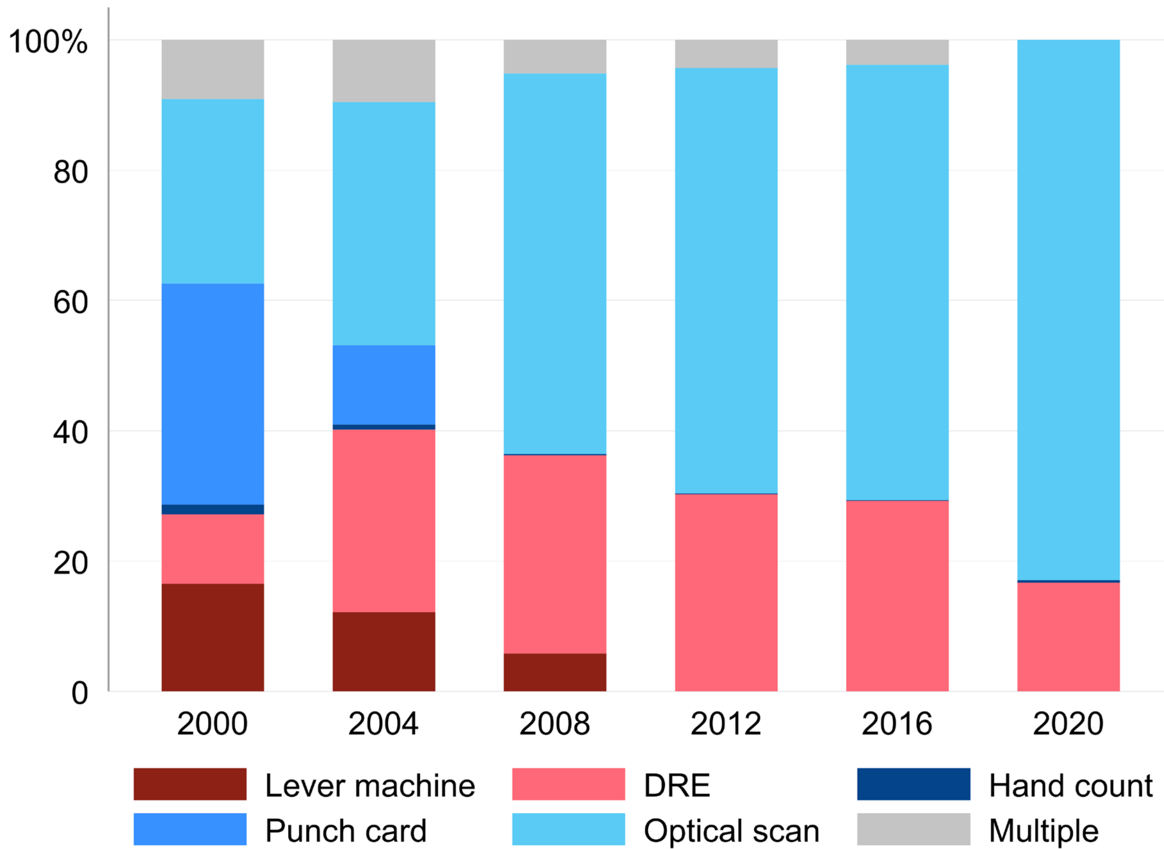
In recent years, jurisdictions have used four types of basic technologies to record votes in polling places, though the fourth of these technologies is a hybrid. These technologies are (1) hand-marked and -counted paper ballots, (2) hand-marked paper ballots that are optically or digitally scanned, (3) direct-recording electronic (DRE) devices, in which the ballot is marked on a screen and votes are recorded and tallied electronically, and (4) ballot-marking devices (BMDs), in which the ballot is marked on a screen, but a paper ballot is then printed out to be scanned.

The restriction against using punch-card devices and mechanical lever machines in federal elections, combined with the availability of funds to replace antiquated equipment, led to a multiplication of jurisdictions using DREs and a significant increase in those using optical scanners in the mid-2000s. Controversy over the use of DREs led to their gradual elimination starting in 2008, a trend that was accelerated in 2020.

These trends are illustrated in Figure 7-1, which shows the percentage of counties that used these technologies in each presidential election, weighted by the number of votes cast in each county. The 2020 election accelerated the trend of retiring electronic voting machines while continuing the long-term trend of expanding the use of hand-marked paper ballots that are tabulated by scanning.

4 A helpful analysis of supply chain issues in the 2020 election, not all of which were directly related to technology, may be found in Alexandra Popke, Erin Pan, and Neil Wary, "Supply Chain Performance in the 2020 Election," report of the Stanford-MIT Healthy Elections Project, March 20, 2021, https://healthyelections.org/sites/default/files/2021-06/Supply_Chain_Performance.pdf (last accessed August 2, 2021). For issues related to the primary season, anticipating the general election, see Anne Warnke, et al., "Election Supply Chains in a Pandemic," report of the Stanford-MIT Healthy Elections Project, June 17, 2020, https://healthyelections.org/sites/default/files/2020-06/supply_chain_memo.pdf (last accessed August 2, 2021).

Figure 7-1. Summary of in-person voting equipment usage, 2000 – 2020.



Data sources: Voting equipment data for 2000 – 2016 were provided by Election Data Services; the 2020 voting equipment data were provided by Verified Voting. Turnout data for 2000 – 2020 were gathered by the authors from certified state election results.

Note: Prior to 2020, data were reported at the county level, which means counties in states where municipalities determine the voting technology often had more than one machine type. These are coded "multiple," although the vast majority of ballots in these counties were counted by optical scanners. The 2020 data source reported voting technologies at the municipality level, thus eliminating the need for this category. The DRE category includes ballot marking devices.

The picture provided by Figure 7-1 is limited in several ways, which we address in the rest of this chapter. The first is that the weighting in the figure is according to the total number of votes cast in a county. The relevant weighting should be the number of in-person or Election Day votes. Because of data limitations, we cannot provide this view for the entire period, but we can for 2016 and 2020. The second, related limitation is that it does not account for the growth in voting by mail over the past two decades. This growth has had the effect of accelerating the use of optical scanning technologies even more than Figure 7-1 suggests.

Turning our attention to 2020, we can provide a more granular picture of how in-person voting technology has changed since the previous presidential election. The most significant change in Election Day technology was the decline in the use of DREs, especially those without voter-verifiable paper audit trails (VVPATs). In 2016, roughly one-third of Election Day votes were cast on DREs; in 2020, that was below one-tenth. (See Table 7-1.) In their place, the use of ballot-marking devices (BMDs) more than doubled. The growth of optical scanners was not as dramatic, but their use did rise by nine percentage points.

Table 7-1. Use of voting machines for Election Day, 2016 and 2020 (Weighted by number of Election Day voters)

Type	2016	2020
DRE, no VPAT	27.9%	7.7%
DRE, VVPAT	5.5%	2.0%
BMD	8.5%	22.2%
Optical scan	58.8%	67.8%
Hand counted	0.4%	0.4%

Data sources: Verified Voting (voting technology use); Election Administration and Voting Survey (Election Day turnout).

Table 7-2 reports on the path of transition from one technology to the other from 2016 to 2020 and makes the path of upgrading more explicit. Overall, nearly half the voters who cast Election Day ballots on DREs of any type in 2016 used BMDs in 2020. Approximately a quarter cast their Election Day votes on hand-marked ballots that were scanned, with the remaining voting in the same machines as in 2016.

Table 7-2. Transition in Election Day voting technology, 2016 to 2020. (Weighted by the number of 2020 Election Day voters.)

	2020				
2016	DRE, no VVPAT	DRE, VVPAT	BMD	Opscan	Hand
DRE, no VVPAT	30.9%	1.9%	40.4%	26.9%	0.0%
DRE, VVPAT	0.0%	30.1%	48.5%	21.5%	0.0%
BMD	0.0%	0.0%	91.4%	8.6%	0.0%
Opscan	0.2%	0.1%	5.9%	93.9%	0.0%
Hand	0.0%	2.1%	0.0%	20.7%	77.3%

Data sources: Verified Voting (voting technology use); Election Administration and Voting Survey (Election Day turnout).

Although over half the counties that made the transition from a DRE without a VVPAT to a BMD were in Georgia, the states of Pennsylvania and South Carolina actually saw more Election Day voters make the transition from DREs to BMDs on Election Day.

The widespread use of DREs without a VVPAT on Election Day in 2020 was confined to six states, Indiana, Louisiana, Mississippi, New Jersey, Tennessee, and Texas. Efforts are underway in all of these states to transition away from these machines to DREs with VVPATs, BMDs, or hand-marked scanned ballots, although some are moving more quickly than others.

Early voting has different functional needs for ballot marking and tabulation than Election Day voting in most places. A central administrative challenge with early voting is delivering the correct ballot to a voter, since most states allow early voters to use any early voting center in the local jurisdictions. For jurisdictions that administer early voting using hand-marked ballots, this requires either that each vote center have a

supply of paper ballots ready at each site to be "picked and pulled" for each voter, or that a ballot be printed for the voter "on demand." A jurisdiction that relies on either DREs or BMDs can simply give the voter an electronic card to be inserted into the voting device to display the proper ballot style. After the voter has cast the ballot, it is either simply recorded by the device (DRE) or printed out for scanning (BMD).

There has been a slight preference for using DREs and BMDs for early voting in recent years, which showed up in the statistics for both 2016 and 2020. In 2016, 49.6 percent of early voters used either a DRE or BMD (compared to 41.9 percent of Election Day voters). The percentage of early voters using DREs or BMDs remained virtually unchanged in 2020 (50.7 percent), even though the share of Election Day voters using these technologies fell to 31.9 percent. (See Table 7-3.)

This reliance on DREs and BMDs in early voting is also evidenced in the migration path of the technologies used in early voting from 2016 to 2020. First, early voters in 2016 who cast ballots on DREs without VVPATs were more likely to do so again in 2020 than voters who had previously cast Election Day votes on these machines. (In other words, there was less migration away from DREs without VVPATs for early voting than for Election Day voting.) Furthermore, if the voting equipment did change for former users of DREs without VVPATs for early voting, it was more likely to be toward BMDs, not optical scanning.

Table 7-3. Use of voting machines for early voting, 2016 and 2020 (Weighted by number of early voters)

Type	2016	2020
DRE, no VPAT	34.5%	12.0%
DRE, VVPAT	11.5%	3.1%
BMD	3.6%	35.6%
Optical scan	50.3%	49.3%
Hand counted	0.1%	0.0%

Data sources: Verified Voting (voting technology use); Election Administration and Voting Survey (early voting turnout).

Table 7-4. Transition in early voting. (Weighted by the number of 2020 early voters)

	2020				
2016	DRE, no VVPAT	DRE, VVPAT	BMD	Opscan	Hand
DRE, no VVPAT	40.5%	0.0%	57.2%	2.4%	0.0%
DRE, VVPAT	0.0%	32.0%	38.6%	29.4%	0.0%
BMD	0.0%	0.0%	99.8%	0.2%	0.0%
Opscan	0.9%	0.2%	22.1%	76.8%	0.0%
Hand	0.0%	12.8%	0.0%	34.9%	52.3%

Data sources: Verified Voting (voting technology use); Election Administration and Voting Survey (Election Day turnout).

The use of touchscreen devices (DREs and BMDs) vs. hand-marked optical scanning seems to have been determined mainly by state factors, and only secondarily by the size of the jurisdiction. For instance, among the largest twenty jurisdictions (in terms of the number of early votes) that used a touchscreen device for early voting, nineteen were in states (Texas, Nevada, North Carolina, Georgia, and Tennessee) where touchscreen devices are common for Election Day voting, as well.[5] Among the twenty largest jurisdictions that used optical scanners, only one (Denton County, Texas) was from a state where touchscreen devices are common for Election Day voting.

Finally, assisting with the in-person voting experience are poll books. Local jurisdictions have been transitioning to the use of electronic poll books (EPBs) for the past decade, in an effort to speed up the check-in process and to take advantage of other functions of the devices, such as the ability to look up the polling location of a voter who has shown up at the wrong precinct and the ability to update address changes on the spot.

Here, we use the information in the Election Administration and Voting Survey (EAVS) about poll book use to plot out the evolution of EPB use. Unfortunately, the EAVS does not distinguish between poll books used to check in Election Day and early voters. Therefore, here we simply focus on the use of electronic poll books, regardless of whether they were used on Election Day or during early voting.

5 The exception was Los Angeles County, California.

Nearly one-third of all jurisdictions, representing over two-thirds of all in-person voters, used EPBs in 2020. (Table 7-5). Viewed another way, the number of jurisdictions using EPBs nearly doubled since 2016, while the number of registered voters in jurisdictions that use EPBs increased by over fifty percent.

Table 7-5. Use of EPBs, 2016 and 2020

	2016	2020
Jurisdictions	18.4%	30.8%
Weighted by registered voters	48.3%	75.5%

Data source: Election Administration and Voting Survey.

The 2020 election represented the diffusion of EPBs from large jurisdictions down even to jurisdictions with between 1,000 and 10,000 voters (Table 7-6.) In 2016, just over half of jurisdictions with more than 100,000 voters used EPBs. In 2020, that rose to nearly three-quarters. Among jurisdictions with fewer than 100,000 registered voters, the percentage of jurisdictions using EPBs rose from one in eight to one in five.

Table 7-6. Who transitioned to EPBs

Number of registered voters	Pct. switching	Number of jurisdictions	Pct. already EPB	Pct. with EPB in 2020
< 1000	0.0%	1,735	0.3%	0.3%
1,000 - 9,999	11.1%	1,890	9.9%	21.4%
10,000 - 99, 999	33.5%	1,029	39.4%	58.5%
100,000 - 999,999	39.5%	152	57.2%	71.9%
1,000,000 or more	82.4%	17	39.3%	86.7%

Data source: Election Administration and Voting Survey.

As with technology used in early voting, the use of electronic poll books is strongly related to the state in which a jurisdiction is located. In 2020, 28 of the states, plus the District of Columbia, either used EPBs in all jurisdictions, or in none. That number grows to 35 if we draw the line at 90 percent of jurisdictions using one technology in the state. The expansion of EPBs in the future would seem to be more in the hands of state policymakers than in the hands of local officials.

ABSENTEE AND MAIL VOTING TECHNOLOGY

The nation's shift from in-person to mail balloting imposed significant logistical challenges on local election officials. Part of that challenge was met by purchasing or leasing equipment to process mailing and receiving back mail ballots. The other part of the challenge was handled through the technology used to tabulate mail ballots.

Even before the 2020 election, the great majority of jurisdictions used high-speed "batch" scanners to process their mail ballots. (See Table 7-7.) The pandemic pushed the use even further.

In 2016, for instance, 81.4 percent of mail voters had their ballots counted by a high-speed scanner. In 2020, that rose to 86.6 percent. Over half of jurisdictions that had used hand-fed scanners to process mail ballots in 2016 (weighted by the number of mail ballots) shifted to batch scanners in 2020. In addition, even most jurisdictions that had previously counted mail ballots by hand moved to batch processing in 2020. (See Table 7-8.)

Table 7-7. Use of optical scanning for absentee ballots, 2016 and 2020. (Weighted by number of mail ballots)

Method	2016	2020
Hand-fed	16.5%	12.5%
High-speed "batch"	81.4%	86.6%
Hand counted	0.5%	0.3%
Mix / other	1.6%	0.7%

Data sources: Verified Voting (voting technology use); Election Administration and Voting Survey (early voting turnout).

Table 7-8. Transition from hand-fed to high-speed (Weighted by the number of mail ballots in 2020).

	Method in 2020			
Method in 2016	Hand -fed	High speed "batch"	Hand counted	Mix / other
Hand-fed	41.6%	57.9%	0.0%	0.5%
High speed "batch"	2.2%	97.8%	0.0%	0.1%
Hand counted	11.6%	52.2%	33.9%	2.3%
Mix / other	10.5%	28.7%	0.0%	60.8%

Data sources: Verified Voting (voting technology use); Election Administration and Voting Survey (early voting turnout).

In anticipation of the increased burden of counting mail ballots, most larger jurisdictions that did not already have batch scanners switched in 2020 (Table 7-9). For the 2020 election, 85.3 percent of all jurisdictions with more than 100,000 voters, representing 79.3 percent of all mail ballots, used central, batch scanners. This compares to 62.7 percent of these jurisdictions in 2016, representing 80.2 percent of mail ballots.[6]

Table 7-9. Who transitioned from hand-fed to high speed from 2016?

Size of jurisdiction in 2020	Pct. switching	Number of jurisdictions[a]	Pct. in category already batch scanning	Pct. in category with batch scanning in 2020
< 1000	4.2%	71	0.4%	0.6%
1,000 - 9,999	11.5%	1,230	12.0%	19.6%
10,000 - 99, 999	26.3%	1,303	19.0%	37.1%
100,000 - 999,999	79.1%	139	60.9%	84.2%
1,000,000 or more	100.0%	3	86.2%	100.0%

Data sources: Verified Voting (voting technology use); Election Administration and Voting Survey (number of registered voters)

[a]Number of jurisdictions without high-speed scanning in 2016.

As with the other technology choices discussed in this chapter, although size of jurisdiction had a significant influence on whether batch scanners were used, an even more considerable influence was the state in which the jurisdiction was located. In nineteen states, either all ballots were counted by batch scanners, or none were. Expanding the threshold a bit, in 32 states, either fewer than 10 percent or more than 90 percent of jurisdictions used batch scanners. The states in the middle, where jurisdictions have more discretion, were where mail-ballot volume influenced what type of scanner was used.

The use of scanner type matters primarily in terms of staff time and counting speed. As discussed above in Chapter 5 (Tabulation), allowing pre-processing of absentee ballots was strongly associated with counting mail ballots quickly. If a jurisdiction has days or weeks to scan absentee ballots, tabulating mail ballots rapidly may not be associated with the type of scanner used.

CONCLUSIONS AND TAKEAWAYS

Because adapting to voting during the pandemic so dominated the news about the administration of the 2020 election, little note was made of the fact that 2020 represented the biggest change in how votes were counted in at least two decades. The confluence of two trends, an acceleration of the retirement of DREs and the significant shift to mail voting, means that more ballots were cast on paper in the past half-century or more.[7] Complications associated with increased

6 The fact that the fraction of larger jurisdictions using central scanning increased substantially but their share of mail ballots did not indicates that the jurisdictions that acquired central scanning capacity saw a bigger surge in the number of mail ballots in 2020 than jurisdictions that were already centrally scanning them. Among jurisdictions switching from hand- to batch-fed scanners, the volume of mail ballots rose 174 percent, compared to the 110 percent increase among those that already had batch scanners. However, it should be noted that among the jurisdictions with more than 100,000 registered voters that did not switch over to batch scanning, the volume of mail ballots increased 260 percent.

7 This claim relies on the fact that from the 1960s through the 1980s, the modal way of casting a ballot in the U.S. was on mechanical lever machines. Very few ballots were cast absentee until the 1990s. Therefore, it has not been since the widespread adoption of mechanical lever machines in

in-person early voting and the implementation of voter identification laws spurred the continued migration to electronic poll books. Finally, the deluge of mail ballots resulted in many local jurisdictions switching to high-speed batch scanners to handle the volume.

The explosion of mail ballots had other technological consequences that have not been addressed in this chapter because information is not so easy to gather on a systematic basis. We refer here especially to equipment necessary to automate mail balloting, both sending and receiving. In addition, services associated with the technologies used were often under stress because of supply chain issues, such as ink and paper shortages. These stresses were of the type that afflicted the economy as a whole; it is important to recall that planning for an executing the election was subject to these stressors, too.

By way of concluding this chapter, we offer the following three observations related to takeaways and lessons learned.

1. ***The 2020 election showed the importance of paper ballots that can be independently audited.*** DREs, especially those without a VVPAT, have been criticized for decades for having no direct way for the voter to see if the cast ballot reflected the choices he or she made and for being impossible to audit independently. The 2020 election, and especially the period after November 3, showed the value of paper ballots and the related importance of auditing them.

   Georgia offers the object lesson in this regard. No state has been criticized more for using paperless DREs for nearly two decades; 2020 was the first year that large elections had been run on the new statewide Dominion machines, a ballot-marking device (BMD) for in-person voting. When controversy arose about the integrity of the election result in the Peach State, the paper ballots could be tabulated and then hand-recounted to verify the results announced on Election Day. As controversial as the post-election period was in Georgia, it is easy to imagine that the election result would have been subject to even more savage attacks had voting occurred on the previously used ES&S AccuVote TS.

   We emphasize here the post-election audit played in assuring the public that the tabulated result was in fact correct. While a case has been made that the hand recount held under the Georgia RLA statute was not strictly a risk-limiting audit,[8] it functioned as a method to give public assurance, and certainly more assurance than would have been given if the ballots were simply rescanned or the total from the memory cards re-computed. Not all segments of public opinion have been convinced by the evidence presented in Georgia (See Chapter 9), but there would have been more reasons for doubt had a hand recount been impossible.

2. A priority needs to be placed on understanding the conditions under which mistakes on BMDs can be spotted by voters. While praising the migration to scanned paper ballots, we cannot help but note the controversy that has arisen over ballot-marking devices (BMDs) which in many cases are taking the place of DREs. BMDs offer accessibility advantages over hand-marked paper ballots and provide flexibility when used in jurisdiction-wide early vote centers. However, the paper ballot that is produced is often a "choices only" document that contains less information than the original ballot itself.[9] This has led to intense debate among the computer science, usability, and security worlds about whether voters would actually spot an error or incorrect marking on the ballot if one were made.[10] Because of the importance of the tradeoffs involved, of security and usability, the entire elections community has an interest in better understanding whether voters actually do verify their choices on BMDs and how the verification rate might be increased.

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the mid-twentieth century that ninety percent of ballots were cast on paper, as they were in 2020.

8 Timothy Pratt, "Why Georgia's Unscientific Recount 'Horrified' Experts," The Nation, November 20, 2022, https://www.thenation.com/article/politics/georgia-recount/ (last accessed August 2, 2021).

9 A "choices only" ballot only contains a list of the offices and choices the voter made, omitting altogether the list of names on the ballot the voter did not choose, including candidates for offices the voter may have skipped altogether.

10 C.f. Matthew Bernard, et al., "Can Voters Detect Malicious Manipulation of Ballot Marking Devices?" 2020 IEEE Symposium on Security and Privacy, DOI 10.1109/SP40000.2020.00118. and Philip Kortum, Michael D. Byrne, and Julie Whitmore, "Voter Verification of BMD Ballots Is a Two-Part Question: Can They? Mostly, They Can. Do They? Mostly, They Don't," *Election Law Journal 2020* (ahead of print), https://www.liebertpub.com/doi/pdfplus/10.1089/elj.2020.0632 (last accessed August 2, 2021).

3. Centralized high-speed scanning of mail ballots should be more common as voters increasingly vote by mail. As we discuss below in Chapter 9, the volume of mail ballots had a significant and measurable effect on slowing down the vote count in some states. Some practices unrelated to technology, such as the ban on preprocessing mail ballots, certainly play a role. However, automation could also help to speed up the tabulation of mail ballots. Many states that saw a big surge in mail ballots, such as Massachusetts and Wisconsin, still predominantly scanned their ballots in their Election Day polling places, whereas other states centrally counted their mail ballots using scanners intended for in-precinct use. Distributing mail ballots back to polling places splits up the work and may in fact be a low-tech solution to scanning mail ballots using one-ballot-at-a-time precinct scanners. Nonetheless, high-speed scanners can speed up mail ballot counting substantially without sacrificing accuracy.

CHAPTER 8: VOTER REGISTRATION

As many things as you can do electronically. Our state came out in the midst of this with an electronic department of motor vehicles voter registration process where, if you had a driver's license, you could register online. That just saved thousands and thousands of hours of my staff doing the data entry for your voter registration. You're doing the data entry. It comes in. It verifies. We get it in. We process it and send you a voter card. That was great. We used to get 50,000 of these on the last week. And you're trying to plug them all in before you start printing poll books.[1]

+ + +

By the time the general hit, PPE product was easy to come by. Our biggest challenge because of the pandemic was a lawsuit. A judge allowed our voter registration cut-off to continue past our regular cutoff date. So, when we normally would have been checking signatures and processing early ballots, we were still processing voter registrations. There was a counter lawsuit that stopped that, but we lost almost two weeks there. We were having a very tough time getting them processed in our normal time because, again, we were still doing voter registration during the time period we were having ballots flow in by the thousands, a day, and at the same time doing voter registration. So, that was our biggest challenge.[2]

An underappreciated challenge to the 2020 election was voter registration. Many new registrations occur in person, either through voter registration drives or visits to departments of motor vehicles. With social distancing mandates and curtailed hours of motor vehicle departments, opportunities for registration were reduced in parts of the country, at least during the spring. At the same time, some states either shifted to online registration or had developed that capacity in recent years, which offered a means to overcome in-person registration barriers.

This chapter reviews the evidence about registration levels in this election, discusses the degree to which the pandemic may have reduced registration levels in some parts of the country, and the degree to which registration activity rebounded in the fall.

With the exception of North Dakota, a citizen must be registered in order to vote. For much of the country, this registration must occur before Election Day, but in 2020, 29 states and the District of Columbia, accounting for 40 percent of turnout, allowed at least some form of voter registration on Election Day or during early voting.

Voters and election administrators faced at least two novel challenges to registration in 2020 on account of the COVID-19 pandemic. For states without Election Day registration, COVID-19 restrictions blocked many registration pathways. For states with Election Day registration, the challenge was getting those who preferred to vote by mail on the rolls so that they could request a ballot.

In the end, the number of registered voters reached a historic high, as did the number of voters. Therefore, it is hard to argue that registration restrictions caused a dramatic dip in registration levels. However, there is evidence that COVID-related restrictions may have caused a slow-down in registration levels during the spring, even though they bounced back later in the year. Furthermore, there was likely a shift in registration modalities, from in-person methods to remote methods, particularly registration online.

REGISTRATION LEVELS

As with voter turnout, registration levels reached new heights in 2020. Table 8-1 provides basic information about the number of registered voters in 2016 and 2020. Using all the data reported in the Election Administration and Voting Survey (EAVS), the total number of registered voters rose by 6.5 percent, from 214.1 million in 2016 to 228.0 million in 2020. The number

1 Comments of Michael Dickerson, U.S. Election Assistance Commission, "2020 Lessons Learned with Brenda Cabrera and Michael Dickerson," YouTube video, 1:00:04, July 21, 2021, https://youtu.be/Lm-z0vYe2pg, at 52:35. Comments edited for brevity and clarity.

2 Comments of Leslie Hoffman, Yavapai County, Arizona County Recorder, U.S. Election Assistance Commission, "2020 Lessons Learned with Leslie Hoffman and Gabrielle Summe," YouTube video, 50:10, July 2, 2021. Comments edited for brevity and clarity.

of voters in active status grew by 12.8 percent (185.7 million to 209.4 million) while the number of new valid registration forms grew 15.6 percent, from 28.9 million to 33.4 million.

For context, the size of the voting-eligible population grew by 3.6 percent over the same period, which means that growth in these registration statistics outpaced that of the eligible population by multiples of between two and four.

Table 8-1. Registration statistics, 2016 and 2020

	All Reporting			Jurisdictions Reporting Both Years		
	2016	2020	Change	2016	2020	Change
All registration	214,109,367	228,004,364	6.5%	213,852,779	227,189,641	6.2%
Active registration	185,714,229	209,441,338	12.8%	185,466,927	199,199,461	7.4%
New regsitrations	28,935,330	33,436,348	15.6%	28,696,901	32,515,576	13.3%

Source: Election Administration and Voting Survey.

As is true with almost all items in the EAVS, there was missing data in both 2016 and 2020, therefore the aggregate statistics just reported may not accurately reflect growth on an "apples-to-apples" basis. To address the missing data issue, we recalculated the statistics in Table 8-1, this time confining ourselves only to local jurisdictions that had non-missing data for the relevant items in both 2016 and 2020. This reduces the totals a small amount, along with the percentage change calculations, but the substance of the conclusion remains unchanged: growth in voter registration from 2016 significantly outpaced growth in the eligible population.

The volume of Same/Election-Day registration (EDR) also grew from 2016 to 2020, despite the fact that the number of people voting on Election Day actually declined. Part of this growth was due to the expansion of EDR into a number of states for the 2020 election, but not entirely. In 2016, eighteen states, accounting for 21 percent of turnout, had some form of Election-Day or Same-Day registration. In 2020, this had expanded to twenty-nine states with 40 percent of turnout.

Overall, the number who registered when they voted nearly quadrupled in 2020, from 1.3 million in 2016 to 5.0 million in 2020. This more-than-three-fold growth in Same/Election-Day registrations outstripped the growth in the number of states offering the opportunity, of course. Just among the states that had had EDR in 2016, the number who both registered and voted rose from 1.3 million to 3.5 million; states that started allowing registration and voting simultaneously after 2016 saw 1.5 million people register and vote at the same time in 2020.[3]

REGISTRATION LOCATIONS

The modes that voters use to register continued to evolve in 2020, no doubt spurred by the challenges of the pandemic. Recent years have seen a steady expansion of opportunities to register online. That expansion continued in 2020, but what really changed was the degree to which voters took advantage of the opportunity.

This section discusses where new voters registered.[4] In this discussion, it is important to remember that most of the business transacted on voter registration rolls pertains to changes to records. In the 2020 electoral cycle, although 30.8 percent of all registration

3 In 2016, the EAVS did not distinguish between simultaneously registering and voting during the early voting period and on Election Day itself. It did in 2020. The EAVS data suggest that 87 percent of those who simultaneously registered and voted did so on Election Day.

4 The analysis here differs from that provided in the 2020 EAVS Comprehensive Report because the Comprehensive Report analyzes all registration forms received, including forms to update registrations, which is the majority of forms processed through the registration system. Despite focusing on the registration process differently, the proportion of forms received at different locations — both all forms and just those for new registrations — was equivalent.

forms were from new registrants, 49.6 percent were from current registrants changing a name, party, or address.[5]

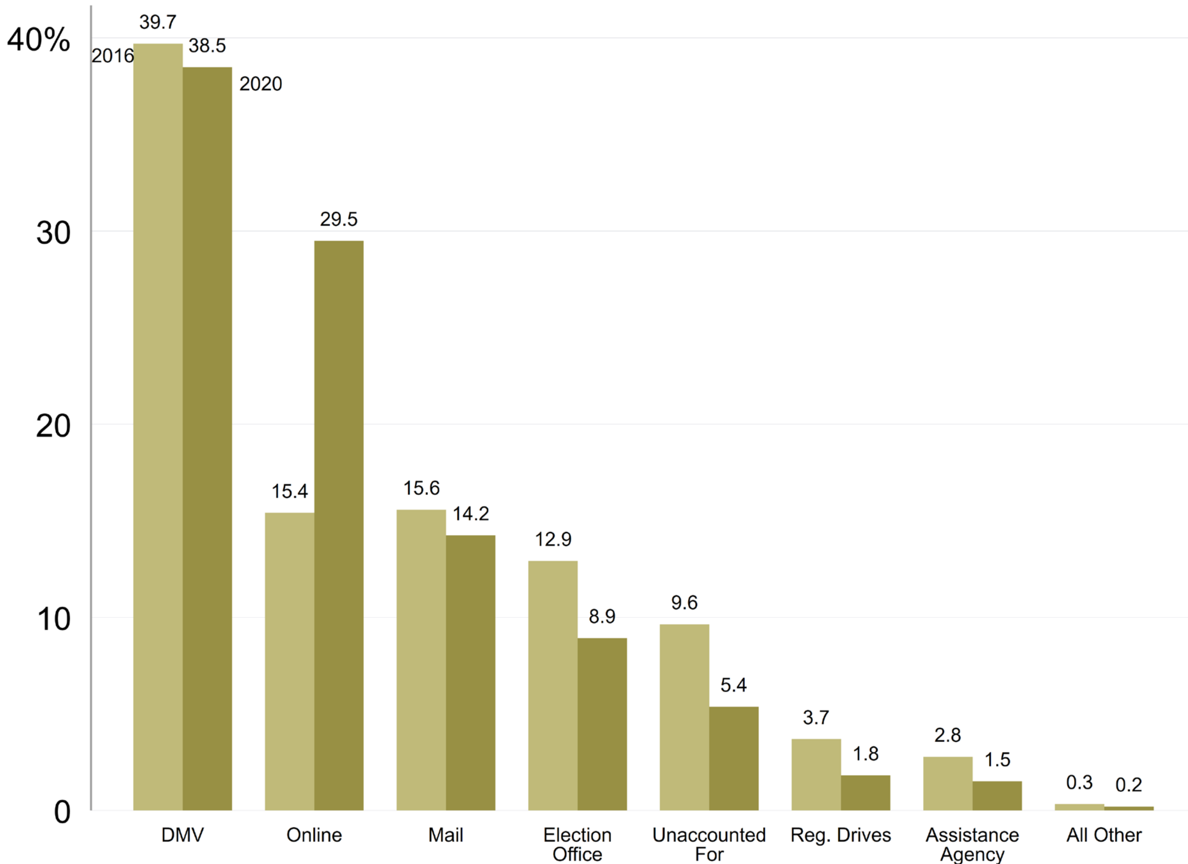
The comparable figures for 2016 were 37.4 percent and 49.0 percent.[6] Because the EAVS does not capture data about the source of changes to voter registration records, therefore, we focus here solely on new registrations.

The number of states offering some form of online voter registration climbed to 40 in 2020, compared to 28 in 2012 and 34 in 2016. However, as Figure 8-1 indicates, the fraction of new voter registrations received via an online portal doubled, from 15.4 percent in 2016 to 29.5 percent in 2020. In raw numbers, the number of new registrations online rose from 4.3 million to 9.5 million.

5 These statistics were calculated based on jurisdictions that reported a full set of statistics for both 2016 and 2020, and for which the total of the sub-categories of registration forms equaled the sum of all forms reported by the jurisdiction both years.

6 The remaining forms were primarily invalid/rejected or duplicates.

Figure 8-1. New Registration by Location, 2016 and 2020.



Source: Election Administration and Voting Survey.

Every other location of new registrations saw a percentage decline in 2020. With the exception of departments of motor vehicles, registrations that entailed a face-to-face encounter saw a significant drop compared to 2016. New registrations received through third-party drives and public assistance agencies dropped by half. New registrations received directly at the election office declined by four points, or by about one-third in absolute numbers.

These statistics suggest that the shutdown of most face-to-face business transitions, including interactions with government agencies, had a significant effect on how voters were registered. Florida's experience with voter registration provides one illustration

of this dynamic.[7] Simply comparing calendar years 2016 and 2020, we see that the total number of registrations reported by the Florida Secretary of State grew by 10 percent, or 96,000 in raw numbers.[8] Yet, with the exception of online voter registration, which had not been in effect in 2016, the number of registrations from every other source declined, and in most cases, quite dramatically.

Table 8-2. Cumulative registrations by source in Florida through October 2016 and 2020.

			Difference	
	2016	2020	Number	Pct.
DHSMVV (Department of Highway Safety and Motor Vehicles)	397,226	351,860	-45,406	-11%
Mail	243,047	146,157	-96,890	-40%
Public Assistance Aencies	6,611	1,324	-5,287	-80%
Disability Agencies	431	98	-333	-77%
Armed Forces Recruiters	280	151	-129	-46%
Public Libraries	23,539	5,360	-18,179	-77%
Third-Pary Registration	166,964	59,734	-107,230	-64%
Supervisors of Elections	154,624	76,804	-77,820	-50%
Online Voter Registration (OVR)	0	447,210	447,210	NA
Total	992,762	1,088,698	95,936	10%

Source: Florida Secretary of State, https://dos.myflorida.com/elections/data-statistics/voter-registration-statistics/voter-registration-reportsxlsx/.

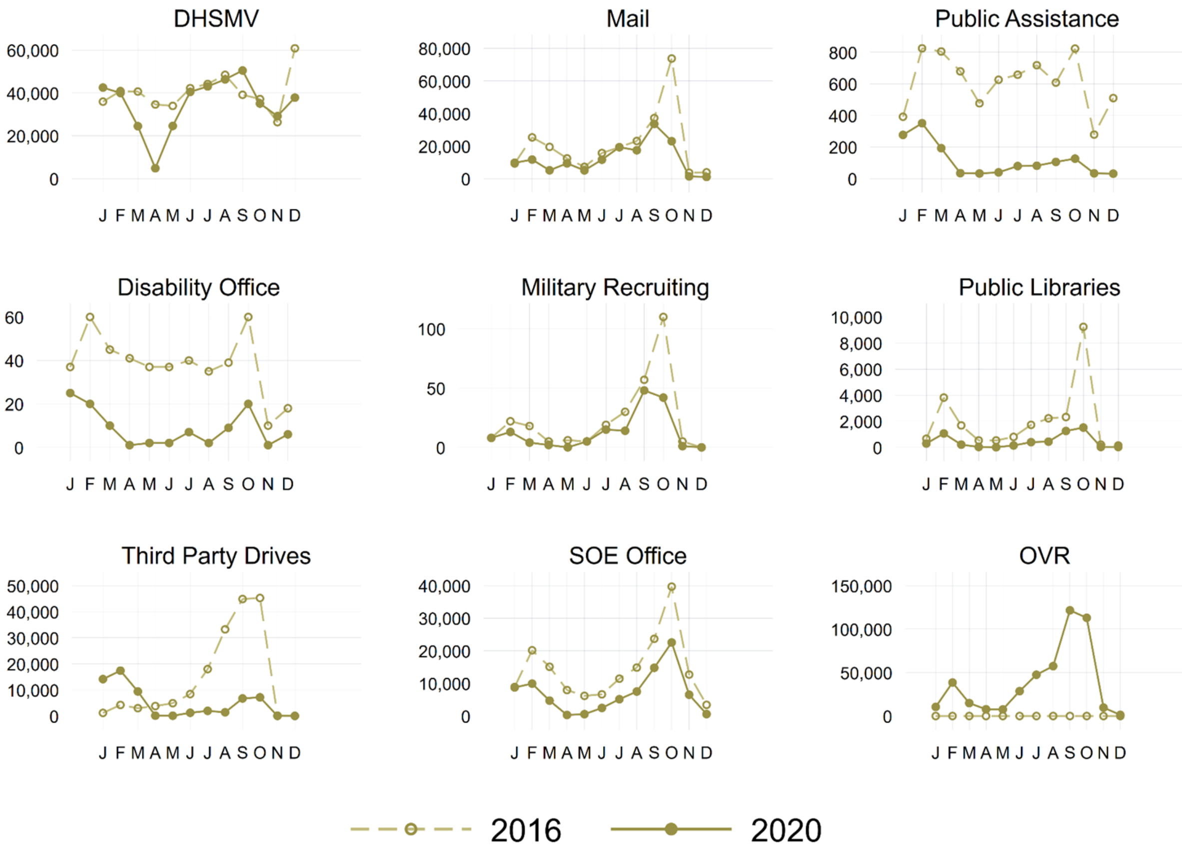
Mail-in registrations dropped by 40 percent, which may represent a simple substitution of methods among those who chose to register remotely on their own. Registrations in government offices that had limited-to-no direct contact with the public after public health shutdown protocols went into effect were depressed significantly, down 80 percent among public assistance agencies, 77 percent among disability agencies, 46 percent in armed forces recruitment office, 77 percent in public libraries, and 50 percent in offices of the supervisors of elections. Finally, third-party registrations, which depended on canvassing door-to-door or approaching people in public places, fell by nearly two-thirds.

The effect of the pandemic on the timing of voter registrations in the Sunshine State is especially apparent when we break down the statistics by month, as we do in Figure 8-2. The shutdown of the Florida Department of Highway Safety and Motor Vehicles (DHSMV) is apparent, as the number of registrations recorded at those offices plummeted in March, fell to nearly zero in April, and did not return to 2016-levels again until June. (The end-of-year spike in DHSMV registrations occurred after the election, in December.)

7 Florida was chosen as an example because it provides detailed statistics on the location of voter registrations on a monthly basis and has a large and diverse voter population.

8 For context, the voting-eligible population of Florida grew 6.5 percent.

Figure 8-2. Monthly sources of registration in Florida, 2016 and 2020.

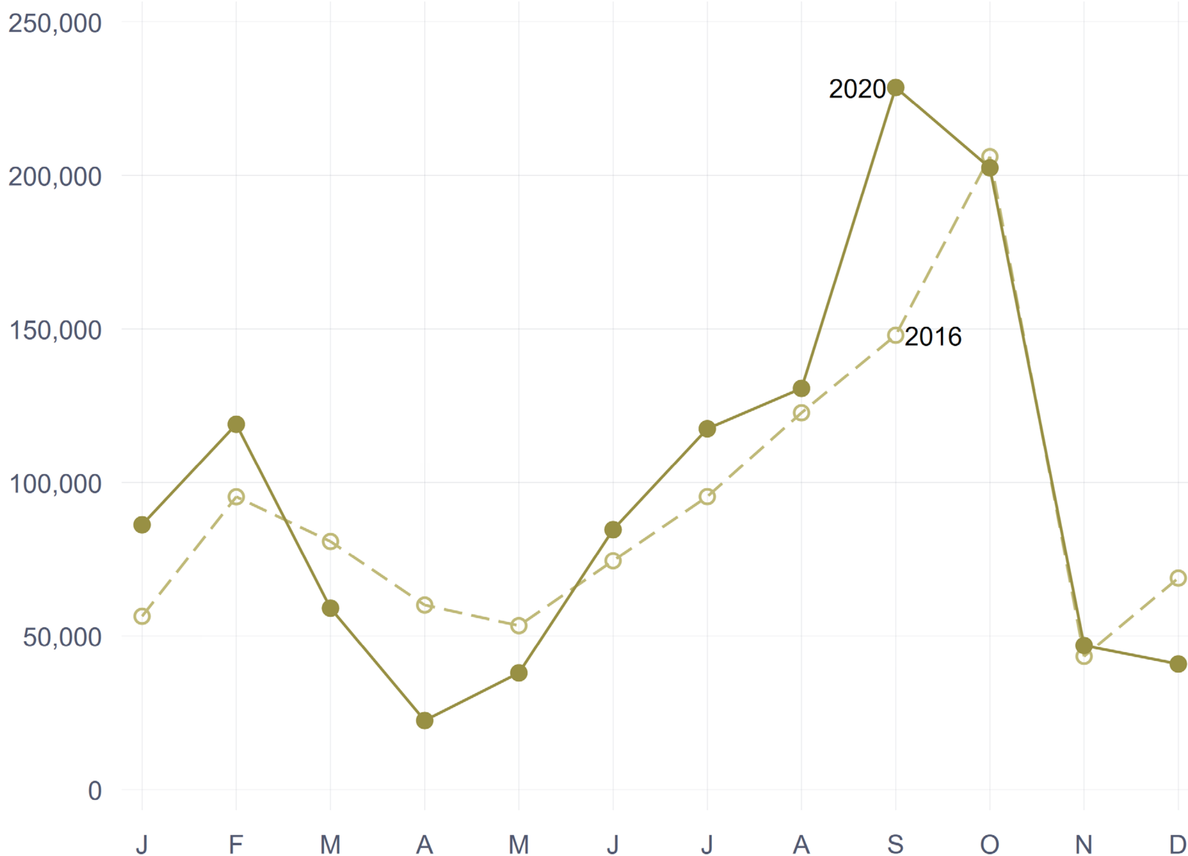


Source: Florida Secretary of State, https://dos.myflorida.com/elections/data-statistics/voter-registration-statistics/voter-registration-reportsxlsx/.

Also of interest is the fact that registrations from third-party sources vastly outpaced what was witnessed in 2016 in January and February. Once in-person restrictions were in place, new registrations coming directly from voter registration drives never came close to the volume seen in 2016. In contrast, the pace of registrations received online clearly picked up the slack as the general election approached.

The result for Florida is evident in Figure 8-3, which shows the total number of registrations in the state by month. New registrations via OVR did not make up for the lack of new registrations from the DHSMV in March, April, and May. By summer, however, registrations were again outpacing 2016. Of particular note, the peak in registrations occurred in September, not October, which was the case in 2016.

Figure 8-3. Total monthly registrations in Florida, 2016 and 2020.



Source: Florida Secretary of State, https://dos.myflorida.com/elections/data-statistics/voter-registration-statistics/voter-registration-reportsxlsx/.

We have focused here on Florida because its detailed reporting of voter registration sources distinguishes it from most other states. However, there is evidence suggesting that the patterns seen in Florida were seen elsewhere. The Center for Election Innovation issued a report in September 2020 that documented how voter registration rates in a dozen states with easily accessible voter registration data slowed down in April and May, with most beginning a rebound in the summer.[9]

SOURCES OF REGISTRATION BY AGE

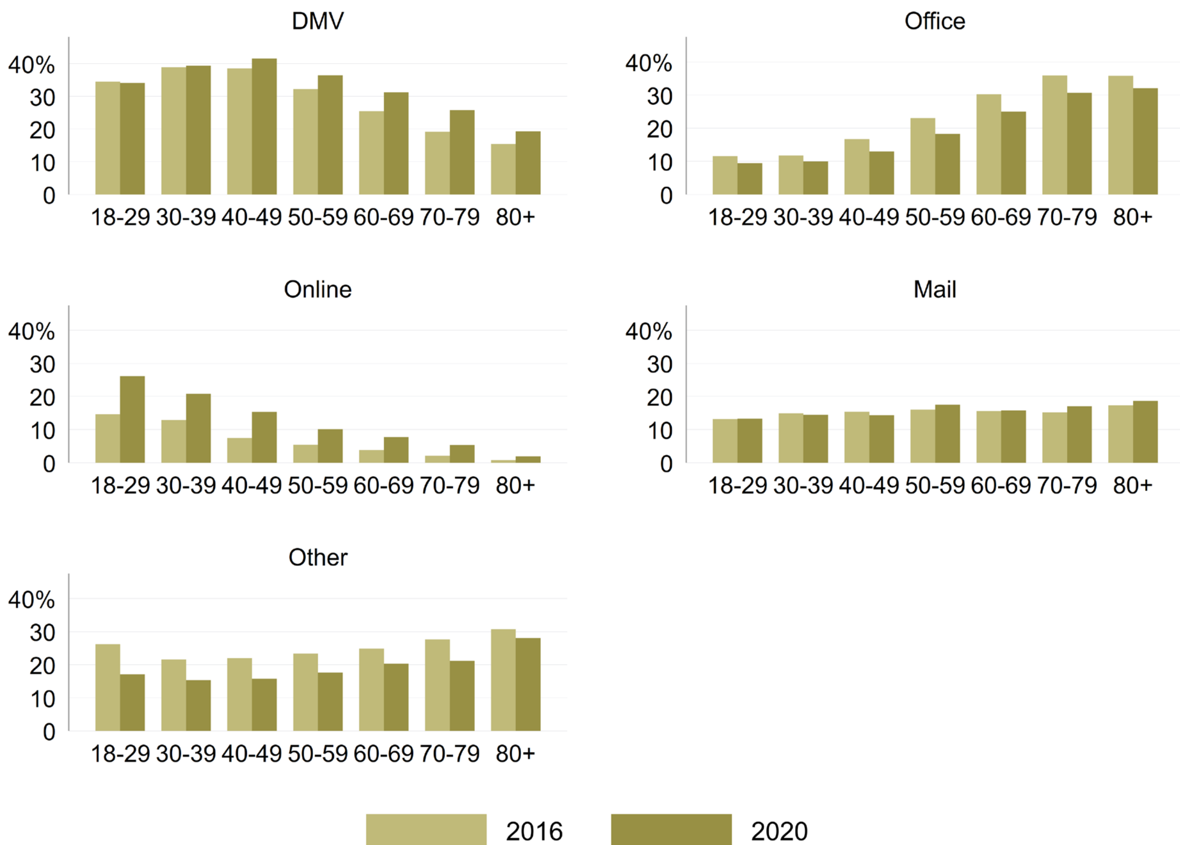
Registration activities are primarily devoted to three major purposes, registering new voters; updating records of those who move or change their name or party affiliation; and removing those who die. By definition, new registrations are the portal through which new voters enter the electorate; of course, most of these new voters are also young. In the 2020 Survey of the Performance of American Elections, for instance, half of those identifying as first-time voters were 24 or younger, and three-quarters were 33 or younger.

The data we reviewed above suggest that online registration became much more important in 2020, both because of limited opportunities to do so in person or because of expanded availability. A question naturally arises about whether the shift in registrations to the Internet is also related to the fact that new registrants tend to be younger and more "tech-savvy."

Evidence gleaned from the November Voting and Registration Supplement (VRS) suggests the answer is "yes." In Figure 8-4, we have used data from the 2016 and 2020 VRS to calculate the distribution of registration locations for respondents to the survey, by age of the voter. These answers also are consistent with a shift toward online registration in 2020, but especially among the youngest voters.

9 Center for Election Innovation and Research, "New Voter Registrations in 2020," September 22, 2020, https://public.tableau.com/views/NewVoterRegistrationstest/NewVoter-Reg_Table?:language=en&:display_count=y&:origin=viz_share_link.

8-4. Reported Registration Methods in 2016 and 2020, by Age of Voter.



Source: U.S. Census Current Population Survey, Voting and Registration Supplement, 2016 and 2020.

Because political interest was up in 2020 among young voters, it is reasonable to assume that had online registration not become more prevalent, first-time young voters would have found other ways to register. Fortuitously, the demands of social life under the pandemic were met with an important innovation in election administration that lowered the barriers to voting among young people.

CONCLUSION AND TAKEAWAY

The challenges associated with voter registration during the pandemic were less public than issues of voting by mail and in-person, but they were real. The coincidence of the pandemic's initial spread with the presidential primary season provided a warning that first-time voters and those who needed to update their registration records might face struggles come November. In the end, voter registration hit historic highs that accompanied the historic turnout levels.

Voters who needed to register or update their registration were assisted by several trends. The most important was the expansion of opportunities to register online, which millions of new voters took advantage of.

If there is one lesson learned related to voter registration in the 2020 election, it is this: ***voters and administrators benefit when there are multiple, fail-safe methods to register.*** Being able to register online is an obvious tool that brings flexibility to the system and provides a safe way for new voters to register without encountering large crowds.

CHAPTER 9: VOTER CONFIDENCE

It's clear that we are in a period in American history where there are a lot of individuals who just want to believe the information that they've been given and not actually check to make sure that that's true. We have a lot of work to do on that front. To my mind, the biggest challenge that we are going to face in the years to come is making sure that Americans know and understand our election process and have trust and faith in it, to be able to adapt to those issues, and to be able to learn how to talk with folks and communicate with them and make sure that this information is available in an easily understandable way. We're talking about complex issues that are not often black or white, or easy to understand.[1]

+ + +

From my perspective, the biggest challenge moving forward is how do you recreate the confidence in our elections from that segment of the population that has lost trust or lost faith. I want to be clear that this just didn't happen in the last six months or three months. I've got a unique perspective from being here in Florida. We've seen it since 2000. This is not something that has started overnight. This is not the first time that candidates on the losing end of an election have thrown everything at the sun to try to undermine confidence in the results of the election. . . . The scale is vastly different and the consequences are different, but that is something that we have to be very concerned about. Ultimately, the foundation of our democracy is that we have the consent of the governed and the governed have confidence in the elections and the peaceful transfer of power. So,we can invest in equipment and people and things like that, but we have to make sure that as an end goal that we can walk away and be able to communicate to our constituents that they should have confidence in the election. It's not always going to be perfect. Your candidate's not always going to win, but at the end of the day, was it as fair as it could be, and let's move on to the next election.[2]

The purpose of elections in a democracy is to choose leaders and demonstrate to the public they were chosen fairly. American election administration is organized around the principle that if the rules are specified ahead of time, treat all candidates and their supporters the same, and are applied competently and fairly, then the public will accept the legitimacy of the outcome.

This idea of producing legitimate elections is sometimes expressed in terms of "voter confidence." Threats to voter confidence arise when the rules of the game shift unexpectedly, are tilted in favor of one candidate or the other, or are implemented inexpertly or without transparency.

Questions of voter confidence rose to prominence once again in the 2020 election. Threats to confidence abounded. The root of those threats was controversy over how to respond to the emergency presented by the pandemic. The need to shelter-in-place and socially distance made long-established electoral practices — practices that had been developed to instill voter confidence — impracticable or even dangerous. Uncertainty about the course of the pandemic prompted shifts in election policy that were sometimes made at the last minute. Controversy arose over whether accommodations would be short-term or permanent. Uncertainty arose over the authority of executive officials to invoke emergency powers to implement accommodations.

All of this occurred amid a polarized political environment in which members of the two parties already held opposed opinions about election administration policy even before the pandemic hit and in which the political strength of the two parties was equally matched nationwide. The unfolding pandemic deepened these partisan divisions even further.

The result for voter confidence is both surprising and in keeping with recent partisan divisions over government policy in general. It is surprising because, despite heightened disagreements over election administration, overall confidence in the election went up, not down. However, the overall increase in confidence

1 Comments of Maggie Toulouse-Oliver, U.S. Election Assistance Commission, "2020 Lessons Learned," YouTube video, 1:01:28, March 9, 2021, https://youtu.be/Lm-z0vYe2pg, at 52:07. Comments edited for brevity and clarity.

2 Comments of David Stafford, Supervisor of Elections, Escambia County, Florida, Ibid., at 54:58. Comments edited for brevity and clarity.

occurred among a record level of disagreement between Democrats and Republicans over how confident one should be about the conduct of the election. In the end, the increase in Democratic confidence outweighed the decline in confidence among Republicans. This helps explain the paradoxical bottom-line result: overall confidence went up even though partisan disagreement about whether the rules of the election were fair also increased.

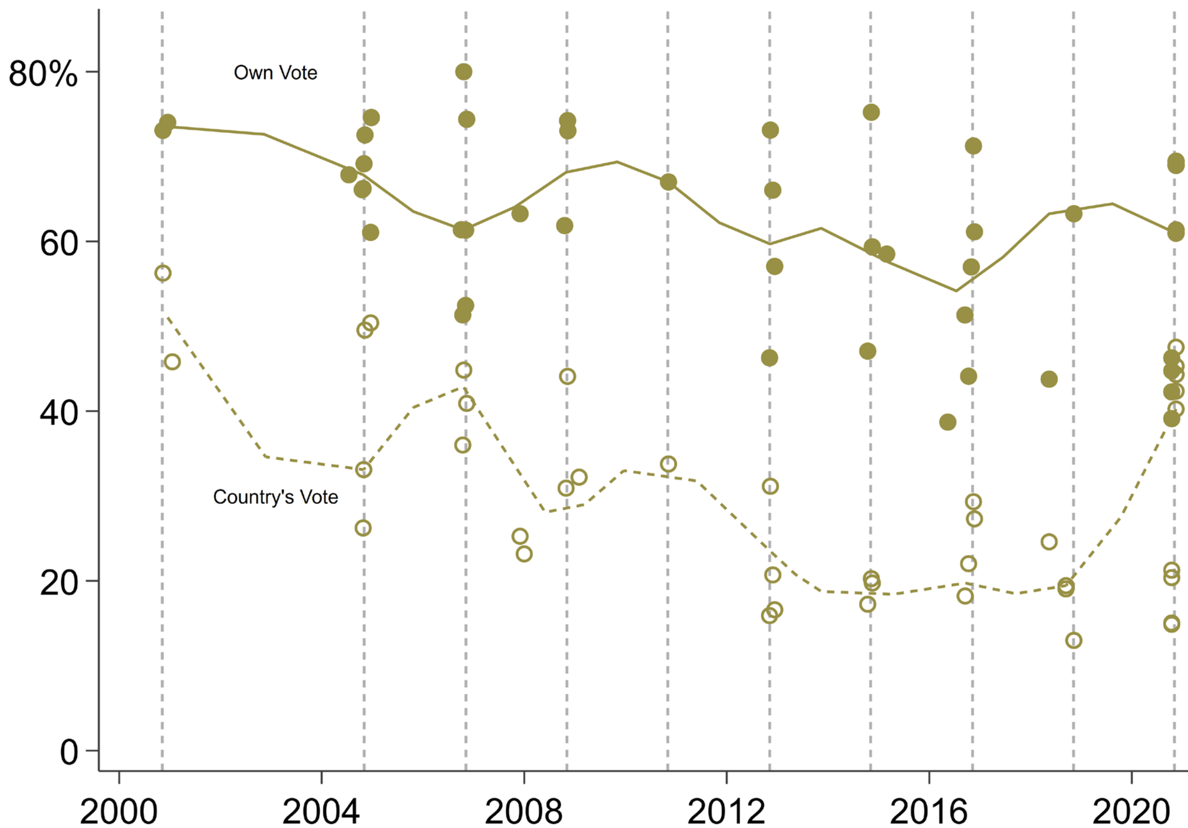
LONG-TERM TRENDS IN VOTER CONFIDENCE

Starting with the controversy surrounding the 2000 election, academic researchers and media pollsters began regularly measuring voters' confidence in the quality of election administration at all levels of government. Although the questions vary somewhat from study to study, voters tend to give similar answers regardless of the specific question-wording. All of these questions are a variant of the one we explore in this chapter, "How confident are you that votes cast nationwide were counted as intended?" The phrase "votes cast nationwide" can be replaced with words such as "votes cast in your state," "votes cast in your community," or "your vote." And, the question can be posed prospectively ("How confident are you that votes will be cast…") or retrospectively ("How confident are you that votes were cast…").

In 2015, Michael Sances and Charles Stewart III published a summary of the percentage of respondents who gave the answer "very confident" to every known instance in which the question had been posed starting in 2000.[3] We have updated this research through the 2020 election and display them in Figure 9-1. Solid circles represent answers to the question about confidence in one's own personal vote. Hollow circles represent answers to the question about confidence in votes

3 Michael Sances and Charles Stewart III, "Partisanship and confidence in the vote count: Evidence from U.S. national elections since 2000," Electoral Studies vol. 40 (Dec. 2016), 177 – 188.

Figure 9-1. Percentage of Public Opinion Poll Respondents Who Answered They Were Very Confident Votes Would Be, or Were, Counted as Intended.



Sources: See Michael Sances and Charles Stewart III, "Partisanship and confidence in the vote count: Evidence from U.S. national elections since 2000," Electoral Studies vol. 40 (Dec. 2016), 177 – 188. Data have been updated to include the 2020 election.

nationwide. The associated lines are the moving average of these results.

For the decade-and-a-half after 2000, confidence that one's own vote was counted as intended and that votes nationwide were counted as intended mostly declined. Confidence in one's own vote and in the nation's vote both increased in 2020 from lows in 2016, with the increase in confidence in the nation's vote being especially notable. As we discuss below, this large, and perhaps surprising increase in national confidence is due to an unprecedented divergence in confidence between Democrats and Republicans, with the increase among Democrats greater than the countervailing decrease among Republicans.

Focusing particularly on 2020, overall trust in the count at all levels of government was similar to past years. As has been true for the past three election cycles, after the election, voters were the most confident that their own votes were counted as cast, followed by votes cast in their community, their state, and nationwide, as is illustrated in Table 9-1, showing answers to the question as posed in the Survey of the Performance of American Elections (SPAE).

Table 9-1. Confidence that votes were counted as intended, 2008 – 2020.

	2008	2012	2016	2020
Your vote	94.2%	90.2%	93.1%	91.1%
City or county	NA	86.3%	90.4%	86.6%
State	NA	82.2%	84.3%	80.3%
Nation	NA	64.5%	73.1%	61.4%

Note: Numbers are the percentage of respondents who stated they were "very" or "somewhat" confident that votes were counted as intended at the indicated level of government. Respondents answering "don't know" are excluded. Ninety-five percent confidence intervals (i.e., "margins of error") range from 0.3% when percentages are close to 90% to 0.5% when percentages are close to 60%.) NA = "not asked."

Source: Survey of the Performance of American Elections, various years.

Table 9-2 shows the detailed breakdown of confidence responses in the SPAE for 2020. Very few respondents gave one of the "not confident" answers for most items, which is typical for surveys of this sort. The one exception was confidence that votes nationwide were counted as intended, where the results were bimodal -- while the most common response was "very confident," the second-most-common response was "not at all confident." This again reflects the partisan polarization that opened up in 2020, which we address in a later section.

Table 9-2. Detailed Responses to Voter Confidence Questions in 2020.

	Your vote	City or county	State	Nation
Very confident	65.6%	56.1%	48.9%	36.9%
Somewhat confident	22.9%	26.9%	28.0%	22.1%
Not too confident	4.4%	7.0%	9.7%	24.7%
Not at all confident	4.3%	5.9%	9.2%	24.7%
Don't know	2.9%	4.2%	4.3%	3.9
N	17,015	18,200	18,176	18,197

Source: Survey of the Performance of American Elections, 2020.

VOTER CONFIDENCE AND VOTER EXPERIENCE

Previous research has typically found that voter confidence is influenced by two major factors, the outcome (the "winner-loser effect") and the personal experience of voting. We explore the winner-loser effect below. Here, we focus on personal experience.

First, voters who cast their ballots by mail were more confident their vote was counted as intended, compared to those who voted in person, especially those who voted on Election Day. (See Table 9-3). This is in contrast with previous years when voters who voted by mail tended to be the least confident. However, confidence in voting by mail has been growing over the past four presidential election cycles. (See Figure 9-2.[4])

4 Figure 9-2 reports the percentage of respondents answering "very confident," rather than combining "very confident" with "somewhat confident" because of the small number of respondents who have given one of the "not confident" answers to the "own vote" item.

Table 9-3. Confidence in one's own vote being counted as intended, by voting modality.

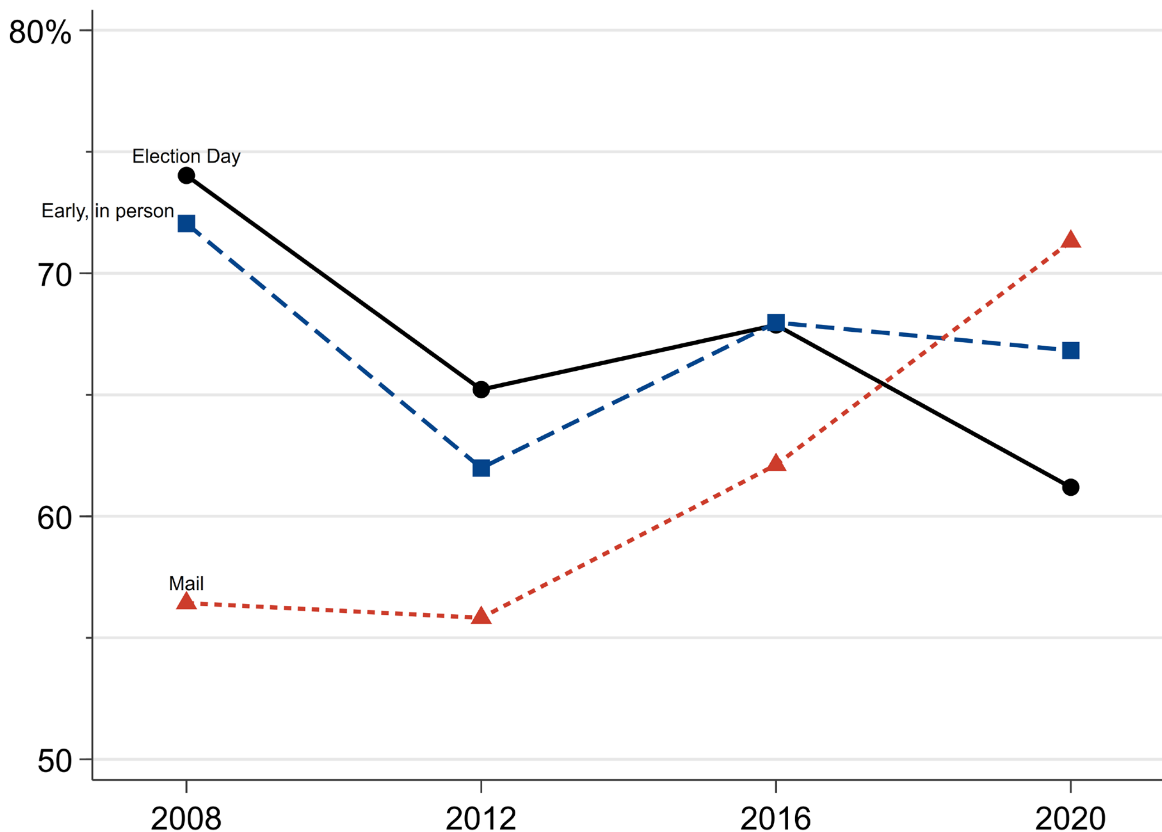
	In person, election day	In person, early	Mail
Very confident	59.3%	65.0%	69.5%
Somewhat confident	26.1%	25.7%	19.7%
Not too confident	6.0%	3.7%	3.8%
Not at all confident	5.5%	2.9%	4.5%
Don't know	3.1%	2.8%	2.6%
N	4,514	4,328	8,150

Source: Survey of the Performance of American Elections, 2020.

Research has typically found that a bad personal experience voting reduces the confidence of individual voters. As we discuss elsewhere in this report, especially Chapter 4, bad experiences were rare in 2020, as they have been in recent years. But, among those who did report through the SPAE that they had a bad experience, the blow to confidence is measurable, especially when the experience directly involved casting a ballot. For instance, only 14.8 percent of those who reported experiencing a voting machine problem were very confident that their vote was counted as intended, compared to 64.1 percent who did not have a voting machine problem. (Detailed responses to the survey questions are reported in the Appendices.) Only 11.8 percent of those who rated poll worker performance "fair or poor" were very confident; only 11.9 percent of those who stated that their polling place was run "not well" or "terribly" were very confident.

At the same time, in-person voters who encountered difficulties voting at parts of the process further removed from vote casting and counting were not necessarily as negative. For instance, 43.5 percent of those

Figure 9-2. Percentage of Respondents "Very Confident" Their Vote Was Counted as Intended, by Voting Mode.



Source: Survey of the Performance of American Elections, 2008 – 2020.

who found it very or somewhat difficult to find their polling place were confident that their vote was counted as intended, compared to 64.2 percent who found it very easy; 60.4 percent of those who waited more than half an hour to vote were confident, compared to 66.3 percent who did not wait at all. True, voters with more negative experiences getting to the polling place and waiting in line were less confident. Still, the decline in confidence was not nearly as great as those whose problems were more closely associated with the ballot itself.

Among those who voted by mail, positive encounters with the voting process led to greater confidence than negative encounters. However, the differences in confidence were smaller than with in-person voting. For instance, 78.7 percent of those who had a problem getting their mail ballot were confident their vote was counted as intended, compared to 89.9 percent who did not have a problem. Similarly, the small number of voters who reported having problems marking their ballot or following the instructions were less confident (82.7 percent) versus those who did not (89.9). Finally, voters who returned their ballots in-person to an "official location" were more confident their vote was counted as intended (90.6 percent) compared to those who mailed them back (78.0).

PARTISAN CONTEXT OF VOTER CONFIDENCE[5]

One cannot escape the fact that significant partisan divisions opened up over how best to respond to voting during the pandemic as early as April,[6] nor can one escape the partisan divide that appeared over how to respond to the unfolding events following the election that related to counting, canvassing, and certifying the vote totals.[7]

It is also true that voter confidence followed very stark contours that were delineated by political party affiliation. To some degree, these divisions mimicked those of prior years, with Democrats expressing greater confidence in election administration than Republicans after the election, and the partisan divide growing from the pre-election to the post-election period. This is related to the "winner-loser effect" that has long been in evidence in studies of voter confidence. The academic literature has addressed this effect in prior elections, and explained it in terms of individual psychological dynamics, especially cognitive dissonance, and elite queue-following. Our goal here is not to address that academic literature directly, but rather, to lay out the empirical patterns related to confidence and partisanship in the 2020 election.

For starters, Democrats were more likely to state that they were confident that their own vote was counted as intended than were Republicans, and were more likely to state that they were confident that votes in their county, in their state, and nationwide were counted as intended. (See Table 9-4.)

While it is true that as we go from confidence in the voter's vote to votes nationwide, the gap between Democrats and Republicans widens, it is worth noting that at least 60 percent of Republicans gave one of the two "confident" responses to their opinions about their own vote, votes counted in their county, and votes counted in their state. It is with votes counted nationwide where a majority of Republicans failed to express any degree of confidence in the vote count.

5 For a more thorough academic treatment of the issues covered in this section, see Jesse Clark and Charles Stewart III, "The Confidence Earthquake: Seismic Shifts in Trust," paper prepared for presentation at the 2021 Election Science, Research, and Administration Conference, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3825118.

6 Pew Research Center, "Two-Thirds of Americans Expect Presidential Election Will Be Disrupted by COVID-19", April 28, 2020, https://www.pewresearch.org/politics/2020/04/28/two-thirds-of-americans-expect-presidential-election-will-be-disrupted-by-covid-19/.; John Gramlich, "Americans' Expectations about Voting in 2020 Presidential Election Are Colored by Partisan Differences," Pew Research Center, September 8, 2020, https://www.pewresearch.org/fact-tank/2020/09/08/americans-expectations-about-voting-in-2020-presidential-election-are-colored-by-partisan-differences/.

7 Pew Research Center, "Sharp Divisions on Vote Counts, as Biden Gets High Marks for His Post-Election Conduct," November 20, 2020, https://www.pewresearch.org/politics/2020/11/20/sharp-divisions-on-vote-counts-as-biden-gets-high-marks-for-his-post-election-conduct/?utm_source=AdaptiveMailer&utm_medium=email&utm_campaign=20-11-19%20

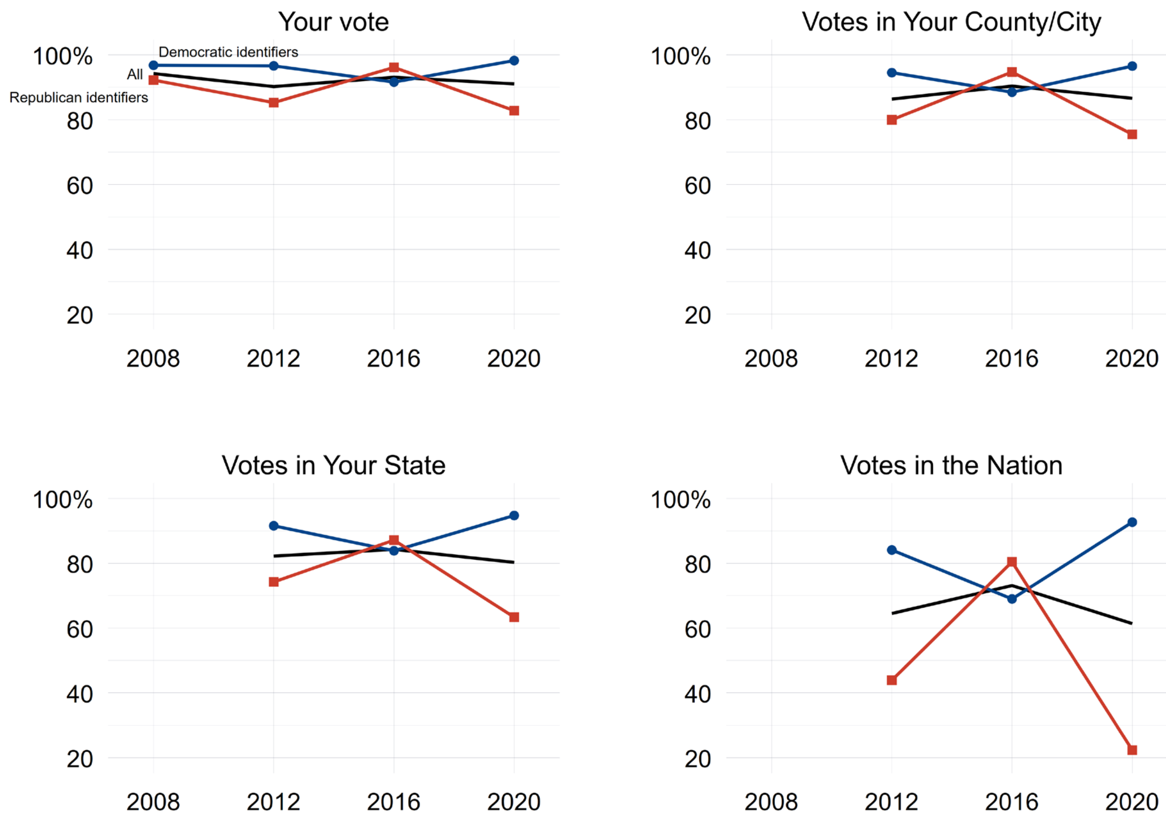
one's own vote was counted as intended, where the partisan gap was negligible.) The partisan division was especially pronounced in assessing the vote nationwide. (See Figure 9-3.) Nonetheless, the division was wide — just not as wide — in 2012.

Table 9-4. Levels of Confidence that Votes Were Counted as Intended, by Party, 2020 Election.

	Your Vote		County		State		Nationwide	
	Dem.	Rep.	Dem.	Rep.	Dem.	Rep.	Dem.	Rep.
Very confident	81.1%	48.0%	75.0%	35.4%	69.7%	25.1%	61.2%	7.9%
Somewhat confident	15.9%	31.5%	19.2%	36.7%	22.8%	35.3%	28.9%	13.8%
Not too confident	1.1%	7.9%	2.5%	12.0%	4.0%	16.6%	4.9%	21.6%
Not at all confident	0.6%	8.6%	0.9%	11.4%	1.2%	18.3%	2.3%	53.6%
Don't know	1.3%	3.9%	2.5%	4.5%	2.4%	4.7%	2.8%	3.1%
N	8,424	6,380	8,831	6,743	8,820	6,735	8,830	6,741

Source: Survey of the Performance of American Elections.

Figure 9-3. Percentage of Respondents Answering They Were "Very" or "Somewhat" Confident that Votes Were Counted as Intended, by Party Identification, 2008 – 2020.

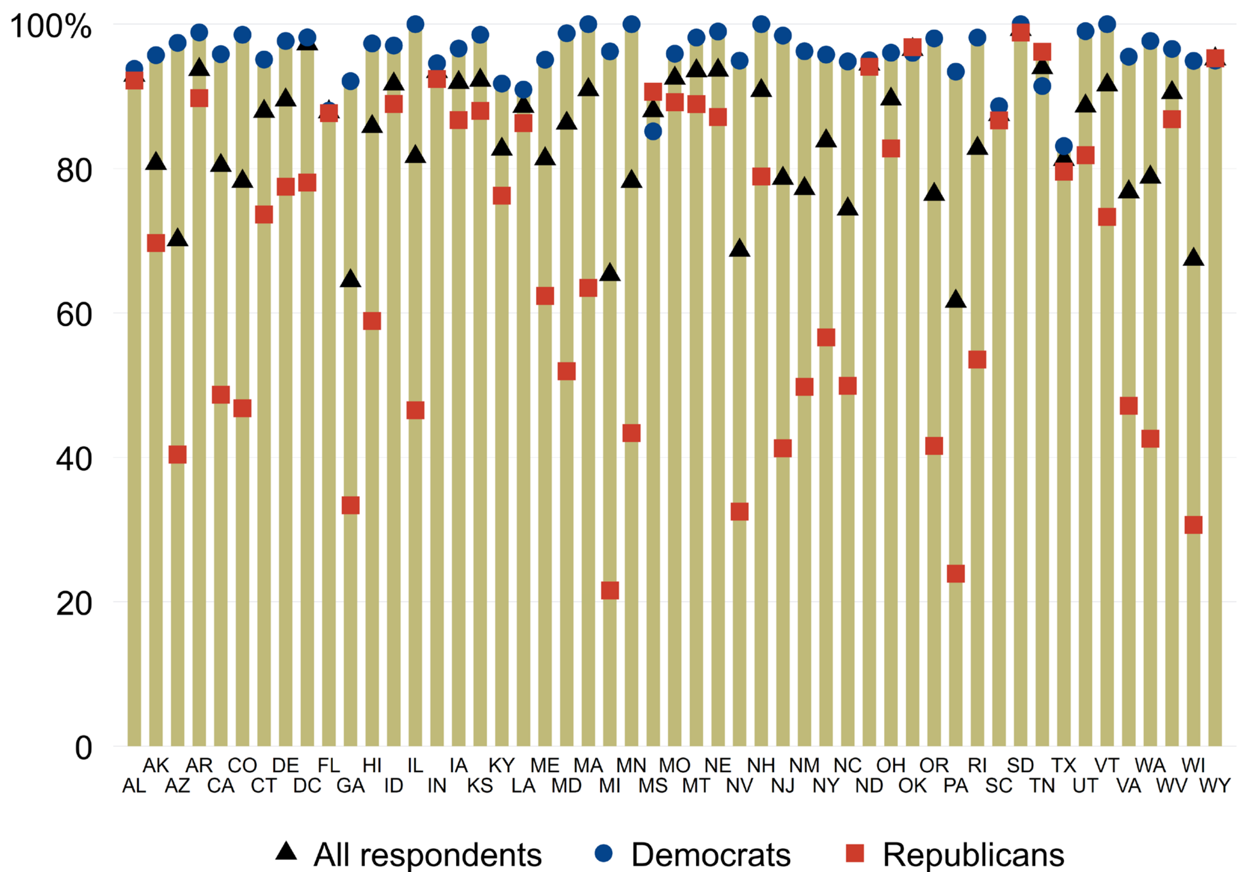


Source: Survey of the Performance of American Elections. Note: The "all" line includes independents.

ZEROING IN ON CONFIDENCE IN THE STATE VOTE COUNT

States are responsible for the administration of federal elections. Therefore there is particular interest in the degree to which voters expressed confidence in votes counted in their state. There was considerable variation in the confidence that voters expressed about the vote count in their state across the states and by party as well. (See Figure 9-4.)

Figure 9-4. Percentage of Respondents Answering They Were "Very" or "Somewhat" Confident that Votes Were Counted in Their State, by Party Identification, 2020.

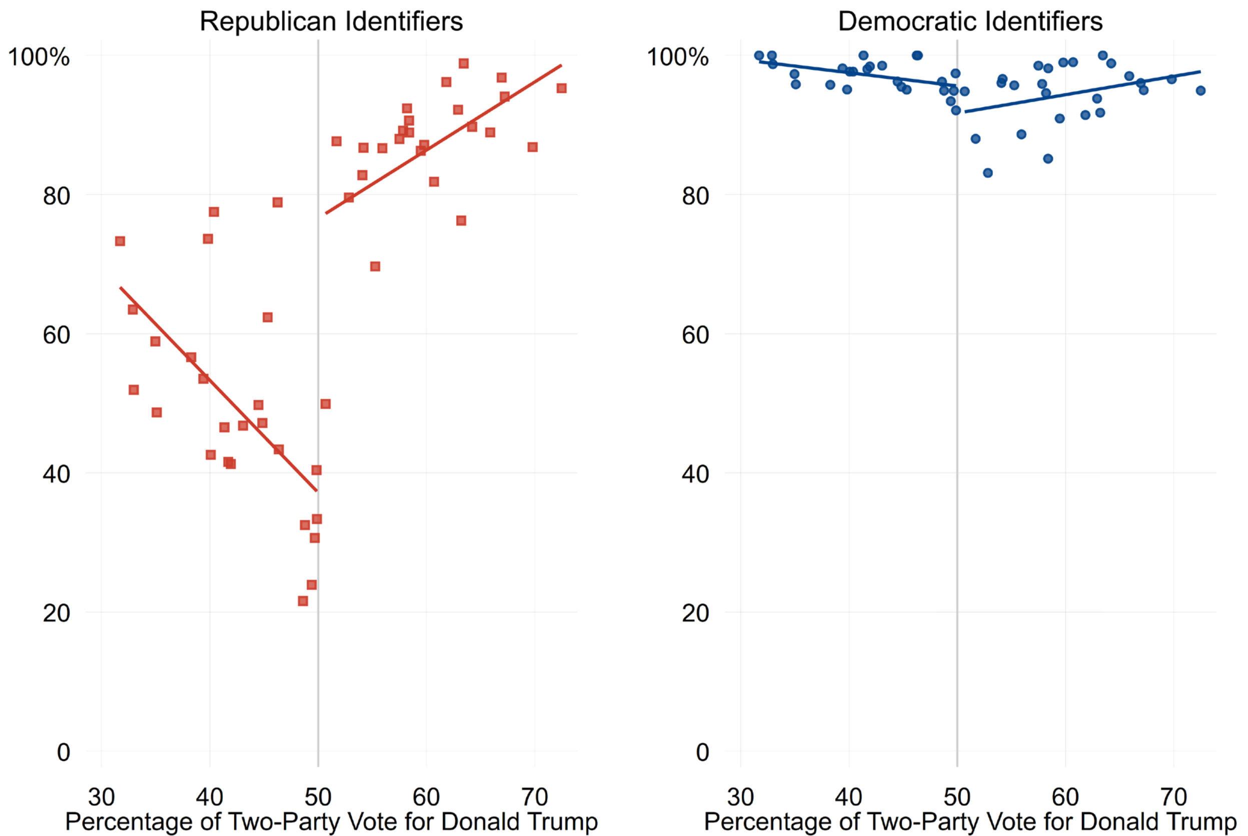


Source: Survey of the Performance of American Elections.

Close inspection of Figure 9-4 reveals that although Democrats in every state expressed a high degree of confidence in the vote in their state, Republicans expressed mixed opinions, depending on the state. In about half the states, Republicans were only slightly less confident than Democrats in their state's vote count. In the other half, they were markedly less confident. What explains this difference?

A big explanation for this difference has to do with the closeness of the election in the state. The role of closeness is illustrated in Figure 9-5, which plots, for both parties, the percentage of respondents who were very or somewhat confident that votes in their state were counted as intended. Among Republicans, there is a strong relationship between the closeness of the outcome and confidence — a close election is strongly correlated with lower confidence. A similar but much more muted relationship was exhibited among Democrats.

Figure 9-5. Percentage of Respondents Answering They Were "Very" or "Somewhat" Confident that Votes Were Counted as Intended in Their State, by Party Identification and Two-party Vote Share for Trump.

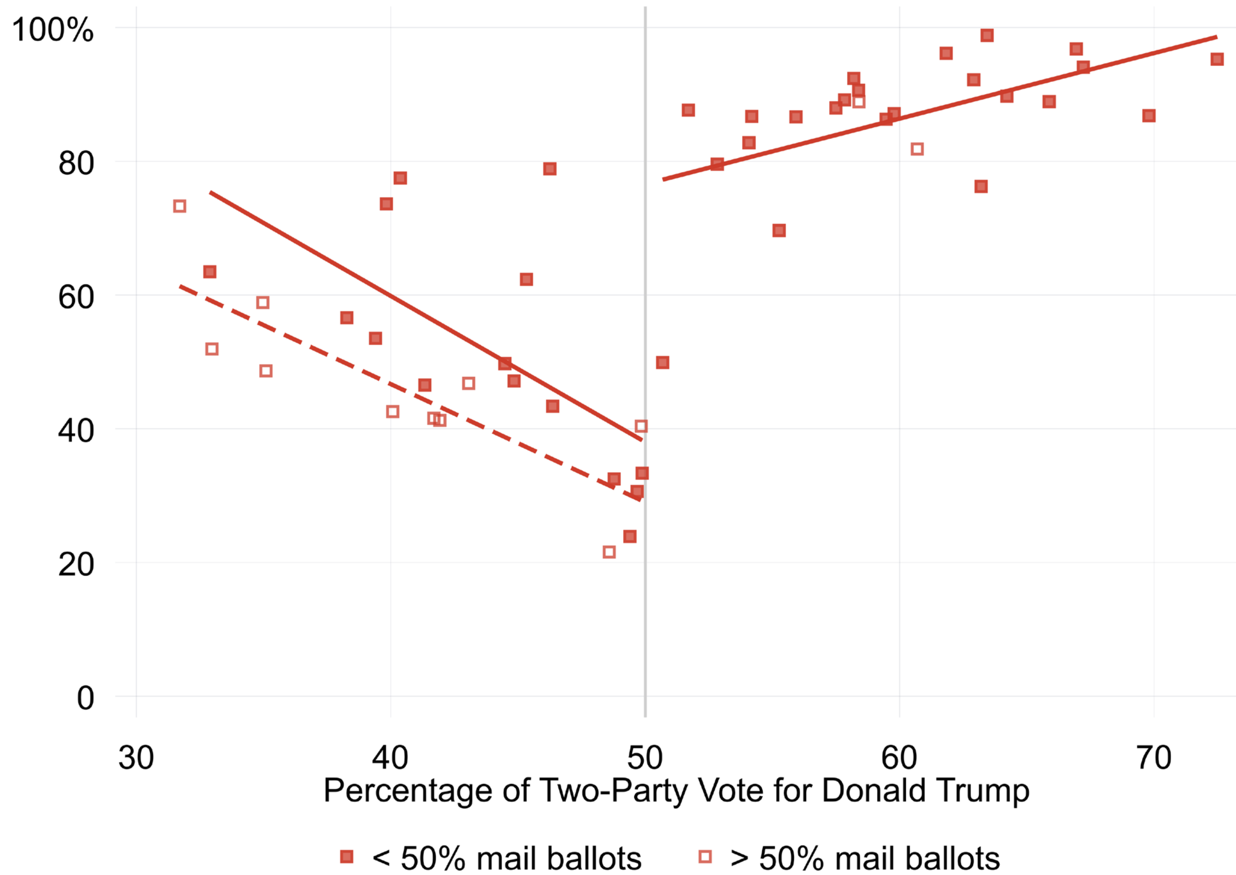


Note: D.C. excluded from the graphs, to aid with legibility.

Source: Survey of the Performance of American Elections, 2020. Dave Leip's Atlas of Presidential Elections.

Another factor played a role in state-level confidence as well: mail balloting. Republicans living in states that relied more heavily on mail ballots were less confident, regardless of how close the election was, as is illustrated in Figure 9-6.

Figure 9-6. Percentage of Republican Respondents Answering They Were "Very" or "Somewhat" Confident that Votes Were Counted as Intended in their State, by Two-party Vote Share for Trump and Percentage of Votes Cast by Mail.



Source: Survey of the Performance of American Elections, 2020. Dave Leip's Atlas of Presidential Elections. U.S. Census Bureau, Current Population Survey, November Voting and Registration Supplement, 2020.

These data illustrate how complicated voter confidence can be. Increasing voting confidence is more complicated than simply adopting policies that are considered objectively better than others. Confidence is based on a psychological process that reconciles the voter with the outcomes and ingests largely partisan messages that signal whether one set of policies is preferred to another.

One should not interpret this conclusion as a cynical gloss on voter confidence. Instead, the point is that voter confidence, narrowly considered, is not generally driven by objective measures of election administration. This conclusion has important implications for considering other best practices and policy recommendations suggested by the analysis in the rest of this report. It may be possible, and even likely, that the public at large will interpret election reforms undertaken to improve the efficiency, access, and security of elections in America through a partisan lens. The tendency of the public to reflexively interpret changes to election policy through a partisan lens puts a great deal of pressure on policymakers and advocates to be clear in their own minds about the likely results of policy change, considered dispassionately and scientifically. In the short term, it seems likely that all policy changes pursued in election administration, regardless of motivation, will be viewed in partisan terms.

CONCLUSIONS AND TAKEAWAYS

The legitimacy of democratic governments depends on voters and their leaders accepting the outcomes of elections. In advanced industrial democracies, this acceptance has generally been grounded in procedures: fair rules are seen as setting the stage for losing candidates and their followers to acknowledge the correctness of the outcome, even amidst disappointment. Democrats and Republicans have differed for years over how they would emphasize different aspects of governing how elections are held in the U.S. The 2020 election created a qualitative break with the path, where honest pol-

icy differences are often taken to represent existential threats from the other side.

The ratcheting up of the heat around regulating elections is part of the harshened tone of American politics generally, but it also has consequences for how elections will be governed in the near future. Because the American political tradition depends on an acknowledgment of the fairness of electoral competition, it will be difficult to thread the partisan needle in the next few years as state legislatures and Congress consider changes to election laws that attempt to act on lessons learned from the 2020 election.[8] With this reality in mind, we offer the following four observations by way of takeaways about the relationship between voter confidence and election reform.

1. ***Prominent political leaders set the tone in determining levels of voter confidence.*** Voters are not all-knowing judges of election results. Like most issues of public policy, they seek out and respond to the positions taken by political leaders they trust when they decide whether an election outcome should be accepted as fair. There are two major consequences of this insight for election administration. The first is that the currently observed partisan division over election administration issues is not primarily due to citizens ingesting information about elections and drawing independent conclusions, but instead is due to the opposing positions taken by leaders of the two major political parties. Without a bipartisan agreement among political leaders to rebuild trust in election institutions, it is likely that the partisan divide over trust in elections will persist.

   The reality that political leaders set the tone in determining levels of voter confidence has important implications for the roles that election administrators play in building the trust of voters. Election administrators are by and large not the political leaders that voters look to for signals about the trustworthiness of elections, even when they are elected with party labels attached to their names. Voters look to executives (presidents and governors) and legislators (state and congressional). Election administrators can certainly take actions and make statements that undermine the confidence of voters, but it has yet to be demonstrated in the scholarly literature that they can do much to build the confidence of voters if more prominent political leaders have doubts. Therefore, the most important thing that election administrators can do to bolster the confidence of voters is to implement elections expertly, in accordance with the law — in other words, to continue doing the jobs they are doing.

2. ***The partisan divide that opened in 2020 was due more to Democrats becoming more confident than Republicans becoming less confident.*** Given the popular discussion of the partisan divide over trust in electoral institutions, it comes as a surprise that the big shift in trust in 2020 came from identifiers with the Democratic Party, rather than from Republican identifiers. This sanguine view of election administration among Democrats has important consequences for the attitudes that the party's followers have about election reform. In particular, Democratic identifiers came away from 2020 with a very high opinion of election administration in the U.S. — the highest opinion of any partisan cohort since questions about voter confidence have been asked. This no doubt has contributed to the sanguine view about the possibilities of election reform among many Democratic identifiers and politicians.

3. ***The confidence divide between the parties at the mass level is influenced in large part by long-held values that preceded the 2020 election.*** In the narrow focus on how the dynamics of the 2020 election helped open up a wide partisan divide over election policy and confidence, it is easy to lose sight of the fact that differences over the issues currently being contested — voter identification, mail balloting, and the like — are long-standing and arise as much from important general political values as from considerations about electoral advantage. Democrats, from the liberal party, tend to prefer policies that emphasize access to voting; Republicans, from the conservative party, tend to prefer policies that emphasize the security of the vote. These positions are similar to differences about virtually every important area of public policy over which the two major parties contend. These long-term policy commitments should be kept in mind before supposing that divisions over elections policy arose only in 2020 and only because of the nature of the outcome.

8 A notable exception to this sober prediction was the passage of a bipartisan election reform package in Kentucky in 2021. See Ryland Barton, "Kentucky Election Reform Effort Gets Bipartisan Backing," npr.org, March 9, 2021, https://www.npr.org/2021/03/09/974605448/kentucky-election-reform-effort-gets-bipartisan-backing.

4. ***Election reform should rarely be justified in terms of improving voter confidence. Rather, reform should be rooted in scientific principles and justified in terms of convenience and security.*** The dynamics of public opinion related to voter confidence and trust should make it clear that appeals to voter confidence as a justification for any particular election reform will ring hollow to half of the listeners. The scholarly literature has shown that changing election laws has little, if any, influence on voter trust among the mass public. Therefore, it may be best to reconsider motivating election reform in terms of trust and to consider the closely related concept of trustworthiness. A trustworthy election is one whose outcome can be verified by fair-minded observers based on an independent consideration of the evidence of the outcome that is provided in the course of running the election. Especially if the lack of confidence is driving the post-election period into greater litigiousness, policies that promote trustworthiness in the eyes of the courts may be especially valuable.

APPENDIX 9A

DETAILS OF CONFIDENCE BY IN-PERSON VOTER EXPERIENCE

Question: How difficult was it to find your polling place to vote?

Confidence	Very difficult	Fairly easy	Very easy	Total
Very confident	43.5%	50.2%	64.2%	62.0%
Somewhat confident	36.4%	34.8%	24.4%	26.0%
Not too confident	11.2%	5.7%	4.6%	4.9%
Not at all confident	6.6%	4.4%	4.1%	4.2%
Don't know	2.3%	4.9%	2.7%	2.9%
N	227	1,029	7,520	8,776

Question: Was there a problem with your voter registration when you tried to vote?

Confidence	No	Yes	Total
Very confident	62.9%	31.0%	62.3%
Somewhat confident	25.7%	37.4%	25.9%
Not too confident	4.6%	13.6%	4.8%
Not at all confident	4.0%	13.7%	4.2%
Don't know	2.8%	4.3%	2.9%
N	8,556	182	8,738

Question: Did you encounter any problems with the voting equipment or the ballot that may have interfered with your ability to cast your vote as intended?

Confidence	No	Yes	Total
Very confident	64.1%	14.8%	62.7%
Somewhat confident	25.6%	40.6%	26.0%
Not too confident	4.4%	12.9%	4.7%
Not at all confident	3.3%	29.3%	4.0%
Don't know	2.6%	2.5%	2.6%
N	8,429	239	8,668

Question: Please rate the job performance of the poll workers at the polling place where you voted.

Confidence	Excellent	Good	Fair or poor	Total
Very confident	74.6%	36.6%	11.8%	62.4%
Somewhat confident	18.7%	43.8%	45.4%	26.0%
Not too confident	3.0%	8.7%	13.9%	4.9%
Not at all confident	1.8%	6.7%	22.8%	4.1%
Don't know	1.9%	4.2%	6.1%	2.7%
N	6,235	2,032	463	8,730

Question: How well were things run at the polling place where you voted?

Confidence	Excellent	Good	Fair or poor	Total
Very confident	68.4%	36.4%	11.9%	62.5%
Somewhat confident	23.0%	42.4%	33.9%	26.0%
Not too confident	3.5%	9.5%	22.6%	4.8%
Not at all confident	2.8%	7.2%	28.5%	4.0%
Don't know	2.3%	4.6%	3.0%	2.7%
N	7,258	1,238	199	8,695

Question: Approximately, how long did you have to wait in line to vote?

Confidence	Not at all	Less than 10 minutes	10-30 minutes	30 minutes or more	Total
Very confident	66.3%	61.1%	59.7%	60.4%	62.2%
Somewhat confident	24.3%	26.2%	28.4%	25.7%	26.0%
Not too confident	3.8%	5.5%	4.9%	5.4%	4.8%
Not at all confident	3.1%	4.5%	4.3%	5.3%	4.2%
Don't know	2.5%	2.8%	2.7%	3.1%	2.8%
N	2,681	2,544	1,957	1,560	8,742

APPENDIX 9B

DETAILS OF CONFIDENCE BY MAIL VOTER EXPERIENCE

Question: Were there any problems getting your absentee or mail-in ballot sent to you?

Confidence	No	Yes	Total
Very confident	70.5%	41.3%	69.9%
Somewhat confident	19.4%	37.3%	19.8%
Not too confident	3.8%	1.4%	3.7%
Not at all confident	3.9%	17.8%	4.2%
Don't know	2.4%	2.1%	2.4%
N	7,976	170	8,146

Question: Did you encounter any problems marking or completing your ballot that may have interfered with your ability to cast your vote as intended?

Confidence	No	Yes	Total
Very confident	70.0%	67.0%	70.0%
Somewhat confident	19.8%	15.7%	19.7%
Not too confident	3.6%	9.7%	3.7%
Not at all confident	4.2%	7.2%	4.2%
Don't know	2.4%	0.4%	2.4%
N	8,016	128	8,144

Question: To the best of your memory, how was your ballot returned?

Confidence	Taken to official election location	Mailed back	Total
Very confident	73.6%	65.6%	69.8%

Confidence	Taken to official election location	Mailed back	Total
Somewhat confident	17.1%	22.6%	19.7%
Not too confident	2.7%	4.9%	3.8%
Not at all confident	4.6%	4.3%	4.5%
Don't know	2.1%	2.7%	2.4%
N	4,281	3,857	8,138

Question: Did you personally return or mail back your ballot, or did someone else?

Confidence	I did	Someone else	Total
Very confident	70.5%	63.9%	69.7%
Somewhat confident	19.3%	22.5%	19.6%
Not too confident	3.6%	4.9%	3.8%
Not at all confident	4.5%	4.6%	4.5%
Don't know	2.2%	4.1%	2.4%
N	7,188	965	8,153

Question: To the best of your memory, when was your ballot returned?

Confidence	Election Day	A few days before Election Day	Week before Election Day	More than a week before Election Day	Total
Very confident	60.8%	57.5%	63.6%	74.0%	70.1%
Somewhat confident	25.3%	27.0%	22.5%	17.7%	19.7%
Not too confident	7.1%	4.6%	4.6%	3.3%	3.8%
Not at all confident	6.3%	7.6%	6.2%	3.4%	4.4%
Don’t know	0.6%	3.3%	3.2%	1.6%	2.0%
N	251	929	1,236	5,608	8,024

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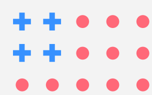

MIT ELECTION DATA
+ SCIENCE LAB