FVAP RESEARCH NOTE

Data Standardization and the 2020 General Election

Introduction

Pursuant to the *Uniformed and Overseas Citizens Absentee Voting Act* (*UOCAVA*), the mission of the Federal Voting Assistance Program (FVAP) is to help ensure that active duty military (ADM), their families, and U.S. citizens living abroad are aware of their right to vote and have the tools and resources needed to do so successfully. With this mission in mind, FVAP continues to collect information to better understand the *UOCAVA* population's needs and help them successfully complete the voting process.

Since 2015, FVAP has been working with The Council of State Governments (CSG) Overseas Voting Initiative (OVI) to develop an election data standard that captures transactional-level data about *UOCAVA* voters in the Election Administration and Voting Survey Section B (ESB) Data Standard. The collection of transactional data is an innovative way to obtain data about the voting process and measure the impact of Congressional reforms like the *Military and Overseas Empowerment Act* of 2009 (*MOVE Act*) that requires states to have at least one electronic option available for *UOCAVA* voters to receive their ballots, and mandates that ballots are sent no later than 45 days before the election (given that the voter requested their ballot before that date).

Another virtue of the ESB Data Standard is that collecting data at the transactional level makes it possible to trace each voter's journey throughout the voting process and examine how the path they took may have influenced how far along the process they traveled. Unlike more traditional survey-based or aggregate data sets, transactional data can better identify individual voting behaviors and the challenges voters face in the voting process. The standardization portion of this project helps to overcome differences in how states and localities collect (and sometimes report) election data, which make it difficult to merge and interpret at the national level.

The ESB Data Standard was first used by a group of states and counties in conjunction with the 2016 General Election.[1] The ESB Data Standard was updated for the 2020 General Election to resolve limitations identified in 2016 and 2018 while maintaining comparability across years and enabling returning participants to successfully adhere to the standard. The 2020 updates involved renaming some variables for clarity and streamlining ballot request timing data fields.[2] These changes did not modify the overall data structure of the ESB. The 2020 ESB Data Standard includes a total of twelve reporting states and seven jurisdictions. The reporting states and jurisdictions logged 513,655 ballot requests in ESB, which accounts for roughly 40 percent of all *UOCAVA* voters registered and eligible to vote nationwide for the 2020 General Election.[3]

The number of states and jurisdictions reporting ESB data has increased since it was first collected in 2016. Figure 1 shows that six states and four jurisdictions have been providing ESB data uninterrupted since 2016, with multiple states and localities joining the effort in later elections. The

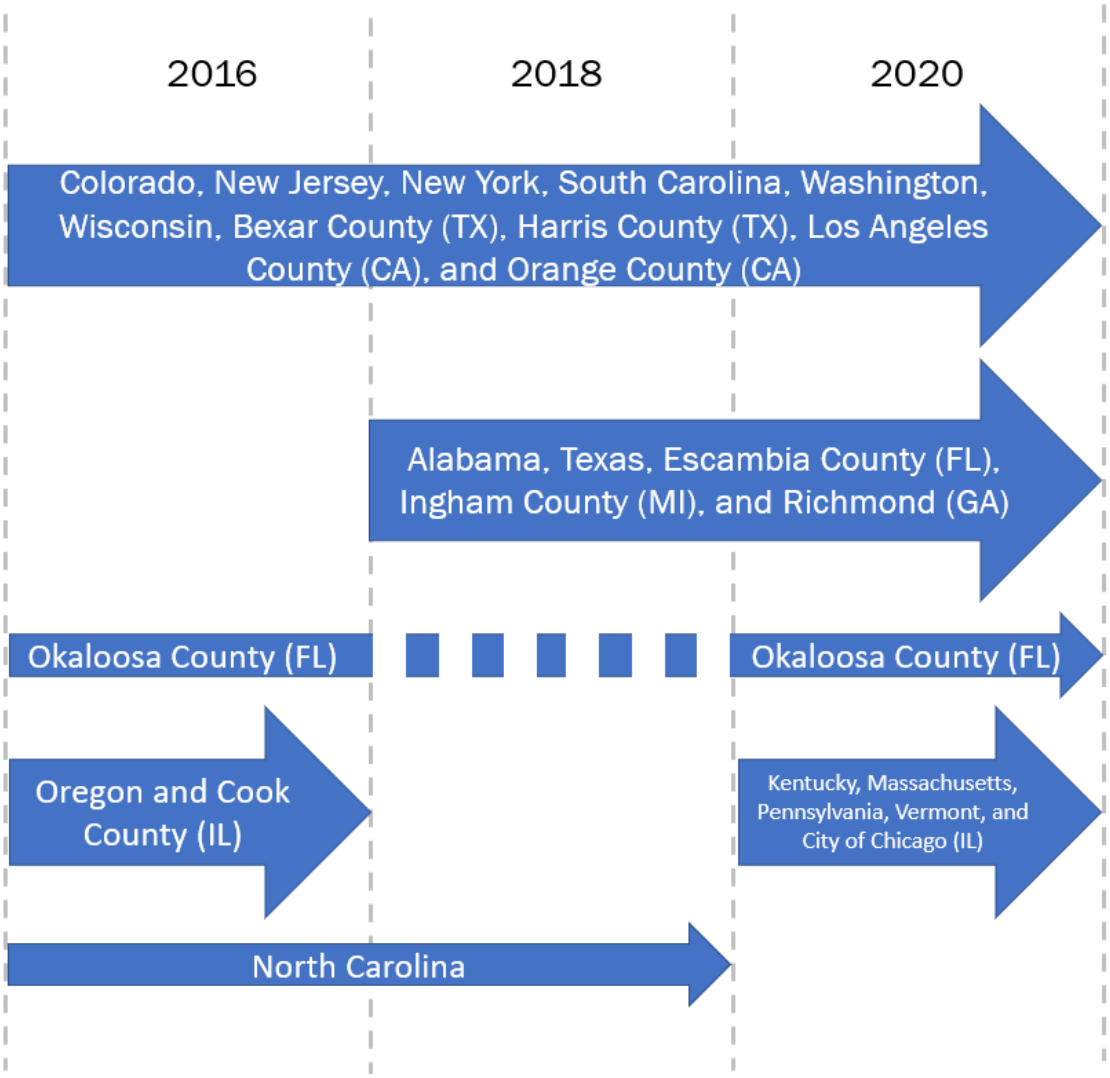
[1] For more information on the 2016 ESB Data Standard findings see: Federal Voting Assistance Program (2018). "Data Standardization and the Impact of Ballot Transmission timing and Mode on *UOCAVA* Voting." Available at https://www.fvap.gov/uploads/FVAP/Reports/609-ResearchNote11_DataStd_FINAL.pdf

[2] Before 2020, ESB collected data on the date a ballot request was postmarked, received and processed. These three fields were replaced in 2020 by "Request Date."

[3] The number of *UOCAVA* voters registered and eligible to vote is used as a proxy on the total number of ballots requested and is obtained from item B1a in the Election Administration and Voting Survey (EAVS). See https://www.eac.gov/sites/default/files/document_library/files/2020_EAVS_Report_Final_508c.pdf

continuity of this data collection project and the reporting states and jurisdictions allows comparisons over several election years for more than half of the participating states and jurisdictions. Additionally, the increased number of reporting states and jurisdictions shows the growth of the project and allows for more representative analysis on *UOCAVA* voting.

Figure 1. ESB Reporting States and Jurisdictions, 2016–2020[4]



The transactional nature of the data and the availability of dates on which each transaction was recorded by the election office provides a reliable and valid snapshot of how and when *UOCAVA* voters complete steps of the voting process. Having dates associated with each step of the voting

[4] Only Bexar County and Harris County reported ESB data in 2016 in the state of Texas. In 2018, Texas started to report ESB data on the rest of their jurisdictions.

process particularly is relevant for the 2020 general election, as the COVID-19 pandemic posed a challenge for election officials and voters to successfully complete the process—especially when the voter was located in a foreign country—and had an impact on the timing of the voting process.[5]

This research note follows the *UOCAVA* voting pipeline framework introduced in the 2018 ESB research note.[6] The framework uses the pipeline as an analogy for the voting process where the beginning of the pipeline is associated with the first step in the *UOCAVA* voting process—the voter's registration and ballot request—and the end of the pipeline is associated with the end of the voting process: having a ballot counted. Along the way, there are potential drop-out points in the voting process—akin to a pipeline.

The 3 Main Steps of the *UOCAVA* Voting Process:

Ballot Request: This is the first step and refers to when a *UOCAVA* voter requests a ballot for an upcoming election to their corresponding election offices using an FPCA, state application, or other accepted form. This step is sometimes conducted at the same time as the *UOCAVA* voter registration (but not necessarily).

Ballot Transmission: Once an election office receives a ballot request and deems it valid, the election office transmits a ballot to the *UOCAVA* voter ahead of the election

Ballot Return: The *UOCAVA* voter sends back to the election office a filled ballot with their voted ballot and corresponding information, and the ballot is received by the election office.

The analyses in this report are organized using the order that *UOCAVA* voters follow in their journey to cast a ballot. First, we examine the 2020 *UOCAVA* voting pipeline and describe the three basic steps in the *UOCAVA* voting process: ballot request, ballot transmission, and ballot return. After identifying where in the pipeline *UOCAVA* voters face the greatest obstacles, we take a closer look at each step, assessing how factors like timing, mode, and voter type relate to success rates in completing the process and having a vote successfully counted. Additionally, we explore the effect that the COVID-19 pandemic had in this election and the potential differences in voter behavior when comparing the 2020 voting process with previous general elections. The results of these analyses are used to continue informing FVAP programmatic and outreach efforts to better serve *UOCAVA* voters and help them successfully complete the voting process. Additionally, some of the analyses in this research note were used to inform a section of FVAP's 2020 Report to Congress.[7]

[5] International mail disruptions were among the biggest challenges that the COVID-19 pandemic posed on the voting process. However, it is important to note, that such mail disruptions do not include overseas military mail, which is operated independent of regular civilian mail.
[6] Federal Voting Assistance Program (2020). "Data Standardization and the *UOCAVA* Voting Pipeline." Available at: https://www.fvap.gov/uploads/FVAP/Reports/2018-ESB-Research-Note.pdf
[7] The results reported in this research note are expected to be different from those in the Report to Congress because the data used in the Report to Congress were current as of April 2021, and did not have data from all the states and jurisdictions covered in this research note, whereas the data used in this research note are current as of October 2021.

Data Standardization and the 2020 General Election

This research note is organized into the following sections:

- Key Research Questions
- ESB Data Collection and Processes
- Methodology
- The 2020 *UOCAVA* Voting Pipeline
- The Voting Journey: Ballot Request, Transmission, and Return
- Conclusions

The analyses in this research note find that:

- Ballot return rates were highest among voters that requested their ballot in 2020 and before the 45-day deadline. The return rate declined as the ballot request was filed closer to Election Day.
- Independent of when the initial request was submitted, ballots requested via Federal Post Card Application (FPCA) had higher return rates than those requested via state application in 2020 and the two previous general elections.
- Ballots were returned earlier in 2020 compared to the previous two general elections. Early ballot return suggests that *UOCAVA* voters followed recommendations of completing the voting process early to avoid potential mail and processing delays caused by COVID-19.

Key Research Questions

This research note addresses the following research questions:

- How do Congressional requirements such as the 45-day deadline for ballot transmission and the requirement to allow an electronic mode of ballot transmission impact the voting process?
- What are the main differences between ADM and overseas citizens in their approach to the voting process?
- How did COVID-19 affect the timing of ballot request and ballot return among *UOCAVA* voters?
- How did the 2020 general election compare with the previous two general elections in terms of timing of completion of each step in the voting process?

ESB Data Collection and Processes

Each state in the United States, and sometimes even jurisdictions within the same state, have different approaches and methods to collect, store, and code information on the voting process. These differences make it difficult to compare one state with another and compile information about the voting process from different locations. That is why the data standardization process in the ESB project is of paramount importance. The use of a data standard allows the collection of information in a manner that ensures data from different states and jurisdictions will be easy to merge and compare.

When a state or jurisdiction first starts to participate in the ESB, they are contacted to discuss the data standard, the variables collected, and the process to compile all the information, and they are provided with examples of queries and the data standard. This data standard provides clear guidance on the variables that are collected and the possible values accepted in each variable so that all states and jurisdictions can align their data to meet the standard.[8]

[8] The full description of the variables and categories in the data standard can be found in https://eavs-section-b-data-standard.readthedocs.io/en/latest/csv/index.html

Once the state or jurisdiction is provided with all the information, they send a first run of their data that is reviewed to confirm that it meets the data standard. If any of the fields are not adjusted to the standard, there are additional conversations to adjust the queries and provide improved versions of the data until it meets the standard. There are cases, however, when a state or jurisdiction may not collect or store some information required by the data standard. In these cases, the field can be filled with "untracked" to denote that a particular variable is not available.

The manner in which states compile information relevant to the ESB varies. States may interact with local jurisdictions to collect and store these data, with different states following different paths that can be separated into four main groups: no interaction, minimal interaction, hybrid model, and complete interaction.

No interaction refers to when the state keeps some voter-level data, but it is the localities that have the majority of the transactional data. Minimal interaction describes the cases where the state has the capacity to collect and store some local transactional data, but not all the data collected by the localities is transferred to the state and in some cases, it is shared as aggregated data rather than transactional data. The hybrid model refers to the cases where the state has the capacity to collect and store transactional data and localities may have the capacity to access the state-level datastore but not all localities participate in that process. Finally, the complete interaction model describes when the state hosts and controls the system the locals use for their administrative tasks and can provide full transactional data in all or most of the fields covered in the ESB data standard.

Depending on the data collected at the state and local levels and how these data are shared, adhering to the data standard can be more or less challenging. Generally, the more databases and queries involved, the more challenging the process can be for the reporting state. However, the fact that the ESB data standard has barely changed since it was first presented for the 2016 general election allows states and jurisdictions to be able to plan ahead and be aware of the information they need to focus on beforehand.

Methodology

Data for this research note were collected from twelve states and seven jurisdictions that used the ESB Data Standard template to report transactional data for the 2020 general election. In this research note, transactional data refers to individual pieces of information showing when and how any transaction between a voter and the election office occurred across the *UOCAVA* voting process. In addition to information about the voting transactions, the ESB Data Standard template collects information on voter type (i.e., overseas citizen or ADM), country of residence, and voting jurisdiction.[9] Two of the new reporting states (Massachusetts and Pennsylvania) could not provide data for several of the variables collected and were not included in the final analyses. Duplicate observations accounted for about 5% of the observations and were not included in the final analyses to avoid over-representation of the duplicate cases. After these adjustments, the final

[9] Each transaction is assigned a random alphanumerical reference number for individual transactions to identify the lifecycle of the ballot transaction without collecting personal information.

sample used in this report added up to 513,655 observations (about 40% of all the *UOCAVA* population).[10]

The analyses use a descriptive approach and focus on the potential impact of factors like ballot request timing and ballot transmission type on the success of the voting process. Because the ESB Data Standard is a census of all *UOCAVA* transactions in reporting states and jurisdictions, analyses are not weighted; however, they are only representative of these states and localities with valid data.[11,12] There were reporting states and jurisdictions that could not provide data for all the fields in ESB. When data were missing for a field relevant for an analysis, their observations were excluded and their exclusion is reported in a footnote. For example, if a state did not provide information on voter type, observations from that state are excluded in analyses of differences between ADM and overseas citizens, but included in other analyses where voter type was not a variable of interest.[13]

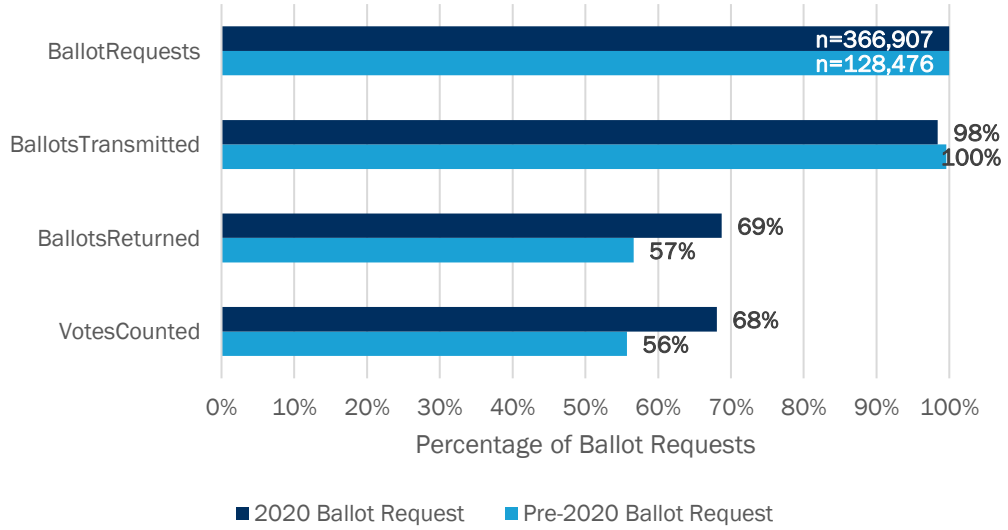
In addition to case-by-case exclusions, some analyses use only a set of states and jurisdictions.[14] Particularly, when comparing data from different elections, the analysis may focus only on states and jurisdictions that provided data for all the elections involved to avoid the potential confound effect of including different states and jurisdictions for multi-year comparisons.

The 2020 *UOCAVA* Voting Pipeline

The voting pipeline begins with a request for an absentee ballot and ends with a returned ballot. However, there are many potential drop-out points along the pipeline that may prevent a voter from continuing to later phases in the voting process. Figure 2 shows the basic *UOCAVA* voting pipeline using the 2020 ESB data. In the figure, *UOCAVA* voters are divided into two groups: those who submitted an absentee ballot request during the 2020 Election year and those who had requested an absentee ballot before 2020. In total, there were 513,655 unique ballot requestors in the 2020 ESB data set. Of those, 366,907 (71.4%) requests were made in 2020, and 128,476 (25.0%) in earlier years.[15]

[10] The number of *UOCAVA* voters registered and eligible to vote is used as a proxy on the total number of ballots requested and is obtained from item B1a in the Election Administration and Voting Survey (EAVS). See https://www.eac.gov/sites/default/files/document_library/files/2020_EAVS_Report_Final_508c.pdf
[11] See Appendix A for a complete tabulation of the 2020 ESB data by variable.
[12] Data were representative of exported data sets by localities by October 5, 2021. Because this data set includes those who, at some point, submitted an absentee ballot request indicating their UCOAVA status as either a military member, military family, or overseas citizen, the unit of analysis represents *UOCAVA* ballot requestors.
[13] See Appendix B for detailed missingness by variable.
[14] When additional "case-by-case exclusions" are present in a particular analysis, they are flagged and the rationale behind the exclusion is discussed.
[15] There were 18,087 (3.5%) observations with ballot requests dated after Election Day 2020.

Figure 2. *UOCAVA* Voting Pipeline—Over Two-Thirds of Ballots Requested During the Election Year Were Returned and Counted



Election offices transmitted ballots to 97.2% of those from whom a ballot request was received by Election Day.[16] Overall, less than 0.1% of all ballot requests received by Election Day (120 ballot requests) were rejected. The most frequent reason for rejection of ballot requests was due to the request being invalid (45.8%) or missing the voter's signature (24.2%). Overall, most voters who enter the *UOCAVA* voting pipeline by submitting a ballot request successfully complete this phase in the process and move on to have a blank ballot transmitted to them by their local election office.

The greatest drop-off occurred between ballot transmission and ballot return, when close to one-third of ballots (33.0%) drop out of the process. ESB data shows 481,737 absentee ballots were transmitted in 2020, and 322,630 returned ballots were ultimately received by election offices.[17]

For voters who did successfully return an absentee ballot, nearly all made it to the end of the pipeline and had their returned ballot counted. ESB data shows that 99.2% of returned ballots were ultimately counted. Ballot requests received during the year of the election are associated with a higher ballot return rate, similar to the findings in the 2018 ESB research note.

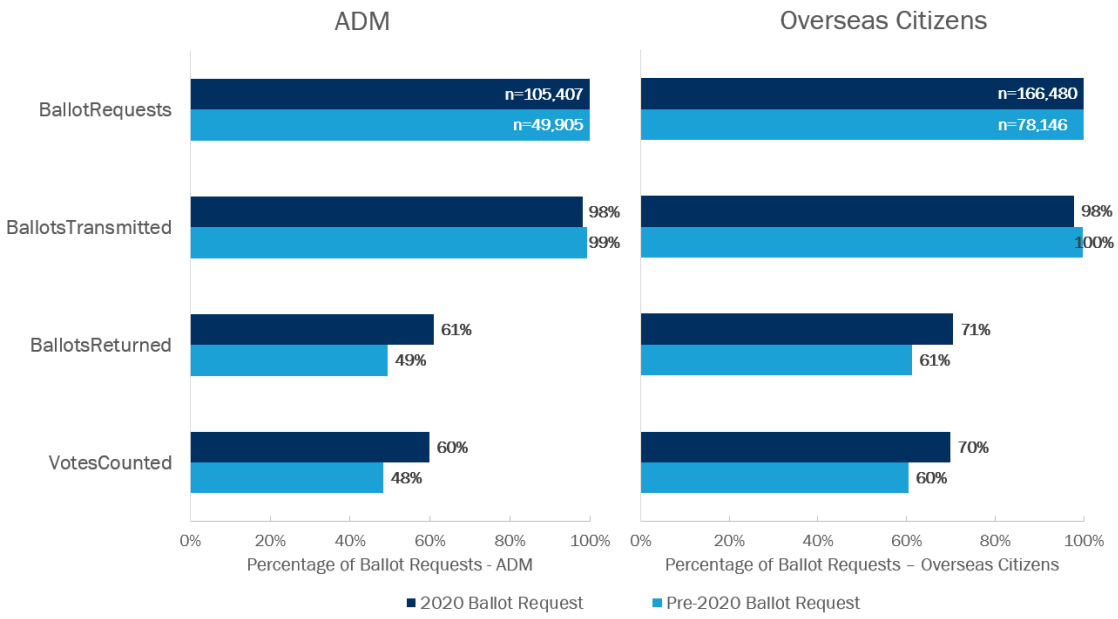
The overall patterns seen in the *UOCAVA* voting pipeline are consistent across different *UOCAVA* voter types. Figure 3 shows the voting pipeline for ADM and overseas citizens. Overall, there were more overseas citizen voters than military voters represented in the 2020 ESB data. Across both groups, and consistent with the findings in the overall data, the primary drop-off point in the *UOCAVA* voting pipeline occurred between ballot transmission and ballot return, with the year of ballot

[16] Nationally, approximately 2.7% of ballot requests made using an FPCA were rejected according to data reported in the 2020 Election Administration and Voting Survey.

[17] This number includes both regular absentee ballots and Federal Write-in Absentee Ballots (FWABs), which can be used as a back-up ballot used in place of a regular absentee ballot, effectively overriding drop-off associated with ballot transmission issues. In some states, the FWAB may be used even if a *UOCAVA* voter does not first submit an absentee ballot request. Overall, 10,110 voters used the FWAB for absentee ballot return. For only two of these voters, the FWAB was both the ballot request and returned ballot type.

request once again playing an important role in the return rate. Ballots requested in 2020 were returned at higher rates among ADM (60.6%) and overseas citizens (70.0%) compared to those requested in previous years (49.4% for ADM and 61.3% for overseas citizens). For all voter types, the majority of voters who successfully returned an absentee ballot ultimately had that ballot counted in the 2020 General Election.

Figure 3. ADM Voting Pipeline—ADM Returned Over 60 Percent of the Ballots Requested in 2020 and Overseas Citizens Returned Over 70 Percent of the Ballots Requested in 2020



The Voting Journey: Ballot Request, Transmission, and Return

The main steps of the *UOCAVA* voting process are consistent across states and can be broken down into ballot request, transmission, and return. However, the paths taken by voters to complete each step vary substantially. Differences in how and when voters complete each step affect the likelihood of the voter being able to successfully complete the process and have their ballot counted. State policy and other factors—such as the COVID-19 pandemic in 2020—also have an effect on how voters completed each step of the voting process. This section examines how voters navigated each phase in the *UOCAVA* voting pipeline, the results, and potential factors that affect voters' decisions during the process.

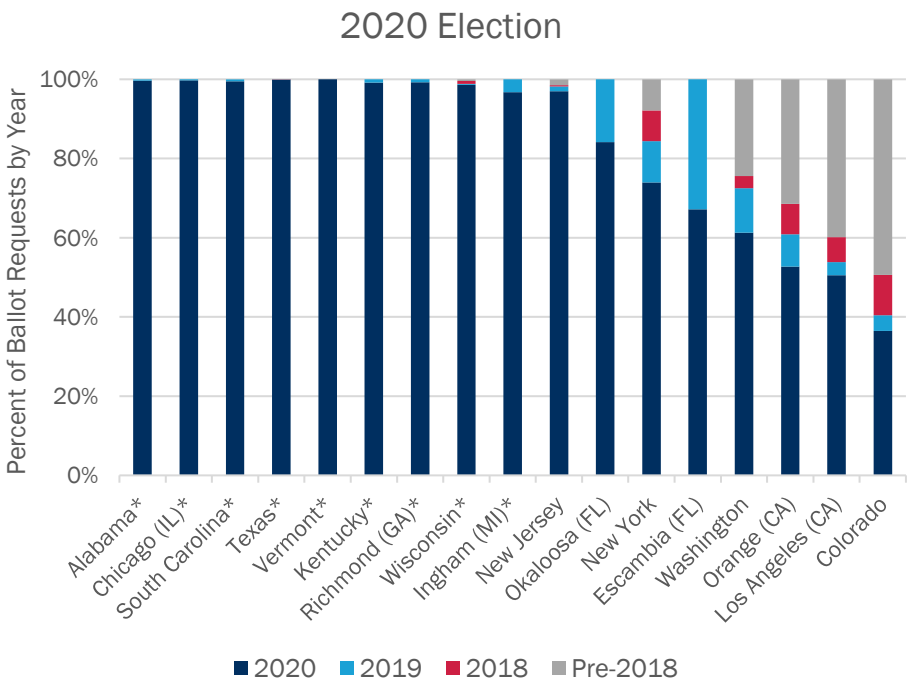
Ballot Requests

The first steps in the voting process are registering to vote and requesting an absentee ballot. For *UOCAVA* voters, these two processes may be completed at the same time using an FPCA, which is accepted by all states as both a registration and absentee ballot request form. Absentee ballots may also be requested using state ballot request forms or other procedures, which may or may not offer

the same protections as using an FPCA. States differ in requirements for ballot requests, particularly in how often this step needs to be completed, with some states requiring that a new request be submitted for every election and others continuing to recognize a ballot request as valid until the voter moves or cancels their request.

Even for this initial step, voters differ substantially in how and when they engage. Figure 4 shows the year in which reporting states and jurisdictions received *UOCAVA* ballot requests that were recognized for the 2020 General Election. Overall, most ballot requests were made in 2020, the year of the election (74.1%). In this graph, states and jurisdictions where FPCAs are valid as ballot requests only for one year or one election cycle are flagged with an asterisk.[18] As expected, these states report receiving almost all of their ballot requests during the 2020 election year. This holds true even among states that do not require *UOCAVA* voters to send a ballot request every election cycle. With the exception of Colorado, a majority of ballot requests in every state and jurisdiction were submitted in 2020.

Figure 4. *UOCAVA* Ballot Requests by Year—The Majority of Ballot Requests Were Received in 2020



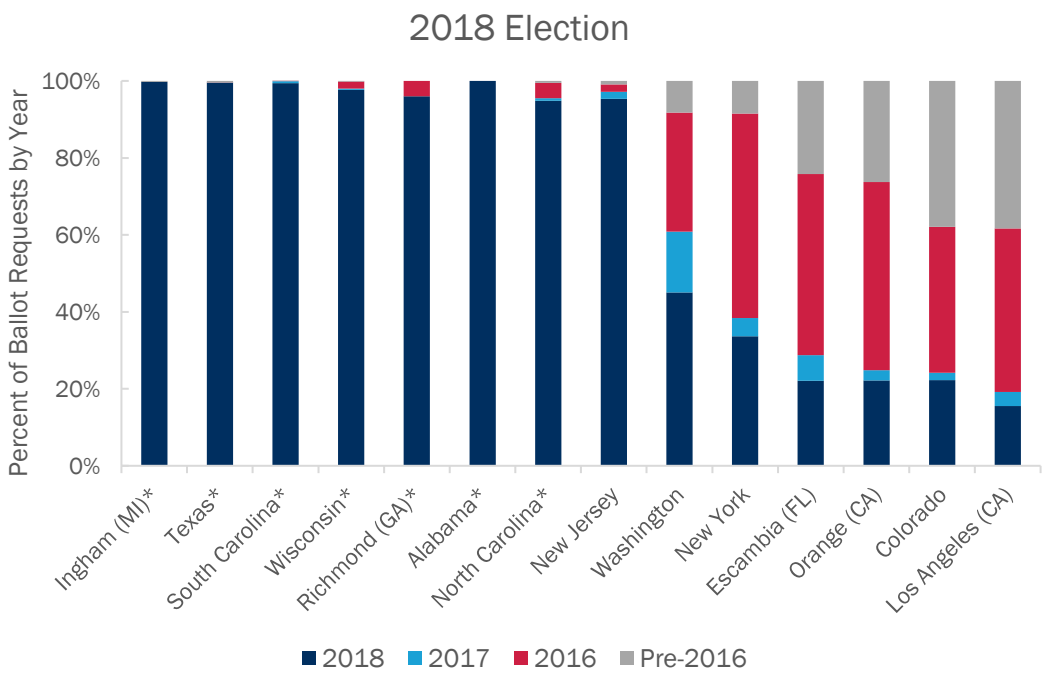
* FPCA is valid as a ballot request for one year or one election cycle, according to state's policy.

These results stand in direct contrast to the 2018 midterm election when almost half (48.6%) of the ballot requests for the 2018 general election were originally received in 2016 among reporting states and jurisdictions (see Figure 5). This "carryover" of ballot requests from one general election

[18] Information on states' policy on FPCA validity period was obtained from EAC's Policy Survey. Election Assistance Commission (2021). "Election Administration and Voting Survey." 54—113. Available at: https://www.eac.gov/sites/default/files/document_library/files/2020_EAVS_Report_Final_508c.pdf

to the next does not seem to have a substantial effect during a presidential election year like 2020, likely a by-product of presidential years drawing more attention (and more ballot requests) from the electorate. These results also suggest that among states that allow ballot requests to remain valid for several election cycles, the ballot requests placed in 2020 will account for a good portion of the ballot requests reported in the next mid-term election.

Figure 5. *UOCAVA* Ballot Requests by Year—Almost Half of Ballot Requests for the 2018 General Election Were Received in 2016



* FPCA is valid as a ballot request for one year or one election cycle, according to state's policy.

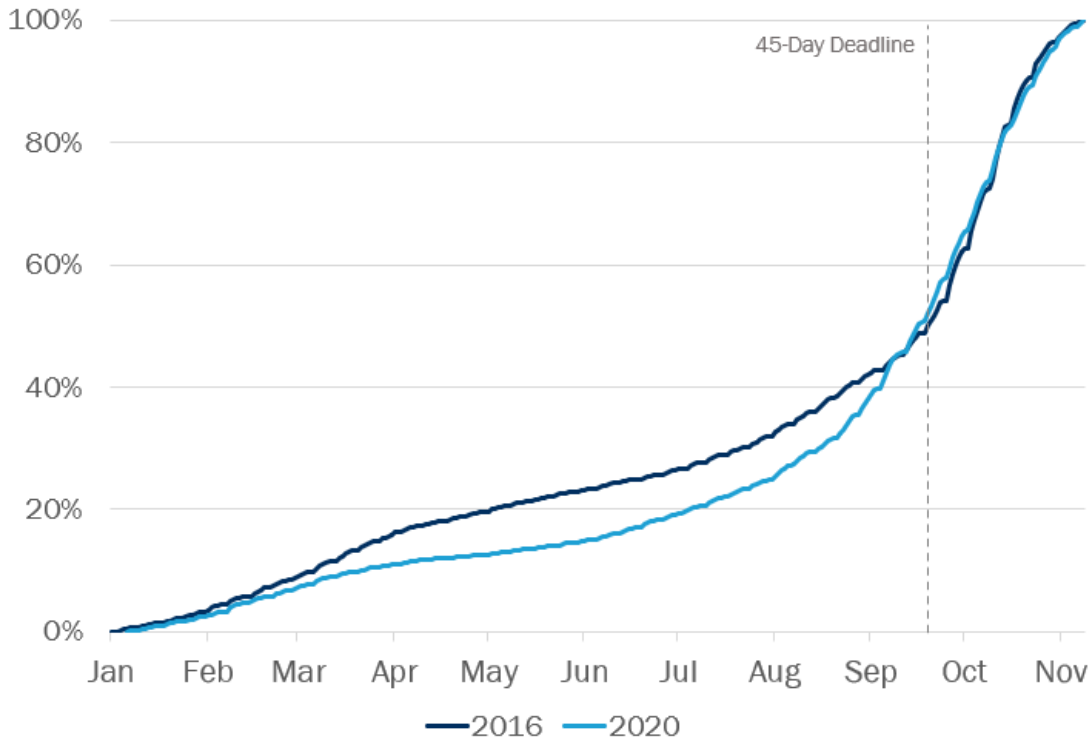
The *MOVE Act* of 2009 provides that ballots are transmitted to *UOCAVA* voters no later than 45 days before the election—given the voter filed a valid ballot request before the deadline. The 45-day deadline serves as a protection to allow *UOCAVA* voters enough time to complete the voting process. With this protection in mind, the 45-day deadline is used in this research note to analyze the outcomes of ballots requested before and after the deadline.

Overall, 366,907 ballot requests (74.1% of all requests represented in the 2020 ESB data) were received during the calendar year 2020; of those, 58.4% were received on or before the 45-day deadline of September 19, 2020, and 41.6% were received after that deadline. When comparing when ADM and overseas citizens requested their ballots, it becomes apparent that they follow a very similar timeline, with 50% of ADM requesting a ballot in 2020 doing so by September 15, and 50% of overseas citizens requesting a ballot by September 13—a difference of only two days between the two *UOCAVA* populations. These results show a slightly different trend than previous elections when ADM reached 50% of their ballot requests earlier than overseas citizens. This trend change may

have been affected by differential complications in the voting process due to COVID-19, as well as more widespread messaging to voters to start the voting process earlier.

Comparing the ballot request timing in 2020 with the previous presidential election shows that the overall ballot request cycle is very similar (see Figure 6). For both election years, election offices received some ballot requests during the early months of the year—coinciding with the primary election season of most states—then the number of ballot requests received slows down during summer and increases significantly as the summer ends and the general election approaches. This cycle, however, shows some differences between 2020 and 2016. One significant difference is that the number of ballot requests received between early March and June is notably lower in 2020 (about 7% of all ballot requests received in 2020) compared to the same period in 2016 (about 15% of ballot requests). The most likely explanation for this difference is the worldwide start of restrictions and agency shutdowns starting in March 2020 because of the COVID-19 pandemic. The other major difference in the ballot request timeline between 2016 and 2020 is the point in time when ballot requests increase. In 2016, this surge of ballot requests received happened around early September. In 2020, on the other hand, this change seems to happen a few weeks earlier (around mid-August).

Figure 6. Timing of 2016 and 2020 *UOCAVA* Ballot Requests—Increase of Pace in Ballot Requests Received Occurred Around Mid-August in 2020 and Mid-September in 2016[19]



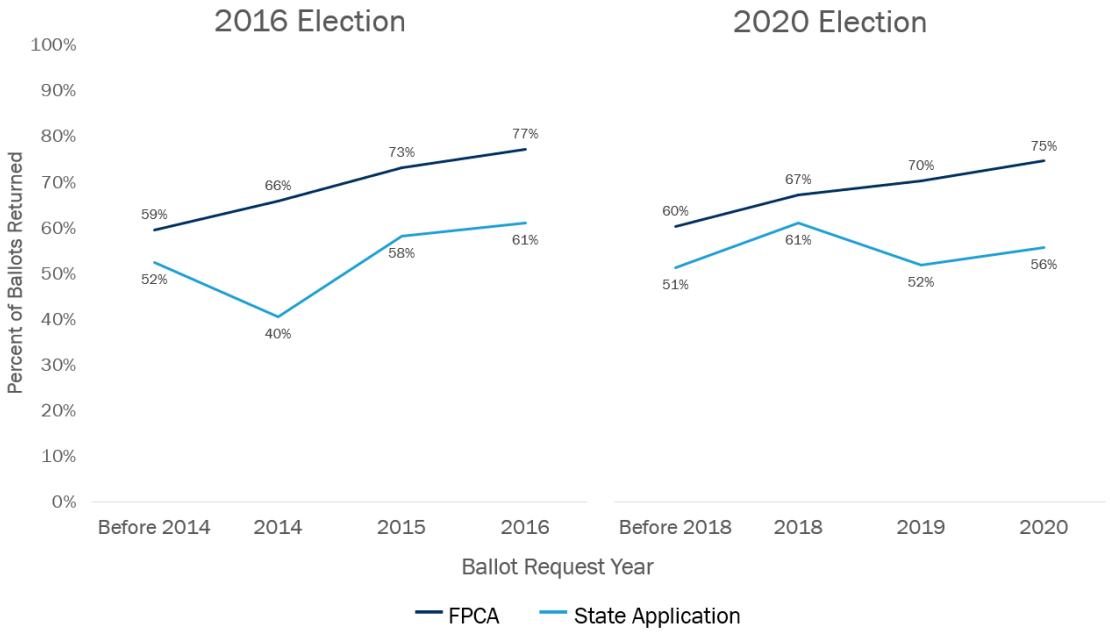
[19] This figure only includes data for the states and jurisdiction that reported ESB data in both 2016 and 2020, which are: Colorado, New Jersey, New York, South Carolina, Washington, Wisconsin, Bexar County (TX), Harris County (TX), Los Angeles County (CA), Okaloosa County (FL), and Orange County (CA).

Data Standardization and the 2020 General Election

In addition to the timing of the ballot request, another important aspect of the voting process is the form that a *UOCAVA* voter chooses to file that ballot request. ESB tracks several distinct types of ballot requests, of which FPCAs and state applications account for almost 90% of all ballot requests.[20] The FPCA is unique to *UOCAVA* voters and allows them to both register and request an absentee ballot and ensuring that they are given the special protections offered by *UOCAVA* and the *MOVE Act*, such as having a ballot transmitted at least 45 days before an election and that at least one electronic mode of blank ballot transmission is available to voters. Voters who use an FPCA to request an absentee ballot tend to return their ballots at slightly higher rates than those using state forms.

Figure 7 shows the absentee ballot return rate by request year and method for 2020 and 2016. Independent of the year in which a ballot request originated, those *UOCAVA* voters using an FPCA were more likely to return their absentee ballot than voters requesting a ballot using a state application. This relationship may reflect greater *UOCAVA* protections for those using an FPCA and differences in the voters who use this form versus other methods of ballot request (e.g., voters using an FPCA may be more knowledgeable than others about the *UOCAVA* voting process). The relationship also emphasizes the importance of FPCAs as a method for ballot requests and shows how completing the FPCA on the year of the election is the approach with the best outcomes.

Figure 7. Ballot Return Rate by Request Type and Year—Highest Ballot Return Rate Among Absentee Ballot Requestors Using an FPCA and Those Submitting A Request in The Current Election Year[21]



[20] The other four ballot request categories covered in ESB (i.e., "FWAB", "Informal Request", "NVRA", and "Untracked") accounted for 10.9% of all ballot requests.

[21] These figures exclude some states that reported implausible return rates of over 95% and observations that do not provide data on ballot request type (or have a request type other than FPCA or state application). They also exclude observations with missing data on ballot request date. Data from South Carolina in 2016 is not present in the graphs because they reported that the type of all their ballot requests was "Untracked."

Impact of Ballot Request Timing on Voting Process Completion

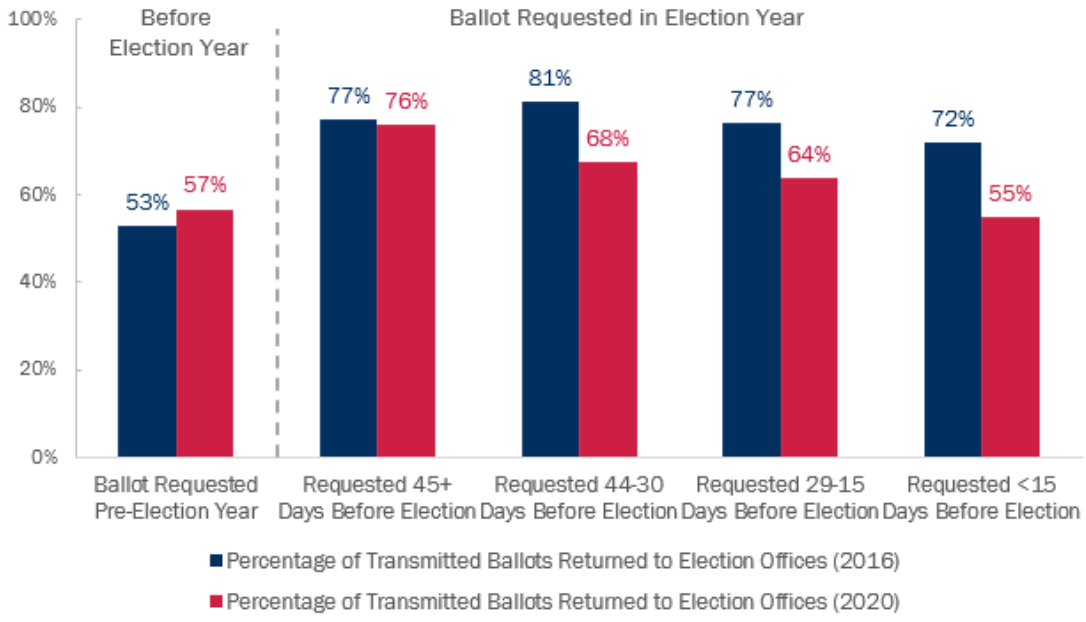
Ballot request timing impacts subsequent steps in the *UOCAVA* voting process in various ways. In 2018, the only midterm election year for which ESB data are available, later requestors had high ballot return rates, likely because those requesting a ballot were more interested in voting and more motivated to complete the process than those receiving a ballot automatically as a result of a request made during a previous election year.[22] In 2020, timing became an even more important factor in voting success. The closer to Election Day a voter started the process in 2020, the less likely they were to complete the voting process. This may reflect challenges associated with COVID-19 that made it more difficult for late ballot requestors to successfully complete all the steps on time.

Among states and jurisdictions participating in the 2020 ESB Data Standard, 342,685 ballot requests were received by the 45-day deadline (69.2% of the total), and 152,698 requests were received between the 45-day deadline and Election Day.[23] Figure 8 shows how these ballot requests were distributed in the weeks leading to Election Day for the 2016 and 2020 presidential elections. The figure shows that for both elections, ballot requests that originated in the years before the election had significantly lower ballot return rates than those that were requested during the election year, and particularly those received before the 45-day deadline. Interestingly, in 2016, the percentage of ballots returned was very similar for ballots requested before and after the 45-day deadline, with each having return rates above 70%. This trend did not hold in 2020. Ballots requested before the 45-day deadline in 2020 had a return rate of over 70%; however, ballot return rates declined notably the closer the ballot request was to the day of the election. This relationship was probably impacted by the COVID-19 pandemic, which, among other challenges, increased processing and mailing times, potentially making it harder for *UOCAVA* voters to complete the voting process closer to Election Day.

[22] Federal Voting Assistance Program (2020). "Data Standardization and the *UOCAVA* Voting Pipeline." Available at: https://www.fvap.gov/uploads/FVAP/Reports/2018-ESB-Research-Note.pdf

[23] The *MOVE Act* of 2009 amended *UOCAVA* to require all U.S. states and jurisdictions to transmit absentee ballots no later than 45 days before a Federal election to all *UOCAVA* voters who had submitted an absentee ballot request by this date, and that at least one electronic mode of blank ballot transmission be made available.

Figure 8. Percentage of Ballots Returned Based on the Date the Ballot was Requested—Ballots Requested in the Election Year had High Return Rates Than Ballots Requested Previous Years



The observed trend in 2020 also shows the effectiveness of the 45-day deadline implemented by the *MOVE Act*. As seen in Figure 8, ballot requests received before the 45-day deadline had very similar return rates in 2020 and 2016 (for both pre-election year ballot requests and election year ballot requests). Differences between the two elections start to appear after the 45-day deadline. This finding provides further support to the benefits of the 45-day deadline in ensuring *UOCAVA* voters have enough time to complete the voting process, particularly in an election year full of challenges. Results also emphasize the importance of *UOCAVA* voters starting the voting process early to have enough time to complete it successfully.

Ballot Request Method and *UOCAVA* Populations

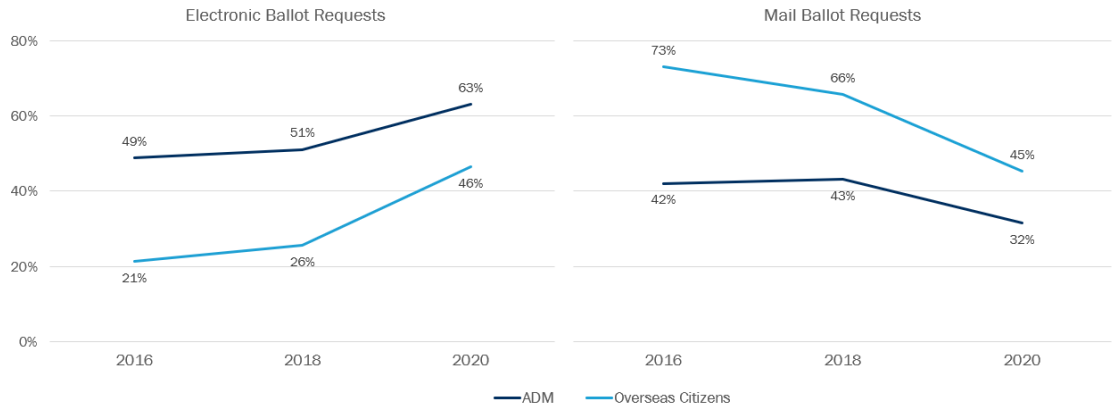
In addition to when ballots are requested and what type of ballot request is used, there are differences in how the ballots are requested. Most states allow *UOCAVA* voters to file a ballot request by mail or using some electronic method such as email, fax, or an online portal. For the 2020 general election, reporting ESB states and jurisdictions received 53.8% of the ballot requests through an electronic method and 37.8% of ballot requests by mail. These results are almost the opposite of the results found looking at ESB data from 2018 and 2016, where roughly 55% of the ballot requests were received by mail and close to 38% by electronic means for both elections.[24] The change in the method used for requesting ballots in 2020 may be associated with *UOCAVA* voters trying to avoid mail service disruptions caused by the pandemic and the convenience of electronic

[24] The reporting states and jurisdictions where slightly different in 2020, 2018, and 2016 and so the comparison needs to be taken with caution (see Figure 1 for details).

methods to place ballot requests, which were widely promoted as part of broader efforts to encourage absentee voting during the 2020 election.[25]

Interestingly, when comparing ADM and overseas citizens in their use of mail and electronic methods to request their absentee ballots, we find that among states and jurisdictions that have reported ESB data uninterruptedly between 2016 and 2020, ADM have relied more on electronic ballot request than overseas citizens during those years. However, overseas citizens' use of electronic means to request a ballot almost doubled in 2020 compared to the previous two general elections.

Figure 9. Percentage of Ballots Requested by Mode and Election—ADM Rely More on Electronic Ballot Request than Overseas Citizens.[26]



The high use of electronic methods to request a ballot among ADM stands in contrast with the tendency of this *UOCAVA* population to rely more on mail to have their ballots transmitted from and return their ballots to the election office. The difference in the use of the electronic ballot request between overseas citizens and ADM needs to be further analyzed, but factors like the state where the ballot request originated, the messaging and communications to ADM, and the availability of each of the ballot request methods may have a role in the results observed.

Ballot Transmission

The second step of the process, once a ballot request is received and has been deemed valid, is the transmission of a blank ballot to the *UOCAVA* voter. In compliance with *the MOVE Act*, states are required to transmit ballots to voters at least 45 days before Election Day (given that the voter has requested a ballot before that deadline). Data from reporting states and jurisdictions confirm their adherence to *the MOVE Act*, as 87.4% of ballot requests dated before the 45-day deadline led to a

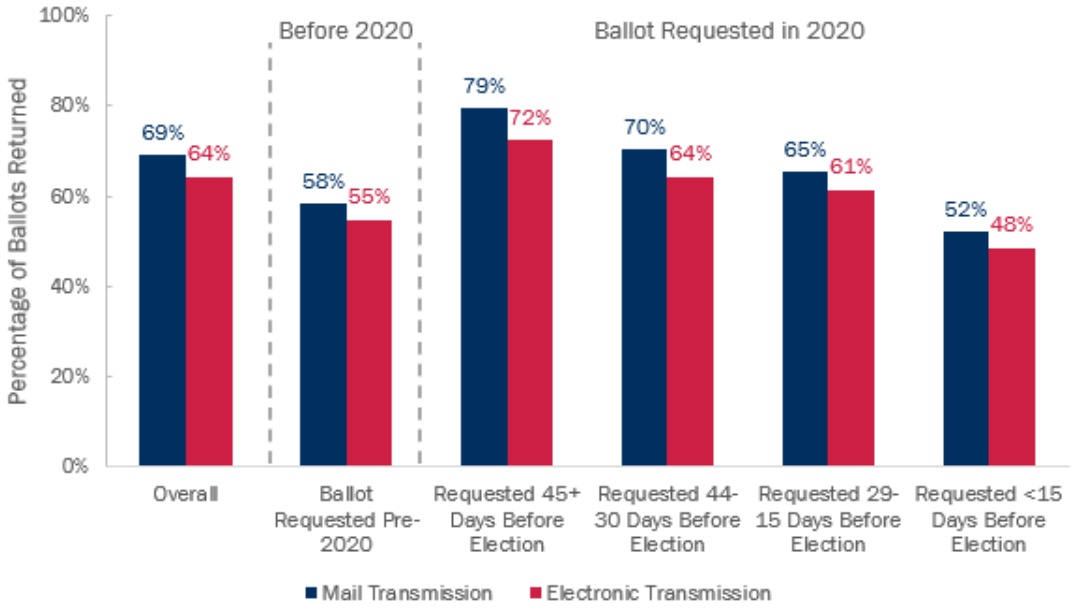
[25] It is important to note that mail disruptions particularly affected overseas citizens, as overseas ADM use overseas military mail, which is operated independently of regular civilian mail.
[26] This graph only uses data from states and jurisdictions that have reported ESB from 2016 until 2020 uninterruptedly. In particular: Colorado, New Jersey, New York, North Carolina, South Carolina, Washington, Wisconsin, Bexar County (TX), Harris County (TX), Los Angeles County (CA), and Orange County (CA).

ballot transmission by September 19, 2020 (the date of the 45-day deadline for the 2020 General Election).

For those ballot requests received past the 45-day deadline, ESB data show that election offices diligently processed the request and transmitted blank ballots to *UOCAVA* voters, usually in a week or less from the date they received the ballot request. Although the ballot request processing times are generally short, ballot requests received too close to Election Day delay the start of the voting process and make it more difficult for voters to successfully complete it on time, particularly during a pandemic.

Among participating states and jurisdictions, 50.1% of ballots transmitted to voters requesting their ballot by the 45-day deadline were sent by regular mail (including requests made in 2020 and earlier). Electronic delivery slightly increased for ballot requests received after the 45-day deadline; overall, 50.3% of ballots were transmitted electronically. Figure 10 shows return rates for ballots transmitted by mail or by electronic means by the timing of ballot request (and, subsequently, transmission). The return rate gap between the two transmission modes decreases as the ballot request is received closer to Election Day, however, return rates are slightly higher for ballots transmitted by mail compared to ballots transmitted electronically independently of the timing of the ballot request.

Figure 10. Percentage of Ballots Returned by Transmission Mode—Ballots Transmitted by Mail Had Higher Return Rates than Ballots Transmitted Electronically Overall



Among the ballots that were returned by voters to the election office, only 0.8% were ultimately rejected. Looking at the rejection rate by ballot request timing and transmission mode in 2020, the most relevant factor was the timing of the ballot request. Independent of the ballot transmission method (i.e., mail or electronic), less than 0.6% of ballots requested in 2020 before the 45-day deadline were ultimately rejected. The rejection rate increased to 1.0% for ballots requested after the deadline but at least two weeks before Election Day. Ballots requested in the two weeks leading to the election had the highest rejection rates (2.4%), with a higher rejection rate for ballots transmitted electronically (2.9%) compared to ballots transmitted by mail (1.9%).

The data on ballot return and ballot rejection show the importance of both when a ballot request is received and how the ballot is then transmitted to the *UOCAVA* voter on the ability of that voter to successfully complete the *UOCAVA* voting process. Ideally, ballot requests should be submitted early during the election year, before the 45-day deadline, to increase the chances of completing the voting process successfully.

Ballot Return

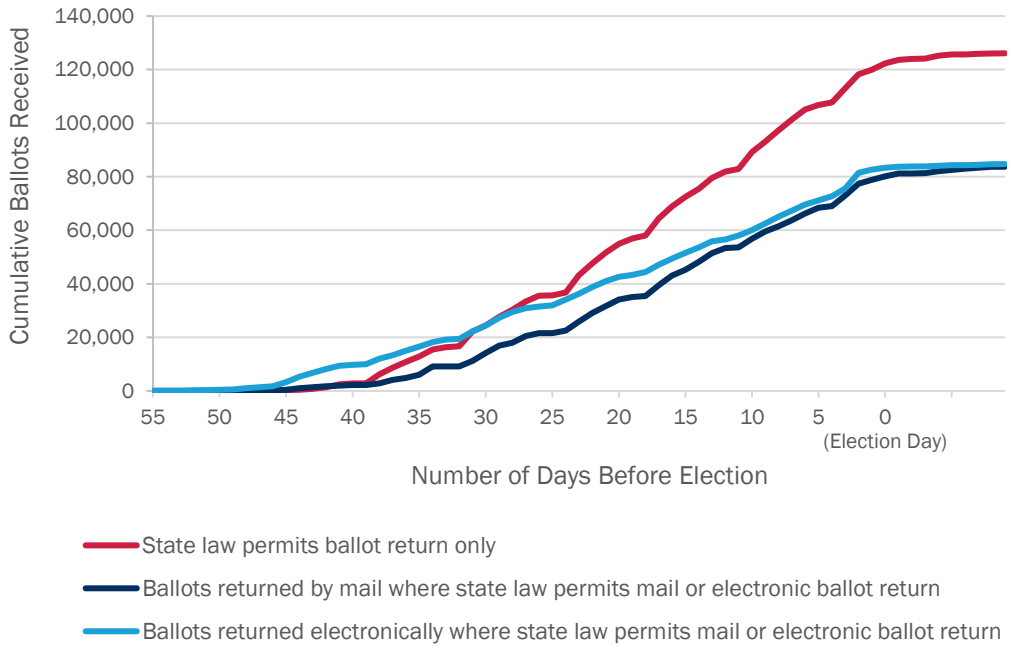
The last step of the voting process is the return of a voter's completed ballot to the election office, where it is ultimately processed and either counted or rejected. Of the total 481,737 ballots transmitted by participating states and jurisdictions for the 2020 general election, 322,630 were returned for counting (for an overall ballot return rate of 67.0%).[27] Depending on state policies, *UOCAVA* voters may have different options to return their completed ballots. Among reporting states and jurisdictions in the 2020 ESB, the states of Alabama, Colorado, Massachusetts, New Jersey, South Carolina, and Washington and the jurisdictions of Chicago City (IL), Escambia County (FL), Los Angeles County (CA), Okaloosa County (FL), and Orange County (CA) allowed for some form of electronic ballot return (i.e., email, online, and/or fax), whereas Kentucky, New York, Pennsylvania, Texas, Vermont, Wisconsin, Ingham (MI), and Richmond (GA) required that *UOCAVA* voters return absentee ballots by regular mail.[28]

Figure 11 presents the timeline and mode used by voters to return their ballots. The red line shows ballots returned by mail in those states that only allow mail as a form of ballot return, and the blue lines show ballots returned by mail (dark blue) and electronically (light blue) in states that allow for both options to return a ballot. The graph shows that mail return was overall the most-used method of ballot return by *UOCAVA* voters in 2020. However, state policies impact voter behavior, with *UOCAVA* voters in states that allow electronic return using electronic methods at a similar rate as regular mail to return their ballots. The use of electronic ballot return in those states that allow for it did not change significantly when compared to the use during the 2018 general election (52.3% in 2018 and 50.3% in 2020). The biggest difference when comparing the 2020 and 2018 results are the trends in the timing of return, particularly the fact that in 2020 electronic ballots were returned

[27] Throughout this paper we refer to returned ballots; it is important to note that these data actually refer to ballots that were received and processed by election offices. There might be instances when a voter did return a ballot but it might not have reached the election office, or it did but past the Election Day and canvass deadline and was then not recorded. Those ballots, which were actually returned by the voter, will not be included in the data since they were not ultimately recorded.
[28] Federal Voting Assistance Program (2019). "2020–2021 Voting Assistance Guide." Some of these states allowed electronic ballot return only in very particular circumstances and thus were included in the group allowing only mail ballot return. Texas allows for fax ballot return to *UOCAVA* voters located in a hostile fire area, and in 2020 Vermont allowed for email ballot return only to *UOCAVA* voters located in a USPS disrupted service area.

at a very steady pace rather than being concentrated in the week before the election as in 2018. This difference in the trends may show different usage of the electronic ballot return option. In 2018, it seemed that voters used electronic return modes particularly when returning their ballots very close to Election Day, most likely because electronic return would ensure that the ballot was received by the election office on time. In 2020, on the other hand, electronic ballots were returned considerably earlier than in 2018, and electronic ballot return was probably used to avoid potential mail issues linked to the COVID-19 pandemic rather than as a fail-safe option when returning the ballot too close to Election Day.

Figure 11: Cumulative Number of Ballots Returned by Date and Mode—Electronic Ballot Return and Mail Ballot Return Were Used at a Similar Rate in States Allowing Electronic Return in 2020



To further analyze the ballot return timeline and the potential effect of COVID-19 on when *UOCAVA* voters returned their ballots, we compared the ballot return timeline for the last three general elections in reporting states and jurisdictions that have provided ESB data uninterruptedly since 2016.[29] Figure 12 shows that in 2020, *UOCAVA* voters returned their ballots considerably earlier than in 2018 and 2016. Moreover, voters returned their ballots later during the mid-term election of 2018 compared to during the presidential elections of 2016 and 2020. In 2020, voters seemed to have followed the recommendations of returning their ballots as early as possible to avoid potential pandemic-related delays and ensure that their ballots were counted. Overall, ballots in 2020 were received about three days ahead of those for the 2016 presidential election; that is, for example, 60% of the ballots were returned 11 days before Election Day in 2020, whereas the 60% mark was reached 7 days before Election Day in 2016 (and 6 days before Election Day in 2018).

[29] The states and jurisdictions included are Colorado, New Jersey, New York, South Carolina Washington, Wisconsin, Bexar County (TX), Harris County (TX), Los Angeles County (CA), and Orange County (CA).

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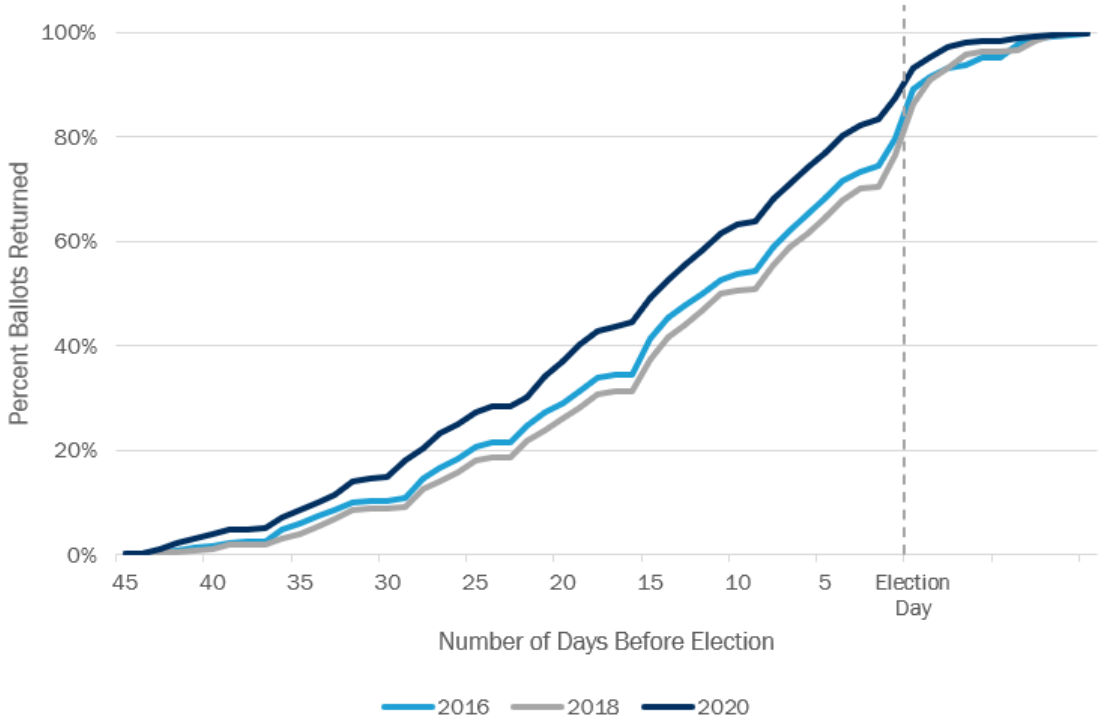
Figure 12: Cumulative Percentage of Ballots Returned, 2016—2020. *UOCAVA* Voters Returned Their Ballots Earlier in 2020 Than in the Previous Two General Elections.



After a ballot is returned by the voter and it arrives at the election office, it is reviewed by officials to confirm if the ballot is valid and should be counted or if it does not comply with the corresponding requirements and it should be rejected. Table 1 shows the outcomes of the ballots returned by *UOCAVA* voters for the 2020 election, including the reasons for ballot rejection. Among the reporting states and jurisdictions, only 0.8% of the ballots returned were ultimately rejected. The most common rejection reasons were “Mismatch of voter signature” (0.3%), “Missing the voting deadline” (0.2%), “Missing the voter’s signature” (0.1%), and “Other” (0.1%). The category “Other” includes other categories that were too small to be reported independently (e.g., postmark issues, voter moved) and is also used when a reason for ballot rejection cannot be identified among the options provided in the data standard.

Table 1. Outcome of Ballots Returned—Most Ballots Returned by *UOCAVA* Voters Were Ultimately Counted[30]

Ballot Outcome	Percentage of All Ballots Returned
Counted Ballot	99.2%
Rejected Ballot – Mismatch Voter Signature	0.3%
Rejected Ballot – Missed Deadline	0.2%
Rejected Ballot – Missing Voter Signature	0.1%
Rejected Ballot – Other	0.1%
Rejected Ballot – Incorrect or Invalid Ballot	0.1%
Rejected Ballot – Missing Ballot	0.1%

Conclusion

The number of reporting states and jurisdictions for the ESB Data Standard continues to grow, and the supporting analyses continues to show the advantages of transactional data when analyzing the voting process. The transactional data collected through ESB creates a better understanding of voter behavior and the importance of Congressional reforms, like the *MOVE Act*, that provide additional protections to the *UOCAVA* population (e.g., the requirement of sending a blank ballot to *UOCAVA* voters at least 45 days before the election).

The availability of dates associated with each of the main steps in the voting process (i.e., ballot request, ballot transmission, and ballot return) provides additional insight into the voting process. The results of this analysis also show that ballot return rates were very similar between the 2020 and 2016 presidential elections when the ballots were requested by the 45-day deadline. The return rate, however, dropped considerably in 2020 compared to the 2016 election when the ballot request was filed closer to Election Day. These results show that the 45-day deadline was sufficient to give voters enough time to complete the voting process in such a challenging situation overall, but especially in 2020 with the impact of the pandemic.

In addition to the 45-day deadline, the use of FPCAs and requesting the ballot during the election year were associated with higher ballot return rates—much like in the 2016 and 2018 elections. FPCAs provide increased protections to the *UOCAVA* population and guarantee that they can receive a ballot through an electronic method. Additionally, in-year ballot requests help to ensure that the voter information is up to date and that their state will send a ballot for the upcoming election—many states require that a ballot request be submitted every election year. These results align with best practices encouraged by FVAP for *UOCAVA* voters to complete an FPCA every election so that it can be processed in advance of the 45-day deadline, and whenever a voter moves or changes duty station, to ensure that their information is up to date so they receive a ballot in a timely manner.

[30] Reporting states and jurisdictions provide additional details in an open ended field about the reasons for ballots rejected because of "Other". Those details were further analyzed and categorized to find underlying rejection categories. The category "Incorrect or Invalid Ballot" was created in this table to account for all the ballots that were initially categorized as "Other" but reported in the open ended field that were rejected because the ballot was invalid or incorrect.

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The results of this research note also showed that ADM relied more on electronic ballot request than did overseas citizens for the last three general elections (i.e., 2016 to 2020). However, overseas citizens almost doubled their use of electronic means to request a ballot for the 2020 election compared to 2016 and 2018, probably influenced by the convenience of electronic methods and the impact of the pandemic on postal mail. The 2020 general election was the first of the last three elections where there were more ballot requests filed electronically than by mail. In addition to the mode of ballot request, another big change in the main trends of the voting process was the fact that ballots were received notably earlier in 2020 compared with the previous two general elections. This change is probably associated, to some extent, with the pandemic and the messages to *UOCAVA* voters to engage in the voting process earlier to avoid delays and ensure that they could successfully complete the voting process on time.

The findings of this research note contribute to expanding the knowledge on *UOCAVA* voter behavior and provide additional evidence for best practices to successfully complete the voting process. Transactional data also allowed to perform in-depth analysis on the timeline of the voting process and show changes in the 2020 general election process when compared with the previous general elections.

The continued effort to collect transactional data on the *UOCAVA* voting process and the increase in the number of reporting states and jurisdictions providing data to the ESB Data Standard contribute to the increased insight that these innovative analyses provide on the *UOCAVA* voting experience. FVAP will continue to encourage more states and jurisdictions to participate in this effort so results can be more representative at the national level and so that more states and localities can benefit from the insight gained through this research on best practices and how best to support the military, their families, and overseas citizens with the absentee voting process.

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Appendix A: Tabulation of 2020 ESB Data

The 2020 Election Administration and Voting Survey Section B (ESB) Data Standard consisted on a sample of 513,655 *UOCAVA* voters who requested an absentee ballot for the 2020 General Election. The ESB Data Standard collects data on when and how *UOCAVA* voters requested their ballots, got their ballots transmitted and how and when they returned them. Results for key variables are reported in this appendix, broken down by demographic subpopulations based on jurisdiction and voter type. Sample sizes (*N*'s) are included for each category.

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State / Jurisdiction Name. This table breaks down the voting state/jurisdiction from the *UOCAVA* voters represented in the sample [*N* =513,655].

State / Jurisdiction	Percent of Total Sample
Alabama (n=6,673)	1.3%
Chicago (IL) (n=8,659)	1.7%
Colorado (n=33,730)	6.6%
Escambia (FL) (n=9,251)	1.8%
Ingham (MI) (n=1,014)	0.2%
Kentucky (n=6,043)	1.2%
Los Angeles (CA) (n=35,739)	7.0%
New Jersey (n=26,347)	5.1%
New York (n=79,304)	15.4%
Okaloosa (FL) (n=9,459)	1.8%
Orange (CA) (n=7,994)	1.6%
Richmond (GA) (n=795)	0.2%
South Carolina (n=17,390)	3.4%
Texas (n=80,120)	15.6%
Vermont (n=3,265)	0.6%
Washington (n=170,031)	33.1%
Wisconsin (n=17,841)	3.5%

Data Standardization and the 2020 General Election

Application Request Type. This table breaks down the type of ballot request.

	Application Request Type					
	FPCA	State Application	FWAB[31]	NVRA[32]	Informal Request[33]	Untracked
Respondents (n=513,655)	48.7%	40.4%	0.1%	0%	0.2%	10.5%
Jurisdiction						
Alabama (n=6,673)	0%	0%	0%	0%	0%	100%
Chicago (IL) (n=8,659)	34.4%	0%	4.1%	0%	.00%	61.5%
Colorado (n=33,730)	26.6%	53.7%	0%	0%	0%	19.7%
Escambia (FL) (n=9,251)	0%	0%	0%	0%	0%	100%
Ingham (MI) (n=1,014)	0%	0%	3.6%	0%	0%	96.4%
Kentucky (n=6,043)	98.5%	0%	1.5%	0%	0%	0%
Los Angeles (CA) (n=35,739)	33.7%	66.2%	0%	0%	0%	0%
New Jersey (n=26,347)	89.3%	2.4%	0%	0%	0%	8.3%
New York (n=79,304)	100%	0%	0%	0%	0%	0%
Okaloosa (FL) (n=9,459)	21.9%	66.3%	0.5%	0%	11.3%	0%
Orange (CA) (n=7,994)	0%	0%	0%	0%	0%	100%
Richmond (GA) (n=795)	0%	0%	0%	0%	0%	100%
South Carolina (n=17,390)	13.2%	86.0%	0.2%	0.6%	0%	0%
Texas (n=80,120)	100%	0%	0%	0%	0%	0%
Vermont (n=3,265)	0%	100%	0%	0%	0%	0%
Washington (n=170,031)	17.3%	82.7%	0%	0%	0%	0%
Wisconsin (n=17,841)	20.5%	0%	0.5%	0%	0%	78.9%
Voter Type						
ADM (n=168,365)	13.8%	70.3%	0.1%	0%	0.6%	15.2%
Overseas Citizen (n=249,636)	55.0%	35.7%	0%	0%	0%	9.2%

[31] In some states, the Federal Write-In Absentee Ballots (FWABs) can be used as both a form of registration and ballot transmission at the same time.
[32] NVRA refers to the National Voter Registration Act, which established a National Voter Registration Form (NVRF).
[33] Informal requests refer to ballots requested through less formal processes, such as a letter or phone call.

Application Request Method. This table breaks down the method by which the application was sent.

Application Request Method								
	Mail	Online	Email	Fax	In-Person	Phone	Other	Untracked
Respondents (n=513,655)	24.9%	29.7%	4.0%	0%	3.9%	0.5%	0.9%	36.1%
Jurisdiction								
Alabama (n=6,673)	0%	0%	0%	0%	0%	0%	0%	100%
Chicago (IL) (n=8,659)	13.3%	86.7%	0%	0%	0%	0%	0%	0%
Colorado (n=33,730)	28.7%	33.8%	15.2%	0.3%	2.3%	0%	0%	19.7%
Escambia (FL) (n=9,251)	26.9%	30.2%	4.3%	0%	1.1%	19.2%	18.4%	0%
Ingham (MI) (n=1,014)	0%	0%	0%	0%	0%	0%	0%	100%
Kentucky (n=6,043)	0%	98.5%	0%	0%	0%	0%	0%	1.5%
Los Angeles (CA) (n=35,739)	65.9%	33.7%	0%	0%	0.3%	0%	0%	0%
New Jersey (n=26,347)	16.8%	0%	44.7%	0.2%	38.3%	0%	0%	0%
New York (n=79,304)	0%	0%	0%	0%	0%	0%	0%	100%
Okaloosa (FL) (n=9,459)	62.7%	26.0%	2.7%	0%	1.4%	7.1%	0%	0%
Orange (CA) (n=7,994)	0%	0%	0%	0%	0%	0%	0%	100%
Richmond (GA) (n=795)	0%	0%	0%	0%	0%	0%	0%	100%
South Carolina (n=17,390)	69.4%	21.9%	1.8%	0.4%	5.8%	0.8%	0%	0%
Texas (n=80,120)	0%	0%	0%	0%	0%	0%	0%	100%
Vermont (n=3,265)	13.0%	0%	0%	0%	0%	0%	87.0%	0%
Washington (n=170,031)	39.5%	56.5%	0%	0%	4.0%	0%	0%	0%
Wisconsin (n=17,841)	6.1%	58.9%	14.7%	0.1%	5.5%	0%	0%	14.6%
Voter Type								
ADM (n=168,365)	32.4%	49.7%	1.6%	0%	4.3%	1.4%	1.0%	9.5%
Overseas Citizen (n=249,636)	28.9%	22.0%	7.1%	0.1%	5.1%	0.1%	1.1%	35.7%

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Application Request Year. This table provides a breakdown by the year the application for an absentee ballot was submitted.[34]

	Application Request Year			
	2020	2019	2018	Pre-2018
Respondents (n=495,383)	74.1%	6.8%	3.5%	15.7%
Jurisdiction				
Alabama (n=6,570)	99.7%	0.3%	0%	0%
Chicago (IL) (n=8,546)	99.8%	0.2%	0%	0%
Colorado (n=33,695)	36.5%	4.0%	10.2%	49.4%
Escambia (FL) (n=9,250)	67.2%	32.8%	0%	0%
Ingham (MI) (n=1,013)	96.7%	3.3%	0%	0%
Kentucky (n=5,955)	99.2%	0.8%	0%	0%
Los Angeles (CA) (n=35,739)	50.5%	3.3%	6.4%	39.8%
New Jersey (n=26,347)	97.0%	1.2%	0.3%	1.5%
New York (n=77,506)	74.0%	10.4%	7.8%	7.9%
Okaloosa (FL) (n=9,450)	84.2%	15.8%	0%	0%
Orange (CA) (n=7,994)	52.7%	8.2%	7.6%	31.5%
Richmond (GA) (n=795)	99.2%	0.8%	0%	0%
South Carolina (n=17,390)	99.5%	0.5%	0%	0%
Texas (n=80,118)	99.9%	0.1%	0%	0%
Vermont (n=3,263)	100%	0%	0%	0%
Washington (n=153,912)	61.3%	11.2%	3.1%	24.4%
Wisconsin (n=17,840)	98.6%	0.2%	0.8%	0.4%
Voter Type				
ADM (n=155,312)	67.9%	9.7%	3.5%	18.9%
Overseas Citizen (n=244,626)	68.1%	7.5%	4.8%	19.6%

[34] The three fields reporting application request date (postmark, reception, and processing) in previous years are consolidated in one variable in the 2020 refinement of the ESB Data Standard.

Application Request Status: This table breaks down the status of the application requests for absentee ballots.

Application Request Status				
	Accepted	Pending	Rejected	Cancelled
Respondents (n=513,655)	99.4%	0.1%	0.1%	0.5%
Jurisdiction				
Alabama (n=6,673)	99.9%	0%	0.1%	0%
Chicago (IL) (n=8,659)	100%	0%	0%	0%
Colorado (n=33,730)	99.5%	0.5%	0%	0%
Escambia (FL) (n=9,251)	100%	0%	0%	0%
Ingham (MI) (n=1,014)	99.7%	0%	0%	0.3%
Kentucky (n=6,043)	93.0%	0%	0%	7.0%
Los Angeles (CA) (n=35,739)	98.9%	0.4%	0.7%	0%
New Jersey (n=26,347)	99.1%	0%	0%	0.9%
New York (n=79,304)	100%	0%	0%	0%
Okaloosa (FL) (n=9,459)	100%	0%	0%	0%
Orange (CA) (n=7,994)	100%	0%	0%	0%
Richmond (GA) (n=795)	100%	0%	0%	0%
South Carolina (n=17,390)	100%	0%	0%	0%
Texas (n=80,120)	97.6%	0%	0%	2.4%
Vermont (n=3,265)	100%	0%	0%	0%
Washington (n=170,031)	100%	0%	0%	0%
Wisconsin (n=17,841)	100%	0%	0%	0%
Voter Type				
ADM (n=168,365)	99.9%	0.1%	0%	0%
Overseas Citizen (n=249,636)	99.8%	0.1%	0.1%	0.1%

Application Request Rejection Type This table breaks down the reason given for why an application request was rejected.

Application Request Rejection Type					
	Invalid	Mismatch Voter Signature	Missing Voter Signature	Other	Untracked
Respondents (n=20,808)	1.4%	0%	0.2%	1.4%	97.0%
Jurisdiction					
Alabama (n=7)	0%	0%	0%	0%	100%
Chicago (IL) (n=0)	N/A	N/A	N/A	N/A	N/A
Colorado (n=177)	0%	0%	0%	0%	100%
Escambia (FL) (n=0)	N/A	N/A	N/A	N/A	N/A
Ingham (MI) (n=3)	0%	0%	0%	0%	100%
Kentucky (n=253)	0%	0%	0%	0%	100%
Los Angeles (CA) (n=401)	70.8%	2.0%	11.2%	16.0%	0%
New Jersey (n=230)	0%	0%	0%	100%	0%
New York (n=0)	N/A	N/A	N/A	N/A	N/A
Okaloosa (FL) (n=0)	N/A	N/A	N/A	N/A	N/A
Orange (CA) (n=0)	N/A	N/A	N/A	N/A	N/A
Richmond (GA) (n=0)	N/A	N/A	N/A	N/A	N/A
South Carolina (n=0)	N/A	N/A	N/A	N/A	N/A
Texas (n=1,896)	0%	0%	0%	0%	100%
Vermont (n=0)	N/A	N/A	N/A	N/A	N/A
Washington (n=0)	N/A	N/A	N/A	N/A	N/A
Wisconsin (n=17,841)	0%	0%	0%	0%	100%
Voter Type					
ADM (n=10,393)	0.7%	0%	0%	0.3%	98.9%
Overseas Citizen (n=8,248)	2.4%	0.1%	0.5%	3.2%	93.9%

Data Standardization and the 2020 General Election

Ballot Transmission Date. This table breaks down the date when an absentee ballot was transmitted to a voter.

	Ballot Transmission Date				
	45 Days or more before Election Day	30–44 Days before Election Day	15–29 Days before Election Day	0–14 Days before Election Day	After Election Day
Respondents (n=499,008)	62.8%	12.8%	14.6%	9.3%	0.5%
Jurisdiction					
Alabama (n=6,149)	41.1%	16.7%	24.3%	17.8%	0.1%
Chicago (IL) (n=8,649)	66.0%	12.2%	13.1%	7.2%	1.5%
Colorado (n=33,507)	86.2%	5.2%	5.0%	3.6%	0%
Escambia (FL) (n=9,040)	69.1%	12.4%	11.9%	6.5%	0%
Ingham (MI) (n=1,004)	68.2%	15.6%	11.2%	5.0%	0%
Kentucky (n=5,697)	69.1%	15.6%	12.0%	3.3%	0%
Los Angeles (CA) (n=34,717)	72.7%	11.5%	11.8%	3.9%	0.1%
New Jersey (n=26,013)	60.0%	17.9%	15.8%	6.3%	0%
New York (n=76,886)	67.0%	12.8%	13.9%	6.4%	0%
Okaloosa (FL) (n=9,382)	68.4%	11.7%	14.0%	5.4%	0.4%
Orange (CA) (n=7,994)	89.3%	3.8%	6.0%	0.9%	0.1%
Richmond (GA) (n=795)	62.1%	14.8%	15.6%	7.4%	0%
South Carolina (n=14,874)	48.5%	16.7%	17.2%	17.6%	0%
Texas (n=78,224)	54.9%	18.5%	19.0%	7.7%	0%
Vermont (n=3,263)	69.1%	15.6%	9.7%	5.5%	0%
Washington (n=170,031)	58.6%	10.6%	15.5%	14.1%	1.2%
Wisconsin (n=12,783)	54.3%	20.1%	14.4%	11.2%	0%
Voter Type					
ADM (n=162,792)	62.7%	9.9%	13.5%	13.2%	0.7%
Overseas Citizen (n=242,832)	65.2%	12.9%	14.0%	7.4%	0.4%

Data Standardization and the 2020 General Election

Ballot Transmission Method. This table breaks down the method used to send the ballot to the voter.

Ballot Transmission Method							
	Mail	Email	Online	Fax	In-Person	Other	Untracked
Respondents (n=506,306)	48.2%	40.5%	8.1%	0%	1.4%	0.6%	1.2%
Jurisdiction							
Alabama (n=6,149)	0%	0%	0%	0%	0%	0%	100%
Chicago (IL) (n=8,659)	13.3%	0%	86.7%	0%	0%	0%	0%
Colorado (n=33,507)	28.2%	71.6%	0%	0%	0.2%	0%	0%
Escambia (FL) (n=9,040)	64.5%	34.4%	0.1%	0%	1.0%	0%	0%
Ingham (MI) (n=1,014)	17.0%	78.0%	0%	0%	1.8%	0%	3.3%
Kentucky (n=5,697)	17.0%	83.0%	0%	0%	0%	0%	0%
Los Angeles (CA) (n=34,717)	99.9%	0%	0%	0%	0.1%	0%	0%
New Jersey (n=26,347)	10.5%	89.4%	0%	0%	0%	0%	0%
New York (n=76,891)	30.8%	69.2%	0%	0%	0%	0%	0%
Okaloosa (FL) (n=9,383)	63.6%	34.6%	0.1%	0%	1.7%	0%	0%
Orange (CA) (n=7,994)	21.8%	78.2%	0.1%	0%	0%	0%	0%
Richmond (GA) (n=795)	32.2%	0%	67.7%	0%	0.1%	0%	0%
South Carolina (n=14,856)	25.9%	66.8%	0.2%	0%	7.0%	0%	0%
Texas (n=80,120)	87.4%	12.6%	0%	0%	0%	0%	0%
Vermont (n=3,265)	13.0%	0%	0%	0%	0%	87.0%	0%
Washington (n=170,031)	45.6%	33.5%	18.1%	0%	2.8%	0%	0%
Wisconsin (n=17,841)	31.7%	52.9%	10.9%	0%	4.4%	0%	0%
Voter Type							
ADM (n=166,058)	57.5%	28.6%	8.6%	0%	3.3%	0.2%	1.9%
Overseas Citizen (n=244,957)	31.0%	58.3%	7.8%	0%	0.6%	1.1%	1.2%

Data Standardization and the 2020 General Election

Ballot Type This table breaks down the type of ballot transferred to the voter.

	Ballot Type					
	Absentee	FWAB	Federal	Full	Provisional	Untracked
Respondents (n=427,772)	75.4%	2.4%	1.9%	17.7%	0%	2.6%
Jurisdiction						
Alabama (n=6,149)	0%	0%	0%	0%	0%	100%
Chicago (IL) (n=7,683)	0%	0%	13.9%	86.1%	0%	0%
Colorado (n=33,507)	0%	0%	0%	100%	0%	0%
Escambia (FL) (n=9,251)	0%	0.4%	0%	99.6%	0%	0%
Ingham (MI) (n=1,014)	0%	0%	0%	0%	0%	100%
Kentucky (n=5,697)	100%	0%	0%	0%	0%	0%
Los Angeles (CA) (n=34,717)	99.9%	0%	0%	0.1%	0%	0%
New Jersey (n=20,825)	55.7%	44.3%	0%	0%	0%	0%
New York (n=76,891)	100%	0%	0%	0%	0%	0%
Okaloosa (FL) (n=9,459)	100%	0%	0%	0%	0%	0%
Orange (CA) (n=7,994)	0%	0%	0%	100%	0%	0%
Richmond (GA) (n=795)	0%	0%	0%	0%	0%	100%
South Carolina (n=14,874)	100%	0%	0%	0%	0%	0%
Texas (n=7,779)	0%	0%	11.5%	88.3%	0%	0.2%
Vermont (n=3,265)	0%	0%	0%	0%	0%	100%
Washington (n=170,031)	99.5%	0.5%	0%	0%	0%	0%
Wisconsin (n=17,841)	0%	0%	35.1%	64.8%	0%	0%
Voter Type						
ADM (n=165,624)	78.2%	0.5%	0%	18.6%	0%	2.7%
Overseas Citizen (n=240,174)	77.6%	3.9%	2.6%	13.1%	0%	2.8%

Data Standardization and the 2020 General Election

Ballot Return Date. This table breaks down the date when a ballot was returned.

	Ballot Return Date					
	30+ days before Election Day	15–29 days before Election Day	1–14 days before Election Day	Election Day	1–7 days after Election Day	8 days or more after Election Day
Respondents (n=334,514)	14.5%	34.2%	38.7%	5.4%	5.8%	1.4%
Jurisdiction						
Alabama (n=4,733)	12.0%	25.1%	51.2%	6.9%	4.6%	0.2%
Chicago (IL) (n=7,391)	10.1%	36.2%	32.7%	4.3%	10.2%	6.6%
Colorado (n=25,120)	23.3%	30.5%	34.5%	11.5%	0.1%	0%
Escambia (FL) (n=7,608)	13.3%	41.5%	37.1%	7.4%	0.4%	0.3%
Ingham (MI) (n=894)	20.1%	47.1%	27.3%	2.9%	1.7%	0.9%
Kentucky (n=4,213)	14.6%	40.0%	37.6%	3.5%	4.0%	0.2%
Los Angeles (CA) (n=22,165)	4.6%	37.8%	36.7%	8.4%	6.4%	6.0%
New Jersey (n=20,825)	20.1%	35.9%	35.1%	6.6%	2.0%	0.3%
New York (n=59,258)	15.1%	41.2%	31.0%	4.0%	7.2%	1.5%
Okaloosa (FL) (n=7,768)	18.5%	31.4%	42.9%	4.4%	1.0%	1.8%
Orange (CA) (n=5,096)	28.8%	31.1%	31.8%	4.3%	2.1%	1.8%
Richmond (GA) (n=577)	17.5%	21.0%	44.2%	10.7%	5.0%	1.6%
South Carolina (n=12,963)	29.7%	28.0%	36.5%	5.3%	0.4%	0.1%
Texas (n=58,869)	10.7%	33.6%	46.3%	4.5%	4.8%	0.1%
Vermont (n=2,986)	17.3%	45.4%	28.4%	1.6%	3.2%	4.1%
Washington (n=80,035)	11.3%	29.0%	42.3%	4.5%	10.9%	2.0%
Wisconsin (n=14,013)	18.0%	36.1%	40.9%	4.7%	0.2%	0.1%
Voter Type						
ADM (n=96,114)	12.0%	27.3%	44.4%	6.5%	8.3%	1.5%
Overseas Citizen (n=167,626)	17.4%	38.1%	33.2%	5.2%	4.4%	1.6%

Data Standardization and the 2020 General Election

Ballot Return Method. This table breaks down the method by which an absentee ballot was returned.

Ballot Return Method							
	Mail	Email	Online	Fax	In-Person	Other	Untracked
Respondents (n=336,832)	63.3%	20.4%	2.7%	2.5%	0.9%	6.2%	3.9%
Jurisdiction							
Alabama (n=4,733)	55.8%	0%	34.7%	0%	9.3%	0%	0.3%
Chicago (IL) (n=8,659)	13.3%	0%	86.7%	0%	0%	0%	0%
Colorado (n=25,299)	31.4%	67.8%	0%	0.2%	0.3%	0.3%	0%
Escambia (FL) (n=7,696)	94.1%	0%	0%	4.8%	1.1%	0%	0%
Ingham (MI) (n=1,014)	100%	0%	0%	0%	0%	0%	0%
Kentucky (n=4,213)	100%	0%	0%	0%	0%	0%	0%
Los Angeles (CA)[35] (n=22,190)	71.4%	0%	0%	24.5%	0.1%	4.0%	0%
New Jersey[36] (n=20,825)	15.1%	83.5%	0%	0.1%	0.1%	1.3%	0%
New York[37] (n=59,258)	100%	0%	0%	0%	0%	0%	0%
Okaloosa (FL) (n=7,986)	94.4%	0%	0%	4.3%	1.4%	0%	0%
Orange (CA)[4] (n=4,977)	61.0%	0%	0%	38.6%	0.4%	0%	0%
Richmond (GA)[6] (n=577)	92.9%	0%	0%	0%	0%	0%	7.1%
South Carolina (n=12,965)	36.4%	52.6%	0%	0.2%	10.8%	0%	0%
Texas[6] (n=58,869)	100%	0%	0%	0%	0%	0%	0%
Vermont (n=3,265)	100%	0%	0%	0%	0%	0%	0%
Washington (n=80,310)	41.0%	33.9%	0%	0.5%	0.2%	24.4%	0%
Wisconsin[6] (n=13,996)	0%	0%	0%	0%	5.6%	0%	94.4%
Voter Type							
ADM (n=96,732)	57.6%	14.4%	0.3%	0.6%	2.3%	17.9%	6.9%
Overseas Citizen (n=168,055)	55.5%	32.5%	0.8%	4.7%	0.5%	2.1%	3.9%

[35] California only allows ballot return by mail or by fax (fax only if the voter is overseas or activated within 6 days of the election).
[36] New Jersey allows ballot return by mail, email and fax. However, ballots returned by email ad fax need also to be mailed to the Board of Election.
[37] Georgia, Kentucky, Michigan, New York, Texas, Vermont, and Wisconsin only allow ballot return by mail. Texas allows ballot return by fax if voter is located in hostile fire area and Vermont allowed for email ballot return only to *UOCAVA* voters located in a USPS disrupted service area.

Data Standardization and the 2020 General Election

Ballot Rejection Type. This table describes the reasons for why a ballot was rejected.

	Ballot Rejection Type									
	Not Timely	Rejected	Mismatch Voter Signature [38]	Missing Voter Signature	Voided Spoiled	Undeliverable	Postmark	Voter Died	Voter Moved	Other
Respondents (n=5,843)	15.5%	2.7%	16.3%	8.2%	3.3%	22.3%	0.3%	0%	2.8%	28.6%
Jurisdiction										
Alabama (n=30)	53.3%	0%	0%	0%	0%	20.0%	0%	0%	0%	26.7%
Chicago (IL) (n=111)	80.2%	0%	17.1%	0%	0%	2.7%	0%	0%	0%	0%
Colorado (n=825)	3.9%	0%	29.0%	29.3%	0.1%	21.0%	0%	0%	0%	16.7%
Escambia (FL) (n=49)	0%	0%	10.2%	2.0%	0%	2.0%	0%	0%	20.4%	65.3%
Ingham (MI) (n=30)	93.3%	0%	0%	3.3%	0%	0%	0%	0%	3.3%	0%
Kentucky (n=0)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Los Angeles (CA) (n=1,462)	5.7%	8.8%	2.0%	0.6%	0.1%	25.7%	0%	0.1%	0%	57.0%
New Jersey (n=137)	47.4%	0%	11.7%	5.1%	0%	0%	0%	0%	0%	35.8%
New York (n=0)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Okaloosa (FL) (n=266)	48.1%	0%	4.5%	2.6%	0%	40.2%	0%	0%	0%	4.5%
Orange (CA) (n=6)	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Richmond (GA) (n=43)	23.3%	0%	0%	2.3%	58.1%	14.0%	0%	0%	0%	2.3%
South Carolina (n=38)	89.5%	0%	0%	2.6%	0%	0%	0%	0%	0%	7.9%
Texas (n=109)	16.5%	0%	0%	0%	0%	82.6%	0%	0%	0%	0.9%
Vermont (n=263)	27.4%	9.9%	0%	1.1%	0%	6.5%	0%	0%	0%	55.1%
Washington (n=1,650)	0%	0%	38.2%	12.7%	0%	28.8%	1.1%	0%	0%	19.2%
Wisconsin (n=824)	40.0%	0%	0%	0%	19.5%	5.8%	0%	0%	18.6%	16.0%
Voter Type										
ADM (n=2,761)	11.7%	1.1%	22.9%	7.7%	4.5%	28.4%	0.4%	0%	5.3%	18.1%
Overseas Citizen (n=2,573)	18.4%	1.6%	11.7%	10.5%	2.8%	15.4%	0.2%	0%	0.7%	38.6%

[38] A discussion with the states of Colorado and Washington provided additional insight on rejections due to mismatch of voter signature. Both states concurred that younger voters tend to have higher rates of rejection for this reason compared to older voters. The most likely reason for this discrepancy between age groups is that younger voters have less signature examples to compare with and younger voters may have more variance present in their signatures. Because the ADM population is younger than the overseas citizens population, this rejection reason seems to be more prevalent among ADM compared to overseas citizens as shown in the table breakdown.

Voter Type. This table describes the type of voter who requested an absentee ballot.

	Voter Type	
	Active Duty Military	Overseas Citizens
Respondents (n=418,001)	40.3%	59.7%
Jurisdiction		
Alabama (n=6,673)	49.2%	50.8%
Chicago (IL) (n=0)	N/A	N/A
Colorado (n=33,724)	32.7%	67.3%
Escambia (FL) (n=9,246)	91.8%	8.2%
Ingham (MI) (n=1,014)	16.6%	83.4%
Kentucky (n=0)	N/A	N/A
Los Angeles (CA) (n=34,990)	15.8%	84.2%
New Jersey (n=26,346)	10.1%	89.9%
New York (n=79,304)	9.8%	90.2%
Okaloosa (FL) (n=9,455)	90.9%	9.1%
Orange (CA) (n=7,994)	15.7%	84.3%
Richmond (GA) (n=795)	76.7%	23.3%
South Carolina (n=17,390)	54.2%	45.8%
Texas (n=0)	N/A	N/A
Vermont (n=3,265)	13.1%	86.9%
Washington (n=169,964)	58.2%	41.8%
Wisconsin (n=17,841)	57.2%	42.8%

Appendix B: Missingness by Variable

The nature of the ESB Data Standard data set makes it difficult to determine the level of missingness by variable since, compared to more traditional data sets, no information in a field sometimes has a meaning rather than being missing information. For example, within this data set, no information in "Ballot Rejection Reason" means that a ballot was actually counted (given that the ballot was transmitted and returned).

In an effort to evaluate missingness accounting for the complexities of this data set, we classified most of the variables in three categories: General Variables and Ballot Request, Ballot Transmission, and Ballot Return. The first group, General Variables and Ballot Request covers six variables for which it is expected that all observations have information (e.g., Voter Type, Ballot Request Type) since all observations in this dataset represent a voter that started the voting process by requesting a ballot. The second group, Ballot Transmission, covers the three variables related with the transmission of blank ballots and assumes that if there is information in one of them there must be information in the other two (e.g., if there is information of the date when the ballot was transmitted, there should be information on how it was transmitted and the type of ballot that was transmitted). Finally, the group Ballot Return covers the two variables associated to the return of a ballot to the election office (i.e., return method and date). In this case, if there is information in one of the two variables it is expected that there will be information in the other.

Data Standardization and the 2020 General Election

General Variables and Ballot Request: the missingness values in this table show the percentage of observations within a category (i.e., row) for which there is not information for that variable.

Missingness – General Variables and Ballot Request						
	State Name	Voter Type	Ballot Request Type	Ballot Request Method	Ballot Request Date	Ballot Request Status
Respondents (n=513,655)	0%	18.6%	0%	0%	0%	0%
Jurisdiction						
Alabama (n=6,673)	0%	0%	0%	0%	1.4%	0%
Chicago (IL) (n=8,659)	0%	100%	0%	0%	0%	0%
Colorado (n=33,730)	0%	0%	0%	0%	0%	0%
Escambia (FL) (n=9,251)	0%	0.1%	0%	0%	0%	0%
Ingham (MI) (n=1,014)	0%	0%	0%	0%	0%	0%
Kentucky (n=6,043)	0%	100%	0%	0%	1.5%	0%
Los Angeles (CA) (n=35,739)	0%	2.1%	0%	0%	0%	0%
New Jersey (n=26,347)	0%	0%	0%	0%	0%	0%
New York (n=79,304)	0%	0%	0%	0%	0%	0%
Okaloosa (FL) (n=9,459)	0%	0%	0%	0%	0%	0%
Orange (CA) (n=7,994)	0%	0%	0%	0%	0%	0%
Richmond (GA) (n=795)	0%	0%	0%	0%	0%	0%
South Carolina (n=17,390)	0%	0%	0%	0%	0%	0%
Texas (n=80,120)	0%	100%	0%	0%	0%	0%
Vermont (n=3,265)	0%	0%	0%	0%	0.1%	0%
Washington (n=170,031)	0%	0%	0%	0%	0%	0%
Wisconsin (n=17,841)	0%	0%	0%	0%	0%	0%

Ballot Transmission: the missingness values in this table show the percentage of observations within a category (i.e., row) for which there is not information (or is filled with "Untracked) for that variable when information was expected.

Missingness – Ballot Transmission			
	Ballot Type	Ballot Transmission Method	Ballot Transmission Date
Respondents (n=506,611)	15.6%	0.1%	1.5%
Jurisdiction			
Alabama (n=6,149)	100%	0%	0%
Chicago (IL) (n=8,659)	11.3%	0%	0.1%
Colorado (n=33,507)	0%	0%	0%
Escambia (FL) (n=9,251)	0%	2.3%	2.3%
Ingham (MI) (n=1,014)	100%	0%	1.0%
Kentucky (n=5,697)	0%	0%	0%
Los Angeles (CA) (n=34,717)	0%	0%	0%
New Jersey (n=26,347)	21.0%	0%	1.3%
New York (n=76,891)	0%	0%	0%
Okaloosa (FL) (n=9,459)	0%	0.8%	0.8%
Orange (CA) (n=7,994)	0%	0%	0%
Richmond (GA) (n=795)	100%	0%	0%
South Carolina (n=14,874)	0%	0.1%	0%
Texas (n=80,120)	90.3%	0%	2.4%
Vermont (n=3,265)	100%	0%	0.1%
Washington (n=170,031)	0%	0%	0%
Wisconsin (n=17,841)	0%	0%	28.4%

Data Standardization and the 2020 General Election

Ballot Return: the missingness values in this table show the percentage of observations within a category (i.e., row) for which there is not information for that variable when information was expected.

Missingness – Ballot Return		
	Ballot Return Method	Ballot Return Date
Respondents (n=337,214)	0.5%	1.1%
Jurisdiction		
Alabama (n=4,727)	0%	0%
Chicago (IL) (n=8,656)	0%	14.6%
Colorado (n=25,126)	0%	0%
Escambia (FL) (n=7,695)	0%	1.1%
Ingham (MI) (n=1,014)	0%	11.8%
Kentucky (n=4,213)	0%	0%
Los Angeles (CA) (n=22,666)	3.8%	3.8%
New Jersey (n=20,825)	0%	0%
New York (n=59,258)	0%	0%
Okaloosa (FL) (n=7,879)	0%	1.4%
Orange (CA) (n=5,096)	2.3%	0%
Richmond (GA) (n=573)	0.3%	0.3%
South Carolina (n=112,965)	0%	0%
Texas (n=58,818)	0%	0%
Vermont (n=3,248)	0%	8.6%
Washington (n=79,842)	0%	0.4%
Wisconsin (n=14,613)	4.2%	4.1%