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# Measuring the Impact of Recent Grants to Election Administrators Under the Help America Vote Act

## REPORT TO THE U.S. ELECTION ASSISTANCE COMMISSION

December 2024

## U.S. ELECTION ASSISTANCE COMMISSION


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# Executive Summary

The U.S. Election Assistance Commission (EAC) was created by Congress in 2002 to improve the administration of elections for federal offices through funding, guidance, and policy development under the Help America Vote Act of 2002 (HAVA). Through HAVA, Congress provides funding to state and local election jurisdictions to enhance their operations. Since 2018, the EAC has disbursed over $1 billion in Election Security Grants, constituting one-fifth of all federal spending on election administration to date. This report represents the first comprehensive effort to categorize and catalog the impact of federal election funding since 2018.

**As of August 2024, states reported spending over**

## $638 million

**(approximately 63%) of the more than $1 billion in appropriated Election Security funds. Of the remaining funds to be spent, the vast majority (more than 98%) has been budgeted for planned activities.[1]**

**States have spent approximately**

## $343 million

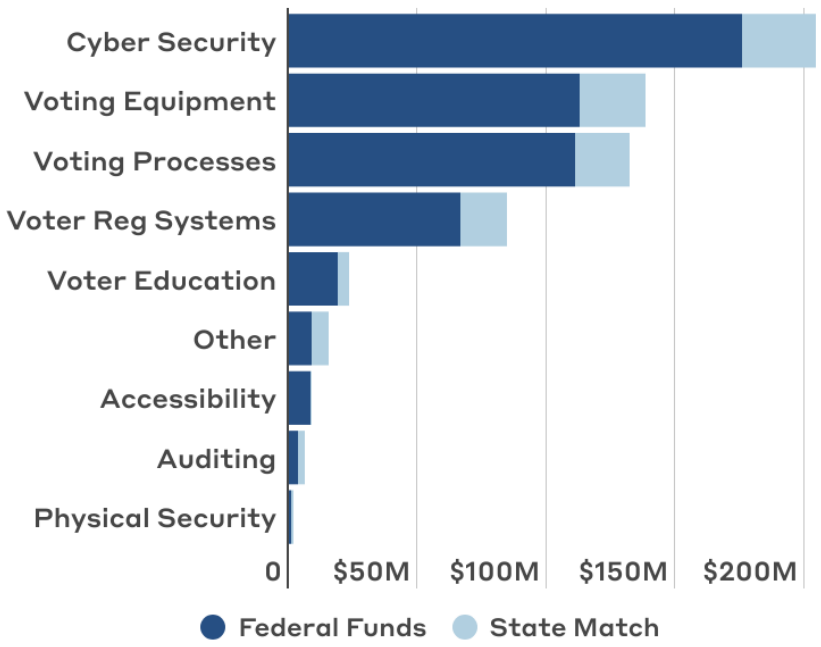
**(about 56% of the Election Security funds that have been spent) on voting equipment and cyber security—expenditures that are necessary to keep elections safe, secure, and trustworthy.**

To understand how funding has been deployed thus far, we gathered and analyzed grant reports, program narratives, and other documents provided by states[2] as part of the reporting process for federal Election Security Grants. We also conducted interviews with and reviewed additional materials from state and local election officials to provide a holistic assessment of the effects of Election Security Grants on election administration and the voting experience.

1 Calculated using cumulative budgets submitted by grantees with fiscal year 2024 Election Security funding applications.

2 Throughout this document, "states" refers to the 50 states, the District of Columbia, and five U.S. territories (American Samoa, the Commonwealth of Puerto Rico, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands).

## Funds Spent by Category, 2020-2023




We find that the Election Security program is a key pillar of support for elections infrastructure. Since 2018, Election Security Grants have enabled election officials to perform essential functions, such as:

- protecting IT systems from foreign and domestic cyberattacks;
- ensuring that election officials can continue operations in case of a cyberattack;
- making sure voting systems are new and up to date;
- improving the accuracy of voter rolls;
- demonstrating to their voters how elections are run and kept secure;
- making sure polling places are accessible to all Americans;
- protecting the integrity of voted ballots;
- auditing their elections to ensure that proper procedures were followed and that outcomes were correct.

Election officials interviewed for this report agreed that HAVA funding helps ensure that they have the resources they need to run elections safely and securely. But some election officials noted that providing increased funding to election officials at predictable intervals would enable them to provide even better service to their voters, plan for long-term investments, and keep election equipment up to date and secure.

# Introduction

Free and fair elections are the cornerstone of representative government. Since 2000, the process of administering elections has undergone rapid transformation, driven by technological modernization and increased public interest. Federal elections have more national security implications than in the past. These changes have placed additional strains on the local offices and officials tasked with ensuring the smooth and secure conduct of elections.

Federal funding to support election administration has been critical in providing election offices with the necessary resources to adapt to these changes. Federal grants have eased financial strains and provided opportunities for jurisdictions that would not have been able to afford vital equipment or process investments otherwise.

To better understand the impact of federal election funding, the U.S. Election Assistance Commission (EAC) partnered with the Bipartisan Policy Center and Fors Marsh to perform a mixed-methods research project exploring how federal Election Security Grants disbursed by the EAC between 2018-2023 have affected the administration of elections.[3] Election Security Grants were first appropriated through the Consolidated Appropriations Act of 2018 and subsequently made available through the Consolidated Appropriations Acts of 2020, 2022, 2023, and 2024. Over $1 billion in Election Security Grants have been disbursed to the 50 states, five territories, and the District of Columbia, constituting one-fifth of all federal spending on election administration to date.

This report represents the first comprehensive effort to catalog the effects of post-2018 federal election funding at the ground level. To that end, we compiled and analyzed grant reports, program narratives, and other documents provided by states as part of the reporting process related to federal Election Security Grants. We then supplemented those quantitative analyses with interviews with state and local election officials to understand the impact of Election Security Grants on election administration and the voting experience.

This study finds that Election Security Grants have facilitated significant improvements in voter accessibility, poll worker training, communication with constituents, physical security, and cyber security. Every election official we

3 The EAC is an independent, bipartisan commission whose mission is to help election officials improve the administration of elections and help Americans participate in the voting process. The Help America Vote Act of 2002 (HAVA) created mandatory minimum standards for states and provided funding to help states meet these new standards, replace voting systems, and improve election administration. HAVA established the EAC to assist states' compliance with new requirements, and to distribute federal funds authorized by the law to states.

spoke to unequivocally stated the importance of federal funding in enabling them to make improvements that otherwise might not have been possible. The findings make clear that ongoing federal investment is essential for the continuous improvement and security of election administration, particularly as elections face evolving cyber security threats and challenges related to artificial intelligence.

# Scope, Data, and Methods

Since HAVA's inception in 2002, Congress has allocated $5.005 billion to aid and improve election administration, of which over $1 billion was allocated through Election Security Grants.

Although federal laws exist on voting rights, voter registration, and other administrative requirements, the power and responsibility of administering elections falls largely to states and their respective subdivisions—counties, parishes, boroughs, and municipalities. The decentralized nature of election administration means that financial responsibilities and funding mechanisms can vary significantly from one jurisdiction to another. Generally speaking, however, elections are funded primarily by local governments, with some funding needs augmented by state and federal support. This report focuses on the impact of federal funding for local election administration, specifically through HAVA authorized Election Security Grants. It does not examine the ability for state and local entities to independently fund elections or the efficacy of state and local funding.

## SCOPE

### History of Federal Election Funding

Federal election funds that are authorized through HAVA or must be spent in accordance with HAVA are referred to as "HAVA funds." HAVA funds are distributed through several types of grants. The largest of those grant programs are:

1. Section 101 and 102 Grants: $650 million in election improvement grants were authorized in 2002 under HAVA Sections 101 and 102 to help states comply with new HAVA requirements and to make other improvements to election administration. Section 102 funds were allocated specifically to cover the replacement of punch card and lever voting systems; this grant is no longer available. As of September 30, 2023, 46 states had expended all their Section 101 grant funds, and five additional states had expended 80% or more of their Section 101 funds. All Section 102 funds were expended more than a decade ago.

2. **Section 251 Requirements Payments**: $3 billion in requirements payments were authorized under HAVA Section 251 to help states meet the requirements of Title III of HAVA, which includes provisions on voting system standards (both mandatory and voluntary), provisional voting, and voter information. These payments help ensure that voting systems meet federal standards, provide for provisional voting, implement computerized statewide voter registration lists, and offer voting information at polling places. States must certify compliance with Title III to use these funds for broader election administration improvements. These grants are still available and help states maintain compliance with federal election standards. As of September 30, 2023, 37 states had expended all their Section 251 grant funds, and 13 had expended between 80% and 100% of these funds.
3. **CARES Act Grants**: $400 million in emergency funds were made available in 2020 under the CARES Act to assist states in managing the challenges posed by the COVID-19 pandemic during the 2020 election cycle. This was a one-time allocation, and these funds are no longer available.
4. **Election Security Grants**: $1.01 billion in Election Security Grants have been authorized since 2018 through the Consolidated Appropriations Acts of 2018 ($380 million), 2020 ($425 million), 2022 ($75 million), 2023 ($75 million), and 2024 ($55 million). (Congress did not authorize Election Security Grant funding in 2019 or 2021; see Figure 1.) These grants, which fall under HAVA Section 101, focus on enhancing the security of election systems, including cyber security and physical security improvements; upgrading voting equipment and technology; training election officials and poll workers; and improving voter registration systems. The grants require states to match funds, with a 5% match required for the 2018 grant funds and a 20% match for the 2020, 2022, 2023, and 2024 grant funds. As of September 30, 2023, two states had fully expended their Election Security Grant funds and nine had spent 80% or more of their Election Security funds through the 2023 allocation.

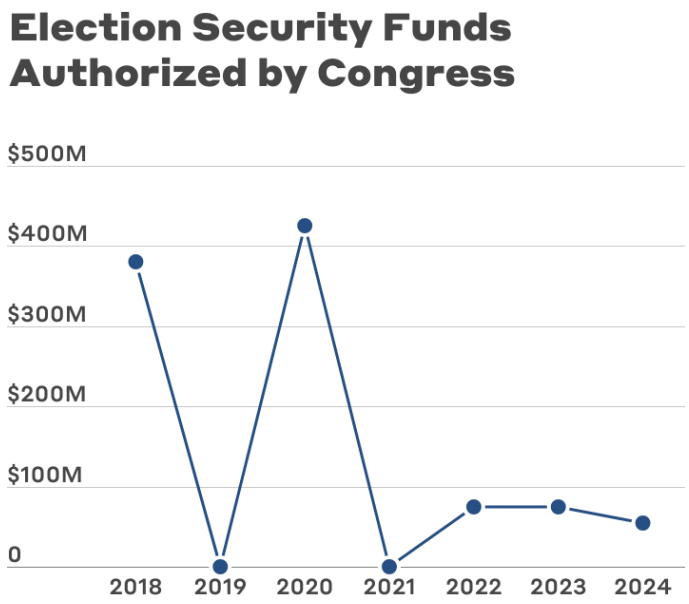



**Figure 1.** Election Security Funds authorized by Congress from 2018-2024.

## Focus on HAVA Election Security Grants

The approximately $5 billion in allocated HAVA funds includes contributions from the four general grant types listed above. However, our report specifically focuses on Election Security Grants authorized from 2018-2023, as this grant program is the main active HAVA funding program that continues to issue federal funds to states.[4] A total of $947,546,202 was awarded to states as Election Security Grants from 2018-2023.[5]

## DATA

The research team used files made available by the EAC to explore how states have expended these funds over time. These files consist mostly of forms submitted by states to obtain the funds, reports by states detailing their plans to spend the funds, and grant management software reports with data about actual Election Security Grant expenditures. The following are the main documents used for the analysis in this report:

4 Section 102 grant funds are no longer available. Section 101 and 251 grant funds have been exhausted by most states, and no new funds are being issued for those programs. The CARES Act grants were a one-time allocation and are no longer available.

5 This amount was obtained using FY2023 Federal Financial Reports from states. Arizona did not have a Federal Financial Report on record for 2023, thus its 2022 report was used to calculate the total.

- **Federal Financial Reports (FFRs)**: The EAC requires all states to submit a financial report using a customized FFR form unique to the agency. This form covers the cumulative federal funds granted by the EAC under the Election Security program to the state and the cumulative amount expended by the state (e.g., the FFR report for 2022 shows the amount granted to the state from the beginning of the program in 2018 until 2022 and the amount expended by the state since 2018 until 2022). This form also provides cumulative information on interest earned and interest expenditures. Although states complete FFRs quarterly or semiannually, this report only uses annual FFRs for ease of interpretation.
- **Program Narratives**: To access the funds, states are asked to provide a budget and a program narrative detailing how they plan to spend the Election Security Grant funds. Program narratives are nonstandardized text documents (unlike forms like FFRs), and they vary in length and organization from state to state. They can range from a couple of paragraphs to several pages and be organized in bullet points or in full-text paragraphs. These narratives lay out states' plans to spend their available Election Security Grant funds for the upcoming two years, and states complete them every year new funding is appropriated. States can later modify their program narratives; therefore, the program narrative may not be a faithful representation of how funds were actually spent. Rather, the program narrative represents a point-in-time view of how states intend to spend the appropriated funding.
- **Progress Reports**: These reports combine both open-ended and close-ended items. Progress reports allow states to discuss the grant activities and expenditures for the current reporting period in narrative form, and to indicate the amount of funds expended in each of the main grant categories in the reporting period. States complete this form semiannually; however, this report only uses annual progress reports for ease of interpretation.

The three types of forms discussed above have been modified by the EAC over time (e.g., addition of new expenditure categories in progress reports), and their completeness and availability also varied by state and year. However, a new grant management system implemented by the EAC in late 2023, the Grants Lifecycle Application System (GLAS), allowed the EAC to provide content from FFRs and progress reports from 2020-2023 in a standardized data format, making it easier to analyze the content. Additionally, data from GLAS was more current and accurate than the FFRs, and progress reports are available in PDF form from 2020-2023. For example, some of the progress report spending categories had been updated retroactively in the grant management system to cover the same categories for all years, and errors in FFRs where amounts did not match had been corrected. However, FFRs from 2018-2019 and all program narratives were still in the PDF format and needed to be converted to include them in analyses.

## METHODS

Methods can be found in Appendix A.

# Key Areas of Election Security Grant Spending

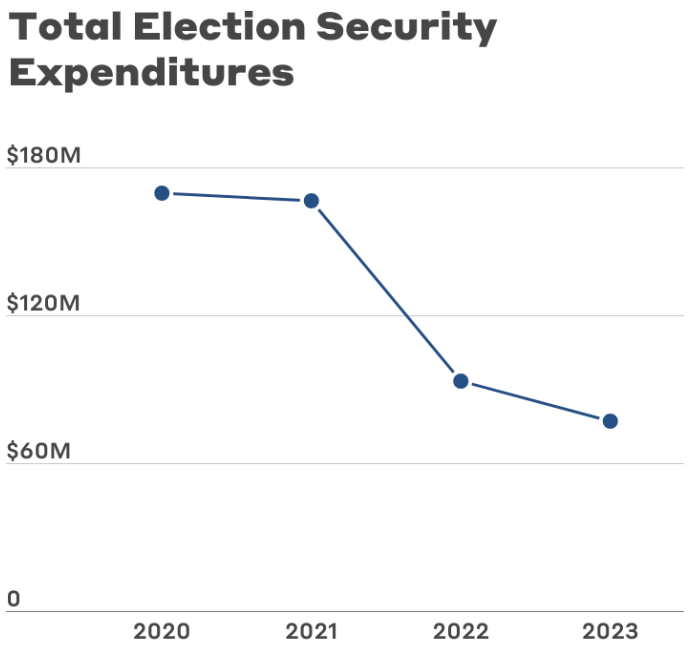



**Figure 2.** Total Election Security Grant expenditures from 2020-2023.

Election Security Grants can be used for a variety of election-related expenditures, such as to:

- replace voting equipment that only records a voter's intent electronically with equipment that utilizes a voter-verified paper record;
- implement a postelection audit system that provides a high level of confidence in the accuracy of the final vote tally;
- upgrade election-related computer systems to address cyber vulnerabilities;
- facilitate cyber security training for the state chief election official's office and local election officials;
- implement established cyber security best practices for election systems;
- improve and upgrade voter registration systems;

- acquire and update electronic poll books and other nonvoting election systems;
- fund other activities that will improve the security of elections for federal office.

We analyzed the specific areas in which HAVA funds have been spent between 2018-2023. We provide a comprehensive overview of expenditures by analyzing program narratives, progress reports, and Federal Financial Reports. Our analysis reveals significant investments in voting equipment and processes, voter registration systems, cyber security, election auditing, and accessibility.

Officials highlighted how HAVA grants have been pivotal in helping election officials address the evolving challenges of election administration, including upgrading outdated equipment, bolstering cyber and physical security, enhancing voter accessibility, improving poll worker training, and strengthening communication with constituents. State and local election officials underscored the importance of these federal funds, with one local official telling us that HAVA grants are an "essential funding source for us to implement security, accessibility, and more reliable operations for voters."

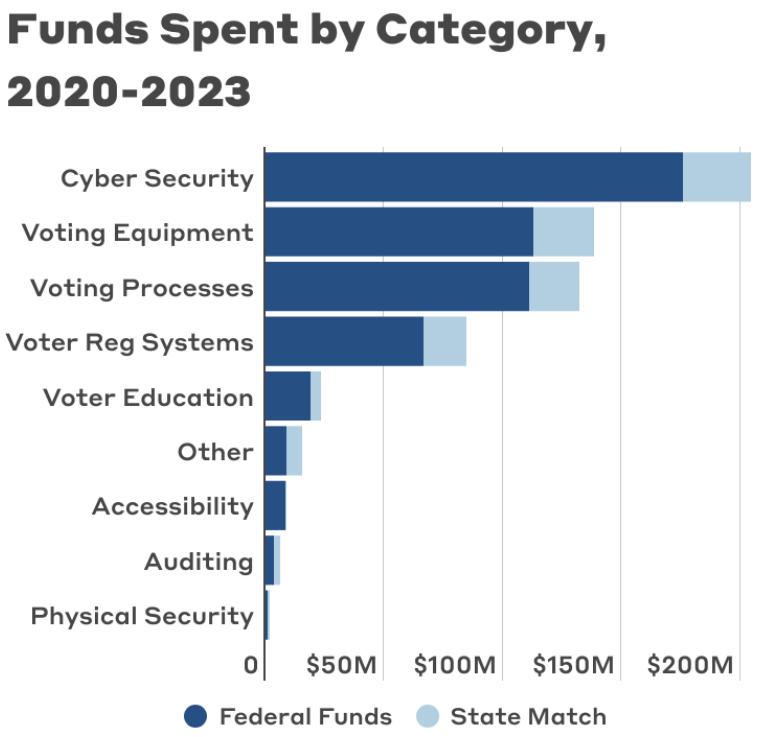



**Figure 3.** Categorical breakdown of Election Security Grant spending from 2020-2023, indicating the amount distributed by the EAC and the amount provided by states to meet the state matching requirement. Most spending fell into the categories of Cyber Security, Voting Equipment, and Voting Processes. Note: Data on expense categories was obtained from states' progress reports, which were collected beginning in 2020.

In the following sections, we break down Election Security expenditures by category and subcategory, providing new insight into how election administrators across the country have used HAVA funds recently to enhance their operations.

## VOTING EQUIPMENT AND PROCESSES

The foundation of a well-run election is the ability to collect and count ballots efficiently and accurately. To do that, election officials need to have reliable voting equipment and resilient processes. Accordingly, voting equipment and processes constituted the bulk of Election Security Grant spending in recent years.

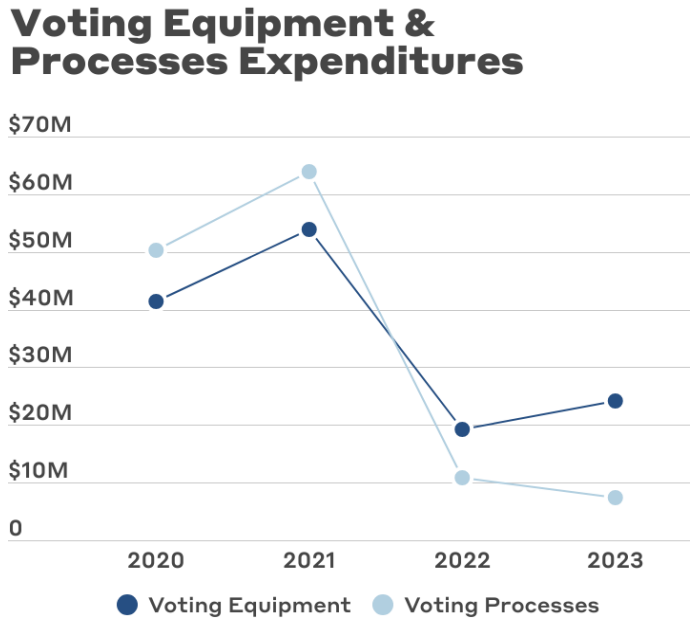



**Figure 4.** Election Security Grant expenditures on voting equipment and processes from 2020-2023.

From 2020-2023, states spent over $138.4 million on voting equipment and over $132.3 million on voting processes, accounting for nearly 44% of all Election Security Grant expenditures during this period. (We do not treat these as entirely separate categories here because they have not always been treated as separate categories in program narratives and progress reports.)

For each year analyzed, the vast majority (over 62%) of states said in their program narratives that they planned to spend Election Security funds on voting equipment and processes. When states mentioned the topic, they frequently (over 30% of the time) cited enhancing their cyber security or

physical security. More commonly (57.3%), they mentioned upgrading their voting systems such as their tabulators (17.7%), e-poll books for checking voters into polling places (13.7%), and ballot-marking devices for accessible in-person voting (11.3%).

Voting equipment represents a major investment that states make on an infrequent basis. Some states, such as Louisiana, have been awarded Election Security money that they intend to spend on voting equipment. Louisiana is working to secure a contract for new voting equipment but has not yet done so. Once it does secure that contract, the state will likely spend its awarded Election Security Grant money, which will represent just a small percentage of the total cost of the equipment.

States were much more likely in 2020 to mention plans to invest in mail voting equipment (twice as likely as in 2018 and 2022), and in other mail voting enhancements (at least four times as likely as in 2018 and 2022). These changes are likely related to the sudden increase of mail voting in 2020 due to the COVID-19 pandemic—this illustrates the impact of federal funds on addressing unexpected challenges.

In interviews, state and local election officials underscored the importance of obtaining federal funding to improve their voting equipment and processes. They told us that Election Security Grants enabled them to keep their equipment up to date by purchasing new tabulators and computers, or by replacing paperless electronic voting machines with systems that use paper ballots. A local election official in Hamilton County, OH, said that these upgrades have increased voter confidence. A North Carolina state election official said that HAVA funds dramatically improved voting equipment in the state, adding that grants "meant replacement for equipment or the purchase of first-time equipment for some jurisdictions that never had it before." Other officials talked about how HAVA funds enabled them to modernize their processes, such as by updating their absentee ballot processes to ensure "that ballots get to voters, the post office can accept them, and that they meet all our legal requirements to avoid being rejected." These investments have not only increased the security and reliability of elections but have also improved the overall voting experience.

## CYBER SECURITY

Virtually every industry has become increasingly computerized, and election administration is no different. Given the evolving nature of cyber threats, it has become ever more important to protect election IT infrastructure against foreign or domestic intrusion. Accordingly, cyber security has become one of election officials' biggest expenses. The EAC supports election cyber security not only through the adoption of enhanced voting system standards, agency testing and certification program, and national clearinghouse function but also by providing Election Security Grants to enhance cyber security.

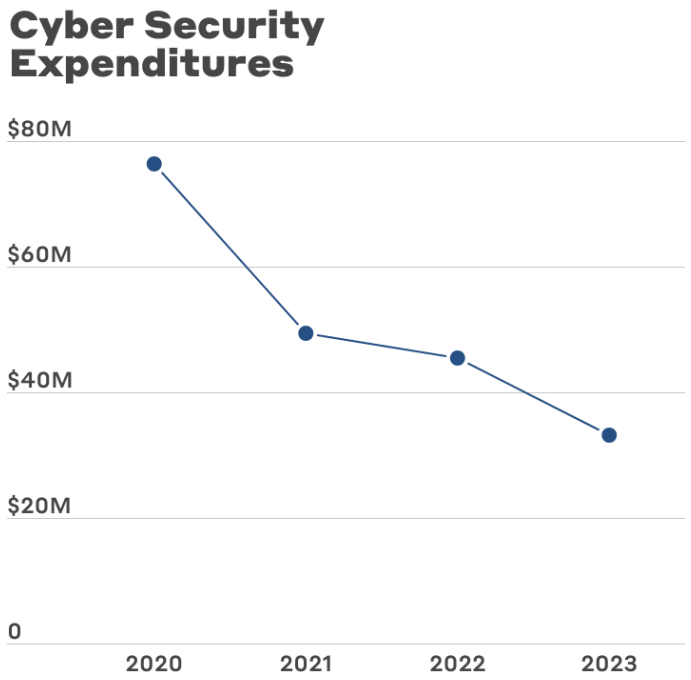



**Figure 5.** Election Security Grant expenditures on cyber security from 2020-2023.

Between 2020-2023, states spent over $204 million of Election Security Grant funds on cyber security, accounting for 33.2% of all Election Security spending in that period. Expenditures have decreased over time as the total size of the Election Security Grant program has decreased (Figure 1), and Election Security Grant program spending has correspondingly decreased (Figure 2). But cyber security continues to represent a relatively high proportion of overall expenditures; in most of the years we analyzed (2020, 2022, and 2023), cyber security spending accounted for over 30% of all Election Security expenditures. We see a similar pattern in program narratives: Even though 73.8% of states mentioned in program narratives that they planned to invest in cyber security, the percentage of states doing so decreased between 2018-2022 from 87.3% to 62.0%.

When states mentioned cyber security in their program narratives, they frequently (53.4% of the time) cited investing in cyber security training and training exercises. More frequently (69.5%), they mentioned plans to make improvements, such as by adopting more secure systems and protocols.

A local election official from Cranston, RI, told us that Election Security Grants enabled the jurisdiction to make critical improvements, including "upgrad[ing] four scanners that were no longer being supported with security patches, start[ing] a new cyber security training initiative, upgrad[ing] outdated back-end IT network infrastructure, [and] institut[ing] MFA [multi-factor authentication] using physical security keys."

After a North Carolina county government experienced a cyberattack during early voting in February 2020, the North Carolina State Board of Elections used HAVA funding to enhance election officials' ability to continue operations in the event of future attacks. They invented Attack Response Kits (ARKs), which consist of laptops, software, and other necessary tools to access the essential county infrastructure during an emergency. The kits also include reliable data and voice connectivity and battery backup for up to two days. With HAVA funds, the state Board of Elections was able to deploy ARKs at eight strategic locations across North Carolina, allowing for rapid deployment.

## VOTER REGISTRATION SYSTEMS

With one exception,[6] states use a statewide voter registration system that contains the name and information for every registered voter, a requirement included in HAVA.

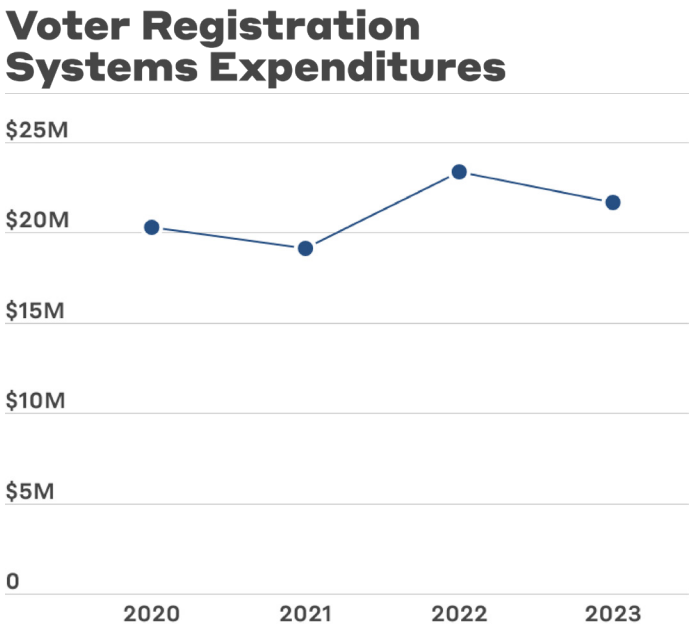



**Figure 6.** Election Security Grant expenditures on voter registration systems from 2020-2023.

Between 2020-2023, states spent over $84.4 million on voter registration systems, accounting for 13.7% of all Election Security expenditures in that period. Expenses have been relatively high—and stable—at around $20 million each year.

6 North Dakota does not employ a voter registration system; it instead allows individuals presenting a valid ID to vote. See How North Dakota Administers Elections Without Voter Registration | Bipartisan Policy Center.

As a portion of overall yearly expenditures, voter registration system expenditures were higher in 2022 and 2023—where they accounted for just over 20% of yearly expenditures—than in 2020 and 2021 (about 10% of yearly expenditures). This may be because new voter registration systems take time to purchase or develop and implement. To that end, voter registration systems were commonly mentioned as an area of planned investments, appearing in the program narratives of 65% of states. They were also mentioned consistently: Between 2018-2022, voter registration systems were mentioned by between 63% and 66% of states each year, in alignment with the consistent amount of Election Security funds invested annually.

## ACCESSIBILITY

Making elections accessible to all voters, including those with disabilities, is a major responsibility of election officials and a key priority of the EAC. HAVA, as well as the Americans with Disabilities Act, established a clear mandate to ensure that Americans with disabilities be given the same opportunity to vote freely and independently as other voters. The bill contained landmark provisions requiring the secure, private, and independent casting of ballots for voters with disabilities and entrusted the EAC with leadership in this area.

Increasing election accessibility is intertwined with improving election security. Purchasing new equipment (e.g., updated voting machines) may enable election officials to improve security and auditability while simultaneously expanding access for voters with disabilities.

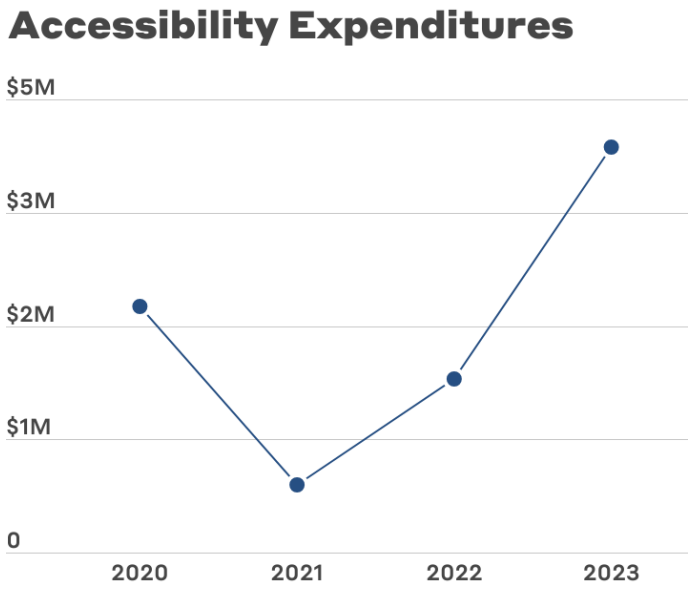



**Figure 7.** Election Security Grant expenditures on accessibility from 2020-2023.

Between 2020-2023, states spent over $8.8 million of Election Security Grant funds on activities and equipment related to election accessibility, accounting for 1.4% of all Election Security spending in that period. Almost half of those funds were spent in 2023. Accessibility was consistently mentioned as an area of planned expenses in states' program narratives, appearing in 21.3% of the narratives. When program narratives (between 2018-2022) mentioned accessibility, they often (32.4% of the time) mentioned spending on voting equipment. They also frequently (32.4%) mentioned spending on physical infrastructure to support accessibility.

In interviews, local election officials highlighted how HAVA funds have enabled them to improve accessibility. An official in Philadelphia discussed how HAVA funds allowed them to improve the physical infrastructure of public buildings that were being used as polling places, such as by adding ramps, doorbells, or door stops. HAVA funds also enabled Philadelphia officials to enhance the accessibility of their voting machines and to hire interpreters at key polling sites for voters with limited English proficiency.

Election Security funds allowed Los Angeles County, CA, to produce a video tool for training election workers and election support staff on how to interact with voters with disabilities. The video includes closed captioning, an American Sign Language interpreter, and subtitles in 13 languages to ensure it is accessible to all election workers and can be used by various community groups.

HAVA funds, including Election Security Grants, play a key role in helping election officials meet the accessibility needs of their voters, ensuring that everyone can cast their vote with minimal obstacles in their path.

## EDUCATION

Communicating with the public has become an increasingly large part of election officials' portfolio. The EAC has put together a number of resources for election officials to enhance their ability to educate the public on how to vote, crisis response communications and ensure that voters have access to local information from trusted sources. But communicating effectively costs money; some larger jurisdictions opt to have full-time staff dedicated to communications.

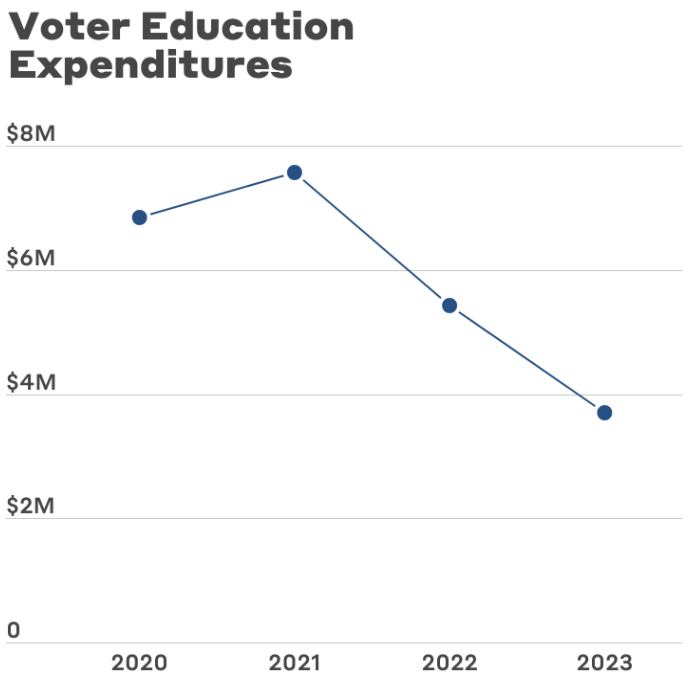



**Figure 8.** Election Security Grant expenditures on education from 2020-2023.

Between 2020-2023, states spent over $23.5 million of Election Security Grant funds on education, accounting for 3.8% of all Election Security expenditures in that period. Education was discussed consistently in program narratives, appearing in over 40% of narratives in each year analyzed.

When program narratives discussed education, they frequently (42.4% of the time) mentioned plans to provide general education to voters, such as by providing information to voters about registration or new policies.

Program narratives that discussed education also commonly (24.2%) mentioned plans to build public trust, and election officials reported that this was a valuable use of funding. Maricopa County, AZ, said it has hosted over 100 voter outreach events, including tours of the facility to demonstrate equipment. One official told us that "demonstrating security protocols helps build trust in the system; it is essential for the public and the media to understand the security upgrades we have implemented through HAVA funding." A Philadelphia official underscored the importance of not only making security upgrades but also communicating about them proactively: "It really comes down to communication. Voters respond well to upgrades in voting systems, as long as we are out there making voters aware of the changes."

## PHYSICAL SECURITY

Protecting the physical integrity of voting equipment, securing ballots, and keeping election officials and poll workers safe are critically important. Materials provided by election officials for this report indicate that HAVA funds have enabled them to improve physical security that upholds election integrity and worker safety.

Maricopa County used Election Security Grant funds to significantly improve the physical security of their ballot tabulation center. Maricopa is the largest county in Arizona, accounting for over 60 percent of the state's registered voters. Maricopa was able to make major upgrades to their ballot tabulation center where ballots are stored and tabulated. Before the 2020 election, Maricopa stored ballots in boxes under sprinklers, putting them at risk of water damage in case of a fire. With a HAVA Election Security Grant, officials were able to move ballots into a vault under a dry fire suppression system, ensuring safe long-term ballot storage. They were also able to make other changes that increased both security and transparency, such as moving their servers into a glass room visible to the public from the lobby and online. Last, they were able to purchase port blockers and other security enhancements to prevent unauthorized outside devices from connecting to the county's networks.

A number of officials reported using HAVA funding to purchase and install security cameras for the inside and outside of their facility and to monitor their mail ballot drop boxes. Several other officials reported using HAVA funds to harden their facilities' security with new locks, including a bipartisan locking system that requires members of opposing political parties to be present to unlock certain areas.

The City of Philadelphia used HAVA grants to support its move into a new facility with enhanced physical security and transparency for observers. One official from Stevens County, WA, wrote that Election Security funds enabled them to set up a new ballot processing facility with a secure "alley" for election observers to safely and securely observe processes. The official also noted that this was a major improvement over the previous physical security, which consisted of a line of caution tape on the ground.

We do not have historical data for this category of spending, as it was only included as a distinct category for progress reports for the first time in 2023; previously, expenditures were pooled with cyber security or reported in other major categories. In that year, states reported spending over $1.8 million on physical security.

## AUDITING

Election audits are a key component of a well-run election. Election officials carry out audits before and after elections, checking that their office procedures were in compliance with regulations, internal policies, and state law; identifying and resolving discrepancies; making sure equipment works well before an election; or ensuring that election outcomes were correct.

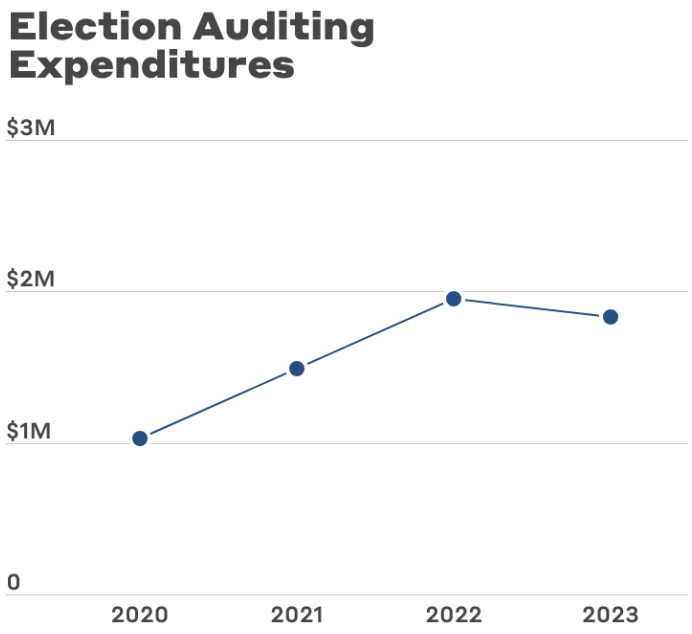



**Figure 9.** Election Security Grant expenditures on election auditing from 2020-2023. Annual election auditing expenditures have nearly doubled since 2020.

Between 2020-2023, states spent over $6.3 million of Election Security Grant funds on activities and equipment related to election auditing, accounting for 1.0% of all Election Security spending in that period. Across the program narratives that we analyzed, whenever auditing was mentioned, it was usually (90.9% of the time) in the context of performing an election audit, such as a post-election audit to verify that the outcome was correct. By contrast, investing in election auditing software was mentioned only 18.2% of the time. This suggests that Election Security Grants enable election officials to perform more, or more comprehensive, post-election audits. This is an important function that Election Security Grants can support; security researchers have long been recommending expanding post-election auditing, and policymakers and the public have been increasingly interested in post-election audits in recent years.

## TRAINING

Because training is covered under other major categories, we do not have a precise accounting of the amount of Election Security Grant spending associated with training (e.g., cyber security training is covered under the Cyber Security topic). Additionally, "training" encompasses various information-sharing formats, including traditional instructional design, online resources, and tabletop exercises. But training is clearly a major focus of Election Security Grant expenditures: Training for election office staff is mentioned in more than half of all program narratives between 2018-2022. In state progress reports for 2023, 30 states reported using funds for training, including workshops and tabletop exercises in partnership with the Cybersecurity and Infrastructure Security Agency (CISA).

We identified four categories of training in the program narratives: training related to cyber security; general training for election officials; training on election processes, policy, and other election-related topics; and training on topics related to accessibility. Cyber security training was the dominant topic; of the program narratives that mentioned plans to spend Election Security funds on training, 67.7% discussed training and exercises related to cyber security.

In interviews, election officials spoke to the key role that HAVA funds play in enabling a well trained election workforce. In Maricopa County, officials used HAVA funding to develop an in-house training platform for administering online training to poll workers, the volunteers who staff a polling place. The training is always available to the poll workers so that they can refer to it during their work, reducing the chance of worker error. A Wisconsin state election official also told us that "without HAVA funds, local election officers wouldn't have been able to attend training. That would directly impact the security of our elections."

# Why Haven't All Election Security Grants Been Spent?

As of June 14, 2024, states have spent over $604 million, or approximately 63% of the $952 million of Election Security funds they have received between 2018-2023. (See Figure 10 for a visualization of the degree to which each state has spent its received funds.)

Election officials report that the unpredictability of federal funding, the need to budget for large expenses, and state legislative barriers explain the variation among spending levels.

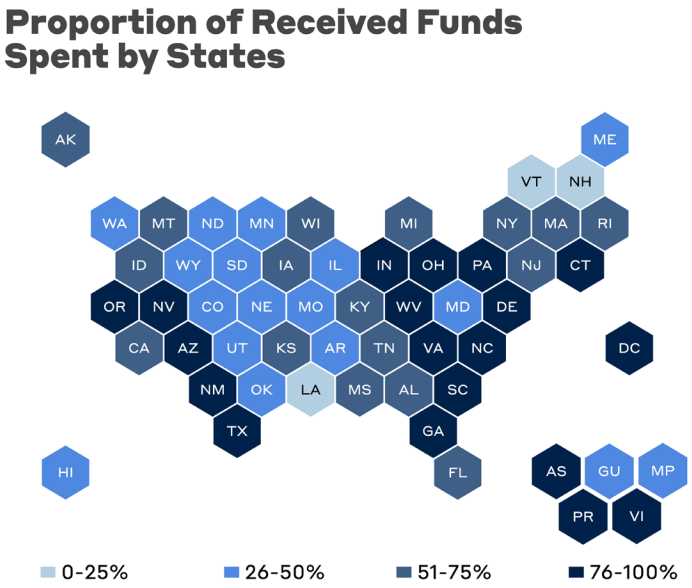



**Figure 10.** Percent of Election Security Grants expended by states as of August 8, 2024. Source: HAVA Election Security Grant Expenditures, U.S. Election Assistance Commission.

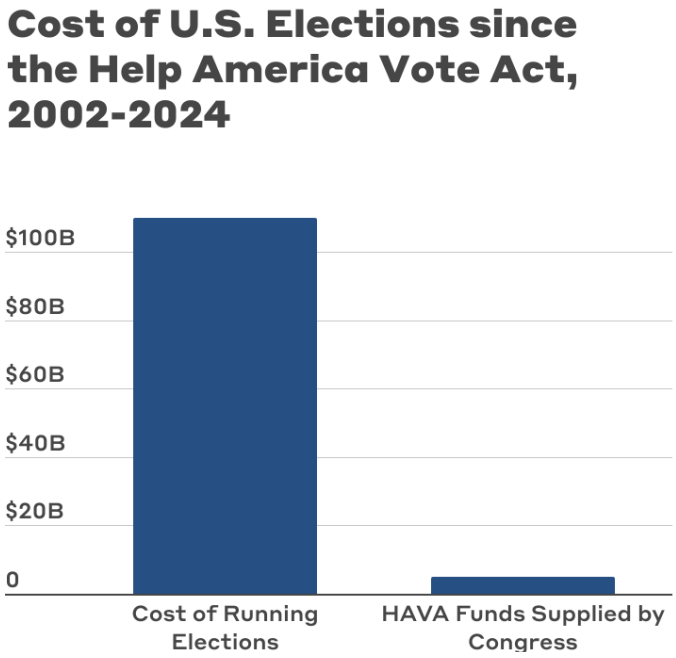



**Figure 11.** The total amount of HAVA funds ($5.005 billion since 2002) covers just a fraction of the total cost of running elections, which was estimated in 2022 as "being in the range of $4 billion to $6 billion, in a 'normal' year." (For this figure we visualize the cost as $5 billion per year.)

Congress has allocated $5.005 billion in election administration funding since 2002. That amount covers just more than 4.5% of the estimated total cost of running elections in this period (Figure 11). Although elections were designated as critical infrastructure in 2017, federal investment remains irregular, unpredictable, and insufficient.

The variability in funding across states and jurisdictions leads to inconsistent services for voters. While some areas can afford to invest in improvements such as new equipment, voter education, and additional staff, others struggle to cover the basic costs of running elections.

Federal funding can serve as an equalizing force, particularly for election security. The first round of HAVA funds, for instance, transformed voting equipment after the 2000 election revealed the accuracy issues with punch card voting systems. Yet a 2018 report by the U.S. Government Accountability Office observed that "much of the voting equipment that was procured by state and local election administrators with federal funds more than 10 years ago is now at or approaching the end of its designed service life." Even when voting

systems are not at the end of their designed service life, it may be worthwhile for election officials to upgrade; technology has matured so much in recent years that new systems may be dramatically more secure and auditable.

A state official from North Carolina echoed that while early HAVA funds enabled states to make large investments in new voting equipment, subsequent HAVA funding has not been sufficient to build on that progress, leaving many jurisdictions without adequate funds to cover replacement costs.

This funding inconsistency is a key reason initial spending rates for federal grants are often low: Election officials cannot depend on regular funding, so they must save the funds they do receive to plan for large investments. In Maine, for example, it took four years to negotiate and approve a $1.8 million contract to establish a new voter registration system. Although the Election Security funds were distributed in 2018, the contract was not signed until 2022.

In addition to the planning associated with approving the purchase of a system, many systems require ongoing maintenance costs, meaning long spend-down periods. In Illinois, for example, $9 million in Election Security funds were used to implement a cyber navigator program as of September 2021. The remaining money was earmarked for expansion of the program.

When it comes to federal support, election administrators prioritize the need for consistent and predictable funding over any specific amount. The president's fiscal year 2024 budget proposed "$5 billion in new election assistance funding to be allocated over 10 years." But there remains a substantial gap between the proposed budget and congressional appropriations.

## LEGISLATIVE APPROVAL OF EXPENDITURE AND MATCHING FUNDS

Budgetary issues at the state level can delay or block the use of federal funding. In some states, the legislature must approve the use of HAVA grants even after the EAC has awarded the funds. This requirement can cause delays, especially if the grants are approved outside the regular legislative calendar. Gridlock can leave federal funds in limbo, preventing state and local election authorities from accessing approved grants until an agreement is reached on their use.

Even when legislative approval is not required to spend HAVA funds in a specific way, legislative action may be required to comply with the state appropriation match requirements of Election Security Grants. Congress often adopts a matching requirement to ensure state investment into the use of the funds. While state governments sometimes struggle to find matching funds in the budget and the process may delay key expenditures, the purpose is to ensure a partnership between the state and federal government. Future Congresses should take these factors into account with the shape and timing of future election grants.

# Conclusion

Election Security Grants support the aspects of elections that stakeholders and others widely acknowledge as essential: secure and accessible voter registration, accurate ballot tabulation, auditable results, and safe and secure election facilities.

Despite the tangible benefits Election Security Grants have provided to election administration since 2018, election security is a moving target. As technology changes over time, election offices must be able to replace outdated systems and respond to new vulnerabilities on an ongoing, iterative basis. Moreover, there are potential national security consequences if modern, secure voting and election systems are not funded.

Election officials cannot fully mitigate election security risks without addressing chronic resource shortages. Each election official we interviewed agreed that increased federal funding at predictable intervals would enable them to provide more secure elections and better service to voters in their jurisdictions.

Election offices were well prepared for the 2024 presidential election, thanks in large part to the federal funding allocated to date. However, ongoing federal support is critical to their ability to address emerging challenges and to maintain secure and resilient election systems for years to come.

# About the Authors

## BIPARTISAN POLICY CENTER

The Bipartisan Policy Center is a mission-focused organization helping policymakers work across party lines to craft bipartisan solutions. The BPC Elections Project develops and advances durable, bipartisan policies to create secure, accessible, and trustworthy elections. We envision broad public trust in election outcomes, where election administration is funded fully and improved continually with the input of election practitioners.

## FORS MARSH

Fors Marsh, a certified B Corporation based in Arlington, VA, is a research firm that combines science and strategy to create lasting change and improve people's lives. It works with clients to address societal challenges through data-driven impact, evidence-based strategies, and creativity. Its elections work includes partnerships with the EAC, the Federal Voting Assistance Program (FVAP), the Office of the District of Columbia Auditor (ODCA), the Harris County, TX, Office of County Administration, and others to collect and analyze data to improve the administration of elections in the United States.

Fors Marsh served as BPC's research partner on this project, conducting analyses of grant-reporting data and progress reports supplied by the EAC to identify trends and highlight key issues. The findings were used to support the conclusions and recommendations in this report.

## U.S. ELECTION ASSISTANCE COMMISSION

The EAC is an independent, bipartisan commission charged with providing resources to state and local governments for election administration. Established by the Help America Vote Act of 2002 (HAVA), the EAC was created to provide election officials with assistance, guidelines, and research on best practices for running elections. The EAC is governed by four commissioners—two Republicans and two Democrats—appointed by the president and confirmed by the U.S. Senate.

# Appendix A: Methods

The conversion of 2018 and 2019 FFRs from PDFs to a dataset was conducted using image recognition. The research team created an automated process using the "pdftools" and "tesseract" packages in R that processed the FFRs and exported the relevant contents (i.e., dollar amounts in the "Transactions" section) to a dataset. This process was challenging, because documents varied in image contrast, noise, and slant. However, the text normalization successfully exported the data that was later reviewed to ensure accuracy (see Appendix B for more details on this process).

Because states' program narratives are unstandardized text reports, converting them into a dataset involved coding the text and classifying them into discrete categories for each of the 160 available program narratives. To address the challenge of classifying documents, the team used a Natural Language Processing (NLP)-based approach to automate the process. NLP-based strategies can evaluate large bodies of documents and provide information about the contents of the documents in a fraction of the time that manual coding would involve. The process to conduct the coding involved the following steps:

1. After inspecting a sample of program narratives, the topics discussed in the documents seemed to align with those covered in progress reports. Thus, the team used topics and subtopics from the 2022 progress reports made available by the EAC as the initial categories for document classification (see Appendix C for the full list of main topics and subtopics).
2. Two coders categorized 39 program narratives total (13 from each year available) into the main topics and subtopics described in Appendix C.
3. The resulting coded dataset was used to "train" the predictive machine-learning algorithm so it could identify the desired categories.
4. The results of the algorithm were evaluated by a coder to assess the classification accuracy using a sample of eight program narratives. The results showed that the algorithm had a tendency for false negatives (i.e., not reporting a topic as present when it was indeed present). Accuracy within the reviewed narratives was about 65% for main topics and 75% for subtopics. These results, while better than chance, were deemed as not accurate enough for analysis. Thus, an additional step was conducted.

5. Two coders manually reviewed all the algorithm-generated categorizations and corrected any misclassifications. This resulted in a final dataset with classified topics for all 160 program narratives available from 2018 to 2022.

The process outlined above resulted in a final dataset with classified topics for all 160 program narratives available from 2018-2022. This dataset allowed us to analyze the prevalence of each main and subtopic over time and at the national level. (For a full discussion of the program narratives categorization process and lessons learned from the use of machine learning in these documents, see Appendix B.)

We complemented quantitative analyses with in-depth interviews with state and local election officials. We began by hosting a focus group with BPC's Task Force on Elections, a geographically and politically diverse group of more than 30 state and local election officials. Following the focus group, we scheduled and conducted interviews with individual members. We also solicited election officials to email us with examples of improvements that Election Security Grants enabled them to make.

We also used public records from the EAC's National Clearinghouse Awards. These awards recognize exceptional uses of HAVA funding, voter education efforts, and innovation by state and county election officials. The detailed descriptions required for these award applications provided valuable information.

# Appendix B: Federal Financial Report and Program Narratives Data Collection

Appendix B discusses in detail the processes involved in extracting data from the Federal Financial Reports (FFRs) and program narratives to analyze their content.

## FEDERAL FINANCIAL REPORTS (FFRS)

FFRs from 2018-2019 were available only in the PDF format. For 2020-2023, following implementation of the EAC's grants management system (GLAS), content from the FFRs was available in both the PDF and spreadsheet formats.

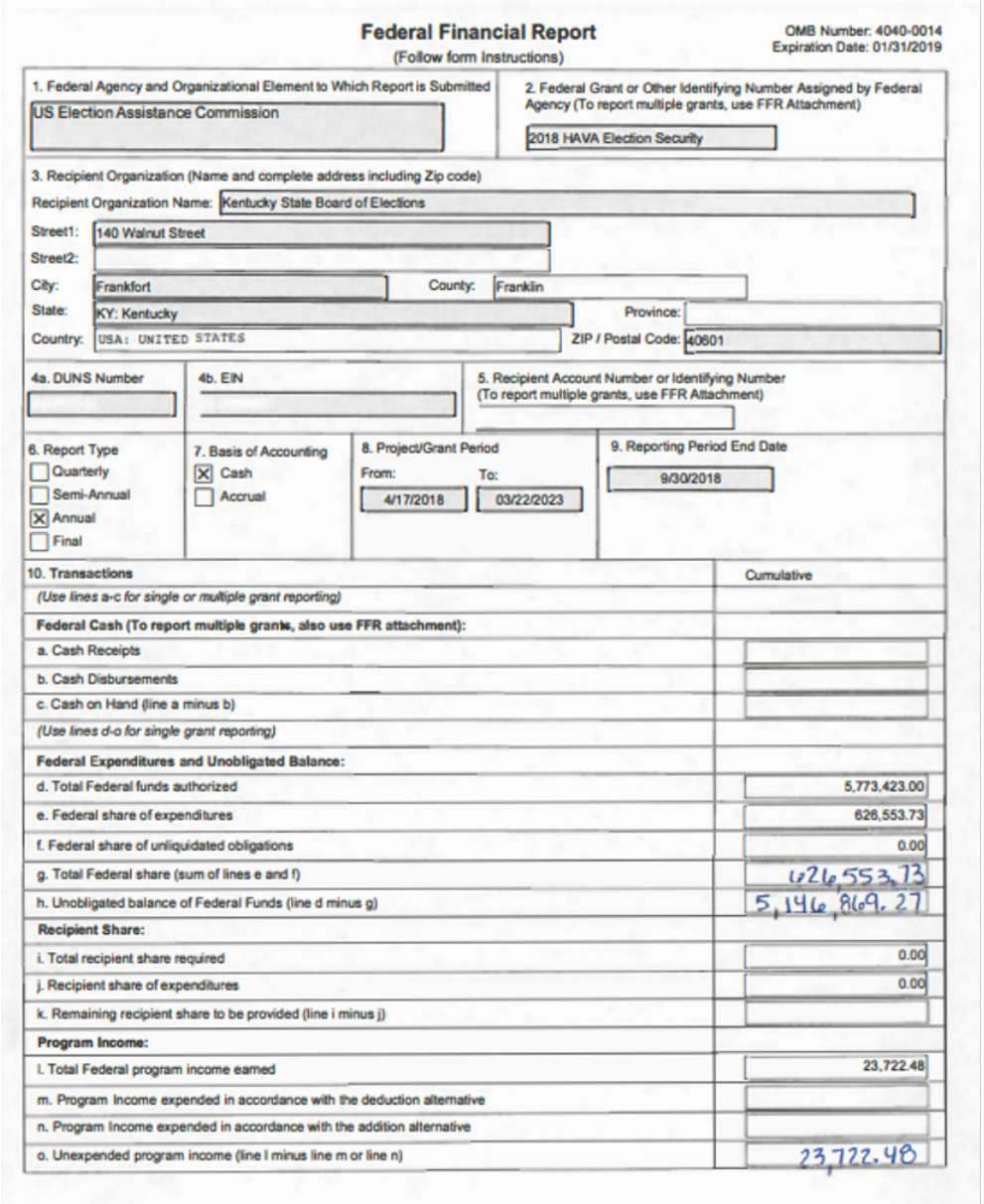
To extract the data necessary for the analysis, the research team used image recognition to create an automated process using the "pdftools" and "tesseract" packages in R that processed the FFRs and exported the relevant contents (i.e., dollar amounts in the "Transactions" section of the FFRs) to a dataset.

Documents varied in image contrast, noise, and angles of text (i.e., not all documents had fully horizontal text). This is because some documents were in standard PDF formats, while others were manually scanned documents. PDF-formatted documents were generally easy to ingest, as PDF-based tools could be used to automate the ingestion of text—although color contrast was occasionally an issue. Scanned documents, on the other hand, tended to feature a host of complications, including faded ink lines, noise in the form of light issues in scans (leaks) creating occasional ink-like smudges, and orientation issues when documents were scanned at an angle. (See Image B1 as an example of a scanned FFR.)

The greatest challenge was that scanned documents required using image recognition and processing tools, which are more prone to error than a tool that is specifically designed for text extraction from PDFs. As a result, numbers could occasionally come in as non-numeric characters and other characters could be misread, creating formatting issues (e.g., the image recognition software could read "7" as "/"; or it could read "," as ".").

Text normalization and regular expressions were used to correct ingestion issues and format tables as an Excel spreadsheet. The research team used

rules-based logic to identify and correct ingestion issues, in some cases with end-to-end automation and in others requiring manual review. Accounting rules specified in the documents were enforced. For example, the process ensured that line "10b. Cash Disbursements" was subtracted from line "10a. Cash Receipts" in line "10c. Cash on Hand," as this line contained the accounting instructions "line a minus b." This process allowed us to export the final data into spreadsheet format with end-to-end automation.



**Federal Financial Report**

(Follow form Instructions)

OMB Number: 4040-0014
Expiration Date: 01/31/2019

1. Federal Agency and Organizational Element to Which Report is Submitted: US Election Assistance Commission

2. Federal Grant or Other Identifying Number Assigned by Federal Agency (To report multiple grants, use FFR Attachment): 2018 HAVA Election Security

3. Recipient Organization (Name and complete address including Zip code)

Recipient Organization Name: Kentucky State Board of Elections
Street1: 140 Walnut Street
Street2:
City: Frankfort
County: Franklin
State: KY: Kentucky
Province:
Country: USA: UNITED STATES
ZIP / Postal Code: 40601

4a. DUNS Number
4b. EIN
5. Recipient Account Number or Identifying Number (To report multiple grants, use FFR Attachment)

6. Report Type: ☐ Quarterly ☐ Semi-Annual ☒ Annual ☐ Final
7. Basis of Accounting: ☒ Cash ☐ Accrual
8. Project/Grant Period: From: 4/17/2018 To: 03/22/2023
9. Reporting Period End Date: 9/30/2018

| 10. Transactions | Cumulative |
|---|---|
| *(Use lines a-c for single or multiple grant reporting)* | |
| **Federal Cash (To report multiple grants, also use FFR attachment):** | |
| a. Cash Receipts | |
| b. Cash Disbursements | |
| c. Cash on Hand (line a minus b) | |
| *(Use lines d-o for single grant reporting)* | |
| **Federal Expenditures and Unobligated Balance:** | |
| d. Total Federal funds authorized | 5,773,423.00 |
| e. Federal share of expenditures | 626,553.73 |
| f. Federal share of unliquidated obligations | 0.00 |
| g. Total Federal share (sum of lines e and f) | 626,553.73 |
| h. Unobligated balance of Federal Funds (line d minus g) | 5,146,869.27 |
| **Recipient Share:** | |
| i. Total recipient share required | 0.00 |
| j. Recipient share of expenditures | 0.00 |
| k. Remaining recipient share to be provided (line i minus j) | |
| **Program Income:** | |
| l. Total Federal program income earned | 23,722.48 |
| m. Program Income expended in accordance with the deduction alternative | |
| n. Program Income expended in accordance with the addition alternative | |
| o. Unexpended program income (line l minus line m or line n) | 23,722.48 |

**Image B1:** Scanned FFR – Kentucky, 2018

After all the data was exported, it was manually reviewed to address any recognition issues during the image recognition process to ensure that the amounts in the final dataset were accurate.

## PROGRAM NARRATIVES

States requesting Election Security Grant funds are required to complete program narratives every year that funding is appropriated. In these program narratives, states discuss the areas where they plan to spend the Election Security Grant funds awarded to them in that appropriation year. These narratives are unstandardized text documents (unlike forms such as FFRs) and vary in length and organization from state to state and year by year. They can range from a few paragraphs to several pages and can be organized in bullet points or in full-text paragraphs. The goal of converting them into a dataset involved coding the text and classifying it into discrete categories for each of the 160 available program narratives.

To address the challenge of classifying many documents, the research team used a natural language processing (NLP)-based approach. NLP refers to a broad collection of methodologies and strategies that incorporate features of human language (text and speech, for example) for statistical or machine learning-based analytical solutions. NLP-based strategies are particularly helpful and applicable for this project because they contain the capacity to evaluate large bodies of documents and provide information concerning the contents of these documents in a fraction of the time that manual review by a coder or team of coders would take.

The research team used a popular NLP method known as Latent Dirichlet Allocation (LDA). LDA treats each document as a combination of topics, which themselves are a combination of words within the collection of documents. A user of this algorithm defines several topics for the algorithm to "look for," and the algorithm subsequently "finds" the same number of topics, regardless of whether these topics are substantively meaningful or interpretable. With these topics estimated by LDA, one can extract per-document-per-topic probabilities, which reflect, for each document, the percentage of words that originate from each topic. For example, for program narrative X, we may use LDA to estimate four topics and find that the per-document-per-topic probability value for topic 1 is 0.13. This hypothetical result would tell us that around 13% of the words in program narrative X are from topic 1.

The use of LDA can be exploratory (attempting to find unknown topics in a collection of documents) or predictive (using per-document-per-topic probabilities as predictors in a machine-learning algorithm). For this project, the research team used the predictive approach, as it allowed us to document the classification of the topics. After reviewing a sample of program narratives, it seemed apparent that topics were heavily influenced by the categories discussed in progress reports. We used coded documentation from the EAC that identified eight main topics and 54 subtopics from the progress narrative portion of the progress reports of 2022. This served as a starting point to manually code a random sample of 39 program narratives (13 state

program narratives for each year) that would serve as training data for our predictive machine-learning algorithm. If new subtopics were identified by the coders, those were included in the coded sample (only the subtopic "Election Misinformation" within "Education" was included). Likewise, if a prespecified subtopic was not identified in the randomized subset, that subtopic was not included in the classification analysis (e.g., the subtopic "Ballot Imprinters" within the main topic "Audits"). The final list of main topics and subtopics is available in Appendix C.

Following the manual coding of the randomized subset of program narratives (the "training" data), the research team trained a popular machine-learning algorithm known as a *random forest classifier* on these documents to classify each document's main and subtopics. This algorithm used LDA-generated per-document-per-topic probabilities as predictors in the model for each main and subtopic. Following the training of the model, the per-document-per-topic probabilities for each nonclassified document were "plugged into" the trained algorithm and classified to their predicted main and subtopic(s).

As there is always some amount of error associated with predictive models, a coder reviewed eight randomly selected program narratives coded by the algorithm. The results showed that the algorithm had a tendency for false negatives (i.e., not reporting a topic as present when it was indeed present). False negatives seemed to be a result of the algorithm needing a topic to be thoroughly discussed in the program narrative to flag it, thus having difficulties identifying it when it was mentioned in just one line of the program narrative (as happened in multiple cases). Another issue for predictive accuracy originated from the complicated content written within the program narratives. Specifically, several program narratives discussed how prior HAVA grant funding was spent. This resulted in several complications, because the NLP-based approach extracted topics from each document, regardless of the context in which these topics were discussed. For example, if a given program narrative discussed intentions to spend the funding on cyber security and voting equipment, the model should be able to code this program narrative according to these categories. However, this given program narrative may have also discussed how prior HAVA grant funds had been used for accessibility and audits. As a result, the model would code this program narrative as belonging to all four topics, even though the current funding being discussed in the program narrative only discussed intentions to spend funds on cyber security and voting equipment.

Additionally, the smaller size of the training set appeared to create problems for predictive accuracy. These complications were especially notable for the classification of subtopics, some of which were sparsely represented in the training sample. A consequence of this is that predictions yielded from the trained algorithm were incredibly sensitive to the small number of labeled documents (or, in some cases, a single document) that contained contents

related to a “rarer” subtopic. However, this issue could be overcome by increasing the number of labeled documents to serve as training data, as this should lead to increased predictive accuracy. Subsequent algorithms trained on more documents with more diverse information are likely to yield predictions that are less sensitive to a low number of coded documents.

To account for the predictive errors from our NLP-based approach, the research team manually reviewed each document using two coders and compared manual classifications to model-predicted classifications. Overall, while the model results were better than pure-chance, predictive error rates were deemed as not accurate enough for analysis. For example, on average, the predictive accuracy rate for the main topics was around 65%, while the predictive accuracy rate for the subtopics was around 75%. However, it is important to note that the total predictive accuracy varies by both main topics/subtopics and, more specifically, their sensitivity (accuracy of predicting whether a document belongs to a given topic) and specificity (accuracy of predicting whether a document does not belong to a given topic).

The manually reviewed version of the coded 160 program narratives was used in the analysis of this report. Overall results by year can be found in tables D6 and D7 in Appendix D.

# Appendix C: Program Narratives: Topic Descriptions

| Topic | Description |
|---|---|
| **Voting Equipment and Processes** | |
| **Tabulators** | Funds allocated for vote tabulators |
| **Ballot Marking Devices (BMDs)** | Funds allocated for BMDs |
| **New Upgraded System** | Funds allocated for new voting equipment not covered above and upgrades to voting equipment (e.g., new scanners, updated software licenses for current voting equipment) |
| **E-Poll Books** | Funds allocated for e-poll books |
| **Absentee Mail Voting Equipment** | Funds allocated for voting equipment directly related to mail voting (e.g., high-capacity mail opening devices, drop boxes) |
| **General Voting Equipment Supplies** | Funds allocated for other supplies directly related to the voting process and voting equipment (e.g., extension cords) |
| **Voting Accessibility Equipment** | Funds allocated for equipment directly related to accessible voting (e.g., accessible voting devices) |
| **Election Staffing** | Funds allocated for additional election staff |
| **Voting Process Enhancements** | Funds allocated for improvements in the voting process and election administration (e.g., poll place locator services, election administration assessments) |
| **Election Training** | Funds allocated for staff training on election processes, policy changes, and other election-related topics |
| **Absentee Mail Voting Enhancements** | Funds allocated for enhancements related to mail voting (e.g., mail ballot tracking services) |
| **Cyber and/or Physical Security** | Funds allocated for improvements on cyber security and physical security; physical security equipment and processes can include security cameras, locks, cages for equipment, etc. |
| **Voting Accessibility Support** | Funds allocated for processes and equipment related to accessible voting that are not voting equipment devices |
| **Voter Registration Systems (VRS)** | |
| **Registration System Improvements** | Funds allocated for improvements in the VRS |
| **Registration System Maintenance** | Funds allocated for maintenance of the VRS |
| **Registration System Security** | Funds allocated for VRS security activities and enhancements |

| Topic | Description |
|---|---|
| **Cyber Security** | |
| **Security Training Exercises** | Funds allocated for training covering some aspect related to cyber security |
| **Cyber Security Monitoring Testing** | Funds allocated for monitoring and testing cyber security in any environment related to elections (e.g., voter registration systems, internal networks, servers) |
| **Physical Infrastructure** | Funds allocated for improving physical infrastructure of components related to cyber security (e.g., new laptops, secure drives) |
| **Cyber Security Improvements** | Funds allocated for any type of improvement related to cyber security, such as adoption of more secure systems and protocols |
| **Authentication** | Funds allocated for implementation of multi-factor authentication (MFA) in any voting-related system (e.g., voter registration system, internal network systems) |
| **Staffing** | Funds allocated for new staff with duties directly related to cyber security |
| **Incident Preparedness** | Funds allocated for incident preparedness in the event of a cyber security-related threat |
| **Standard Compliance** | Funds allocated for meeting cyber security compliance guidelines |
| **Auditing** | |
| **Election Audit Performance** | Funds allocated for conducting election audits, including risk-limiting audits |
| **Audit Software** | Funds allocated for software used to conduct election audits |
| **Subgrants to Counties** | Election Security (ES) funds distributed by states to counties in the form of grants; counties are allowed to spend the funds in any of the ES spending categories authorized by states |
| **Voter Education** | |
| **General Education** | Funds allocated for voter education in election-related topics (e.g., voting equipment, new policies) |
| **Public Trust Outreach** | Funds allocated for outreach efforts to the public on election topics, such as voting rights, procedures, and technology, to increase voters' awareness of the election process |
| **Election Official Training** | Funds allocated for training of election officials on any aspect of the elections, including those related to providing election officials with tools to provide voter education to the public |
| **Election Misinformation** | Funds allocated for combating election misinformation |

| Topic | Description |
|---|---|
| **Training** | |
| **Election Training** | (See description in Voting Equipment and Processes) |
| **Security Training Exercises** | (See description in Cyber Security) |
| **Election Official Training** | (See description in Voter Education) |
| **Accessibility Training** | (See description below in Accessibility) |
| **Accessibility** | |
| **Accessibility Physical Infrastructure** | Funds allocated for improvements/new physical infrastructures (mainly in vote centers, polling places) to improve accessibility |
| **Accessibility Training** | Funds allocated for training election workers, staff, and/or officials on topics related to accessibility |
| **Voting Accessibility Equipment** | (See description in Voting Equipment and Processes) |
| **Voting Accessibility Support** | (See description in Voting Equipment and Processes) |
| **Other Accessibility** | Funds allocated for other accessibility-related resources like program assistance to localities, accessibility supplies, hardware, and software |

# Appendix D: Topline Tables

The tables below provide overall results and insights from the compilation of data from the Progress Reports, FFRs, and Program Narratives.

**Table D1.** Federal Funds from Election Security Grants Spent by Category and Year, Based on Annual Progress Reports.

| | 2020 | 2021 | 2022 | 2023 | Total |
|---|---|---|---|---|---|
| **Voting Equipment** | $30,845,154.61 | $50,953,089.39 | $15,148,971.83 | $15,708,586.13 | $112,655,801.96 |
| **Voting Processes** | $45,860,943.62 | $52,138,471.33 | $5,973,534.18 | $6,968,805.06 | $110,941,754.19 |
| **Voter Registration Systems** | $17,131,541.04 | $14,837,330.88 | $18,563,560.90 | $15,867,314.27 | $66,399,747.09 |
| **Election Auditing** | $724,946.65 | $699,345.24 | $626,326.05 | $1,561,943.63 | $3,612,561.57 |
| **Cyber Security** | $66,072,491.80 | $39,757,067.17 | $42,687,790.05 | $27,359,066.08 | $175,876,415.10 |
| **Physical Security** | - | - | - | $918,665.89 | $918,665.89 |
| **Voter Education** | $6,114,032.37 | $4,820,508.61 | $5,217,145.75 | $2,596,852.31 | $18,748,539.04 |
| **Accessibility** | $2,341,805.11 | $326,662.50 | $1,720,753.52 | $4,021,787.26 | $8,411,008.39 |
| **Other** | $365,974.27 | $2,987,028.80 | $3,503,511.05 | $2,175,434.43 | $9,031,948.55 |
| **Total** | **$169,456,889.47** | **$166,519,503.92** | **$93,441,593.33** | **$77,178,455.06** | **$506,596,441.78** |

**Table D2.** State Match Funds from Election Security Grants Spent by Category and Year, Based on Annual Progress Reports.

| | 2020 | 2021 | 2022 | 2023 | Total |
|---|---|---|---|---|---|
| **Voting Equipment** | $10,509,166.84 | $2,902,526.95 | $3,999,939.15 | $8,383,696.25 | $25,795,329.19 |
| **Voting Processes** | $4,385,474.85 | $11,737,695.30 | $4,855,847.24 | $405,610.00 | $21,384,627.39 |
| **Voter Registration Systems** | $3,145,882.70 | $4,273,382.76 | $4,804,195.14 | $5,807,537.42 | $18,030,998.02 |
| **Election Auditing** | $305,594.81 | $791,568.41 | $1,328,064.45 | $270,585.19 | $2,695,812.86 |
| **Cyber Security** | $10,248,643.06 | $9,692,704.57 | $2,724,332.74 | $5,889,988.27 | $28,555,668.64 |
| **Physical Security** | - | - | - | $949,641.00 | $949,641.00 |
| **Voter Education** | $724,719.07 | $2,741,419.27 | $215,045.82 | $1,097,155.26 | $4,778,339.42 |
| **Accessibility** | $101,872.49 | $344,461.00 | - | - | $446,333.49 |
| **Other** | $565,781.55 | $114,407.16 | $5,157,102.48 | $651,965.55 | $6,489,256.74 |
| **Total** | **$29,987,135.37** | **$32,598,165.42** | **$23,084,527.02** | **$23,456,178.94** | **$109,126,006.75** |

**Table D3.** Total Funds from Election Security Grants Spent by Category and Year, Based on Annual Progress Reports (Federal and State Match Funds Combined).

| | 2020 | 2021 | 2022 | 2023 | Total |
|---|---|---|---|---|---|
| **Voting Equipment** | $41,354,321.45 | $53,855,616.34 | $19,148,910.98 | $24,092,282.38 | $138,451,131.15 |
| **Voting Processes** | $50,246,418.47 | $63,876,166.63 | $10,829,381.42 | $7,374,415.06 | $132,326,381.58 |
| **Voter Registration Systems** | $20,277,423.74 | $19,110,713.64 | $23,367,756.04 | $21,674,851.69 | $84,430,745.11 |
| **Election Auditing** | $1,030,541.46 | $1,490,913.65 | $1,954,390.50 | $1,832,528.82 | $6,308,374.43 |
| **Cyber Security** | $76,321,134.86 | $49,449,771.74 | $45,412,122.79 | $33,249,054.35 | $204,432,083.74 |
| **Physical Security** | - | - | - | $1,868,306.89 | $1,868,306.89 |
| **Voter Education** | $6,838,751.44 | $7,561,927.88 | $5,432,191.57 | $3,694,007.57 | $23,526,878.46 |
| **Accessibility** | $2,443,677.60 | $671,123.50 | $1,720,753.52 | $4,021,787.26 | $8,857,341.88 |
| **Other** | $931,755.82 | $3,101,435.96 | $8,660,613.53 | $2,827,399.98 | $15,521,205.29 |
| **Total** | **$199,444,024.84** | **$199,117,669.34** | **$116,526,120.35** | **$100,634,634.00** | **$615,722,448.53** |

**Table D4.** Percentage of Total Election Security Funds Spent by Category and Year, Based on Annual Progress Reports.

| | 2020 | 2021 | 2022 | 2023 | Total |
|---|---|---|---|---|---|
| **Voting Equipment** | 20.7% | 27.0% | 16.4% | 23.9% | 22.5% |
| **Voting Processes** | 25.2% | 32.1% | 9.3% | 7.3% | 21.5% |
| **Voter Registration Systems** | 10.2% | 9.6% | 20.1% | 21.5% | 13.7% |
| **Election Auditing** | 0.5% | 0.7% | 1.7% | 1.8% | 1.0% |
| **Cyber Security** | 38.3% | 24.8% | 39.0% | 33.0% | 33.2% |
| **Physical Security** | - | - | - | 1.9% | 0.3% |
| **Voter Education** | 3.4% | 3.8% | 4.7% | 3.7% | 3.8% |
| **Accessibility** | 1.2% | 0.3% | 1.5% | 4.0% | 1.4% |
| **Other** | **0.5%** | **1.6%** | **7.4%** | **2.8%** | **2.5%** |

**Table D5.** Cumulative Election Security (ES) Grant Funds Received and Spent Nationwide, Based on States' Reported FFRs.

| Year | Cumulative ES Funds Received by States | Cumulative ES Funds Spent by States | Unspent ES Funds | Cumulative ES Funds Authorized | Percentage of ES Grant Funds Spent |
|---|---|---|---|---|---|
| **2018** | $186,224,962.00 | $5,435,197.74 | $180,789,764.26 | $365,032,488.02 | 2.9% |
| **2019** | $74,262,398.00 | $20,129,866.42 | $54,132,531.58 | $365,181,288.02 | 27.1% |
| **2020** | $804,378,602.00 | $214,286,674.01 | $590,091,927.99 | $804,378,602.00 | 26.6% |
| **2021** | $806,978,602.00 | $385,474,187.19 | $421,504,414.81 | $806,978,602.00 | 47.8% |
| **2022** | $877,210,508.00 | $476,824,338.20 | $400,386,169.80 | $877,210,508.00 | 54.4% |
| **2023** | $930,330,228.00 | $528,048,658.17 | $402,281,569.83 | $930,330,228.00 | 56.8% |

All data in the table above is based on reported data by states in their annual FFRs. The categories in the table correspond to the FFRs as follows:[7]

- **Cumulative ES Funds Received by States**: corresponds to FFR item "10a. Cash Receipts," which shows the cumulative amount of grant funding disbursed from the federal agency as of the reporting period end date.
- **Cumulative ES Funds Spent by States**: corresponds to FFR item "10b. Cash Disbursements," which shows the cumulative amount of federal fund disbursements as of the reporting period end date. Disbursements are the sum of actual cash disbursements for direct charges for goods and services, the amount of indirect expenses charged to the award, and the amount of cash advances and payments made to subrecipients and contractors.
- **Unspent ES Funds**: corresponds to FFR item "10c. Cash on Hand," which shows the amount of item 10a minus item 10b and represents immediate cash available to be expended.
- **Cumulative ES Funds Authorized**: corresponds to FFR item "10d. Total Federal Funds Authorized," which shows the total federal funds authorized for use by the state as of the reporting period end date.
- **Percentage of ES Grant Funds Spent**: corresponds to item "10b. Cash Disbursements" divided by item "10a. Cash Receipts."

7 Information on the contents of each item was obtained from https://www.eac.gov/sites/default/files/Grants/EAC%20Federal%20Financial%20Report%20(Reference%20Only).pdf.

**Table D6.** Total Number of Program Narratives Covering Each Main Topic, and Percentage of Main Topics Covered Overall and by Year.

| Main Topic | Total | Overall Percentage | 2018 Percentage | 2020 Percentage | 2022 Percentage |
|---|---|---|---|---|---|
| **Voting Equipment and Processes** | 124 | 77.5% | 83.6% | 85.5% | 62.0% |
| **Voter Registration Systems** | 104 | 65.0% | 63.6% | 65.5% | 66.0% |
| **Cyber Security** | 118 | 73.8% | 87.3% | 70.9% | 62.0% |
| **Audits** | 44 | 27.5% | 41.8% | 25.5% | 14.0% |
| **Subgrants** | 28 | 17.5% | 16.4% | 25.5% | 10.0% |
| **Education** | 66 | 41.3% | 41.8% | 40.0% | 42.0% |
| **Training** | 93 | 58.1% | 67.3% | 63.6% | 42.0% |
| **Accessibility** | 34 | 21.3% | 18.2% | 23.6% | 22.0% |

**Table D7.** Total Number of Program Narratives Covering Each Subtopic, and Percentage of Main Subtopics Covered Overall and by Year When the Main Topic Was Discussed in the Narrative.

| Main Topic | Subtopic | Total | Overall Pct. | 2018 Pct. | 2020 Pct. | 2022 Pct. |
|---|---|---|---|---|---|---|
| **Voting Equipment and Processes** | Tabulators | 22 | 17.7% | 15.2% | 25.5% | 9.7% |
| | Ballot Marking Devices | 14 | 11.3% | 6.5% | 14.9% | 12.9% |
| | Upgraded System | 71 | 57.3% | 71.7% | 51.1% | 45.2% |
| | E-Poll Books | 17 | 13.7% | 15.2% | 14.9% | 9.7% |
| | Absentee Mail | 15 | 12.1% | 6.5% | 19.1% | 9.7% |
| | General Supplies | 20 | 16.1% | 13.0% | 19.1% | 16.1% |
| | Voting Accessibility Equipment | 11 | 8.9% | 4.3% | 14.9% | 6.5% |
| | Election Staffing | 14 | 11.3% | 15.2% | 10.6% | 6.5% |
| | Voting Process Enhancements | 9 | 7.3% | 8.7% | 6.4% | 6.5% |
| | Election Training | 28 | 22.6% | 21.7% | 27.7% | 16.1% |
| | Absentee Mail Voting Enhancements | 8 | 6.5% | 2.2% | 12.8% | 3.2% |
| | Cyber Physical Security | 46 | 37.1% | 30.4% | 46.8% | 32.3% |
| | Voting Accessibility Support | 10 | 8.1% | 6.5% | 8.5% | 9.7% |

| Main Topic | Subtopic | Total | Overall Pct. | 2018 Pct. | 2020 Pct. | 2022 Pct. |
|---|---|---|---|---|---|---|
| **Voter Registration Systems (VRS)** | VRS Improvements | 90 | 86.5% | 88.6% | 83.3% | 87.9% |
| | VRS Maintenance | 20 | 19.2% | 20.0% | 16.7% | 21.2% |
| | VRS Security | 36 | 34.6% | 42.9% | 33.3% | 27.3% |
| **Cyber Security** | Training Exercises | 63 | 53.4% | 66.7% | 56.4% | 29.0% |
| | Monitoring Testing | 58 | 49.2% | 58.3% | 51.3% | 32.3% |
| | Physical Infrastructure | 40 | 33.9% | 31.3% | 38.5% | 32.3% |
| | Improvements | 82 | 69.5% | 75.0% | 71.8% | 58.1% |
| | Authentication | 33 | 28.0% | 35.4% | 20.5% | 25.8% |
| | Staffing | 34 | 28.8% | 37.5% | 28.2% | 16.1% |
| | Incident Preparedness | 18 | 15.3% | 14.6% | 17.9% | 12.9% |
| | Standard Compliance | 10 | 8.5% | 10.4% | 10.3% | 3.2% |
| **Audits** | Election Audit Performance | 40 | 90.9% | 91.3% | 85.7% | 100.0% |
| | Audit Software | 8 | 18.2% | 8.7% | 35.7% | 14.3% |
| **Education** | General Education | 28 | 42.4% | 39.1% | 54.5% | 33.3% |
| | Public Trust Outreach | 16 | 24.2% | 26.1% | 18.2% | 28.6% |
| | Election Official Training | 37 | 56.1% | 65.2% | 59.1% | 42.9% |
| | Misinformation | 9 | 13.6% | 0.0% | 18.2% | 23.8% |
| **Accessibility** | Physical Infrastructure | 11 | 32.4% | 50.0% | 38.5% | 9.1% |
| | Training | 11 | 32.4% | 20.0% | 30.8% | 45.5% |
| | Other | 13 | 38.2% | 40.0% | 38.5% | 36.4% |
| | Voting Accessibility Equipment | 11 | 32.4% | 20.0% | 53.8% | 18.2% |
| | Voting Accessibility Support | 10 | 29.4% | 30.0% | 30.8% | 27.3% |
| **Training** | Accessibility Training | 11 | 11.8% | 5.4% | 11.4% | 23.8% |
| | Election Official Training | 37 | 39.8% | 40.5% | 37.1% | 42.9% |
| | Cyber Security Training | 63 | 67.7% | 86.5% | 62.9% | 42.9% |
| | Election Training | 28 | 30.1% | 27.0% | 37.1% | 23.8% |

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