

# **Secure, Accessible & Fair Elections (SAFE) Commission Report**

Submitted to the General Assembly

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## **SAFE Commission Members**

### ***Co-Chairs***

- Secretary of State Robyn A. Crittenden
- State Representative Barry A. Fleming

### ***State Legislators***

- State Representative James Beverly
- State Senator Lester Jackson
- State Representative and Secretary of State-elect Brad Raffensperger
- State Senator Brian Strickland

### ***Elections Officials***

- Lynn Bailey, Executive Director, Richmond County Board of Elections
- Nancy Boren, Director of Elections & Voter Registration, Muscogee County
- Deidre Holden, Supervisor of Elections & Voter Registration, Paulding County
- Darin McCoy, Probate Judge and Election Superintendent, Evans County
- Cynthia Willingham, Supervisor, Rockdale County Board of Elections & Voter Registration

### ***Accessibility Expert***

- Amy Howell, Assistant Commissioner and General Counsel, Department of Behavioral Health & Developmental Disabilities (DBHDD)

### ***Cybersecurity Expert***

- Wenke Lee, Co-Executive Director, Georgia Tech's Institute for Information Security & Privacy (IISP)

### ***Voters At-Large***

- James "Jimmy" McDonald, Managing Principal, McDonald Firm, LLC
- Sheila Ross, Director of Capital Litigation, Prosecuting Attorneys' Council of Georgia

### ***Other Members***

- Michael Jablonski, General Counsel, Democratic Party of Georgia
- Vincent Russo, Deputy General Counsel, Georgia Republican Party
- John Monds, Libertarian Party of Georgia, Executive Committee

## **Background**

Leading up to the November 2016 General Election, citizens across the nation began to grapple with questions about election security in the United States. Federal and State officials faced public scrutiny over whether the Direct Recording Electronic (DRE) machines and other components of the voting system that Georgia and other states use could be compromised as well as allegations of foreign nations influencing elections. While there is no evidence that Georgia's voting machines have ever been compromised or that they do not accurately count votes, state officials recognized the need to look at Georgia's existing voting system and see what future investments the state should make due to the age of the current system which was implemented by Secretary of State Cathy Cox in 2002.

In the fall of 2017, the Georgia General Assembly House of Representatives Science and Technology Committee (STC) held two meetings to discuss the future of Georgia's voting equipment. In the first meeting, the STC held discussions surrounding the current voting machines and their remaining estimated useful life. In that meeting, Chris Harvey, Elections Director at the Office of the Secretary of State, explained that while the existing voting system has worked well, Georgia should aim to have a new voting system in place by the 2020 election cycle.<sup>1</sup> At the second meeting, the STC viewed demonstrations of some of the systems currently available on the market.<sup>2</sup>

During the 2018 legislative session, House Bill 680<sup>3</sup> and Senate Bill 403<sup>4</sup> were introduced with the aim of updating Georgia's voting system and election code. Although neither of these bills passed, they helped further discussions towards the replacement of the current system.

In April 2018, then Secretary of State Brian Kemp established the Secure, Accessible, & Fair Elections (SAFE) Commission (SAFE Commission) to study different options for Georgia's next voting system. In November 2018, Secretary of State Robyn A. Crittenden took over as Co-Chair of the Commission.

The SAFE Commission's mission is to thoroughly study and discuss all options for Georgia's next voting system, with a focus on security, transparency, voter experience, accessibility and inclusion, voters' ability to adjust to a new system, and the ability of election officials to adapt to a new system quickly and accurately. To accomplish this mission, the SAFE Commission

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<sup>1</sup> <http://www.house.ga.gov/Committees/en-US/CommitteeArchives122.aspx>

<sup>2</sup> Id.

<sup>3</sup> <http://www.legis.ga.gov/Legislation/en-US/display/20172018/HB/680>

<sup>4</sup> <http://www.legis.ga.gov/Legislation/en-US/display/20172018/SB/403>

traveled the state soliciting feedback from stakeholders including voting rights advocates, citizens, election officials, cybersecurity experts, accessibility experts, and former Secretary of State Cathy Cox, who previously led the state through a statewide implementation of a new voting system. The SAFE Commission held multiple hearings, reviewed responses to a Request for Information (RFI) that voting system vendors submitted, witnessed demonstrations of different types of voting systems, and researched post-election audit procedures with the aim of providing legislative recommendations before the Georgia General Assembly's next legislative session. The SAFE Commission's goal is not to provide vendor specific recommendations, but is to provide overall recommendations and information to the General Assembly about what Georgia's next voting system should look like. The Commission also hopes that this information will inform any future Request for Proposals (RFP) issued by the state.

The SAFE Commission recognizes that there is not a "one-size-fits-all" approach to voting and that trade-offs must be made to accommodate competing priorities, particularly security and accessibility. The Commission also recognizes that Georgia is not building a voting system from scratch. The Commission's recommendations are focused on the future of voting in Georgia, but in considering the future it must also consider the present voting system as well as past issues with voting in Georgia. The Commission also realizes that time is of the essence in this decision due to multiple lawsuits regarding Georgia's current voting system and the time to implement any new system; therefore, the Commission must consider the process for implementing its recommendations in a timely manner. In addition to making recommendations regarding a new voting system in Georgia, the Commission recognizes that moving to a new system may require updates to other aspects of the election code. The Commission has no legal authority to require a particular solution but instead recognizes that it serves as a resource to the General Assembly to offer guidance as the state moves to a new voting system. This report is a summary of these findings and recommendations.

### **Georgia's Current Voting System**

The Commission was not established to examine Georgia's current voting equipment, but did receive a briefing from Georgia Elections Director Chris Harvey on the current system. Georgia's current election system was born out of issues that arose from the November 2000 General Election. In 2000, counties in Georgia used four different systems to cast and count ballots: lever machines, paper and scanning machines, punch-out ballots, and pen and paper. Post-election audits revealed major discrepancies in the number of votes for and ballots actually cast for the office of President.<sup>5</sup> Chief among the causes for these discrepancies was a lack of uniformity among methods of voting across the state.<sup>6</sup> As a result of the concerns raised in the review of the November 2000 General Election, the General Assembly and Governor Roy Barnes established

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<sup>5</sup> *The 2000 Election: A Wake-Up Call for Reform and Change*. Georgia Secretary of State Cathy Cox. January 2001.

<sup>6</sup> *Id.*

the 21st Century Voting Commission, which held public hearings and conducted a pilot project using Direct Recording Electronic (DRE) vote casting devices.

In its final report to Governor Barnes and members of the Georgia General Assembly, the 21st Century Voting Commission made the following recommendations:

- 1) Georgia should move to a uniform voting system for in-person voting;<sup>7</sup>
- 2) This system should be comprised of DRE machines for in-person voting and an optical scan system for absentee voting by mail;<sup>8</sup> and
- 3) The uniform election system should be controlled by an Election Management System (EMS) or software program that allows election officials to design both DRE and optical scan ballots simultaneously that will integrate votes into a single tallying report that will easily interface with existing and future voter registration systems.<sup>9</sup>

As a result, Georgia implemented its current uniform voting system that uses DRE systems for in-person voting. Georgia has a “top-down” election system where ballots are constructed by the Center for Elections System, which was previously a part of Kennesaw State University, but is now part of the Office of the Secretary of State.

One of the reasons that the state selected the current voting system is because of its ability to prevent overvotes and flag undervotes. An overvote is when a voter selects more selections than he or she is eligible to make. For example, if a voter chose two candidates for governor, this would be an overvote. Undervoting occurs when there is a discrepancy between the total number of ballots cast and total number of votes counted in a race. This generally occurs when a person neglects or chooses not to vote in a particular race on the ballot. The current DRE system in Georgia does not allow for overvotes, but voters are still able to exercise the right not to cast a vote in a particular race resulting in an undervote. The current system will not allow a voter to overvote. The current system also flags undervotes in a mandatory review screen that shows races with an undervote prior to allowing a voter to cast their ballot.

Currently, there are approximately 7,000,000 registered voters and 2,300 polling places in Georgia. The number of registered voters has increased dramatically since the implementation of online voter registration in 2014 and “opt-out” voter registration at the Department of Driver Services in September 2016.<sup>10</sup> The number of registered voters has increased at a rate faster than the growth

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<sup>7</sup> *Report of the 21<sup>st</sup> Century Voting Commission*, page 38. December 2001.

<sup>8</sup> *Id.*

<sup>9</sup> *Id.*

<sup>10</sup> “Georgia’s Motor-Voter Drive Boosts Eligible Balloters.” *Wall Street Journal*, January 8, 2019. Available at <https://www.wsj.com/articles/georgia-boosts-eligible-voters-in-groups-leaning-democratic-1538991000>.

in population.<sup>11</sup> The Commission’s view is that both online voter registration and “opt-out” voter registration (which were implemented subsequent to the U.S. Supreme Court’s decision in *Shelby County v. Holder*) are positive developments that increase both access and security to Georgia’s voting system, making it easier to register to vote while at the same time ensuring that election officials have accurate, up-to-date information.

Georgia currently utilizes a uniform voting system that allows voters to vote in three different ways: 1) On Election Day on DREs, 2) during in-person advance voting on DREs, and 3) on a paper absentee ballot that is mailed to the voter. Georgia has “no-excuse” absentee by mail voting, meaning that any voter may request an absentee by mail ballot for any reason or no reason whatsoever. Despite the existence of no-excuse absentee by mail voting, the overwhelming majority of voters choose to vote on DRE machines during in-person advance voting or on Election Day.<sup>12</sup> In the past four general elections, approximately 5.46%,<sup>13</sup> 4.17%,<sup>14</sup> and 5.08%,<sup>15</sup> and 5.68%<sup>16</sup> of voters who cast ballots, respectively, chose to vote absentee by mail.

In-person advance voting occurs during the three weeks prior to Election Day, beginning on the fourth Monday before Election Day and ending on the Friday before Election Day.<sup>17</sup> Every county is required to have at least one advance voting location but many counties choose to have more than one location.<sup>18</sup> Counties are also required to have advance voting on the second Saturday of the advance voting period from 9:00 a.m. to 4:00 p.m., but some larger counties choose to provide more weekend days and hours.<sup>19</sup> During advance voting, voters may vote at any advanced voting location in their county.<sup>20</sup> In the past four general elections, approximately 43.77%,<sup>21</sup> 32.65%,<sup>22</sup>

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<sup>11</sup> “Georgia Cancels Fewer Voter Registrations After Surge Last Year.” *Atlanta Journal Constitution*, October 17, 2018. Available at <https://www.ajc.com/news/local-govt--politics/georgia-cancels-fewer-voter-registrations-after-surge-last-year/fqT1bcSzGu33UEpTMDzMKV/>.

<sup>12</sup> Voters who request but who have not yet returned an absentee ballot, may instead vote in person during advance voting or on Election Day if they so choose.

<sup>13</sup> <http://results.enr.clarityelections.com/GA/42277/113204/en/vts.html?cid=5000> (reflecting votes cast in the 2012 race for President).

<sup>14</sup> <http://results.enr.clarityelections.com/GA/54042/149045/en/vts.html?cid=6000> (reflecting votes cast in the 2014 race for Senate).

<sup>15</sup> <http://results.enr.clarityelections.com/GA/63991/184321/en/vts.html?cid=5000> (reflecting votes cast in the 2016 race for President).

<sup>16</sup> <https://results.enr.clarityelections.com/GA/91639/Web02-state.221451/#/cid/20000> (reflecting votes cast in the 2018 race for Governor.)

<sup>17</sup> In runoff elections where there is no federal candidate on the ballot, advance in-person voting begins “as soon as possible.” O.C.G.A. § 21-2-385(d).

<sup>18</sup> Fulton County, for example, had 20 advance voting locations open every day of the advance voting period, including all weekend days, during the 2018 general election. <https://www.ajc.com/news/local/fulton-county-announces-early-voting-locations/bFmiAqtm7cuRy1U08uXeJJ/>.

<sup>19</sup> *Id.*

<sup>20</sup> On Election Day, voters must vote at their assigned precinct.

<sup>21</sup> See Note 13.

<sup>22</sup> See Note 14.

53.54%,<sup>23</sup> and 47.99%<sup>24</sup> of voters who cast ballots, respectively, chose to vote during advance voting. It is the view of the Commission that the current advance voting period is appropriate for primary and general elections and elections held in conjunction with primary and general elections and that the current advance voting period should be preserved. Furthermore, the ability for voters to vote at any advance voting location within their county is also popular and should be preserved.

Election Day voting in Georgia takes place entirely on DREs and still remains the most popular way to vote in Georgia. In the past four general elections, approximately 50.53%,<sup>25</sup> 62.91%,<sup>26</sup> 41.20%,<sup>27</sup> and 46.03%<sup>28</sup> of voters who cast ballots, respectively, chose to vote on Election Day. Due to the logistics of having such a large number of people turn out on a single day, Georgia law requires voters to vote at their assigned polling places on Election Day.<sup>29</sup>

Georgia's voting system is more than just DRE machines. Georgia also uses electronic pollbooks and optical scanners to scan absentee by mail and provisional ballots. Some counties use a driver's license scanner that allows poll workers to pull up voter records by scanning their driver's license. Each of these components must work with the election management system, known as GEMS, that is used to build ballots and tabulate results. An electronic pollbook is a device that contains a voters registration information and shows poll workers which precinct that the voter should vote in and what ballot they should receive based on their district. An optical scanner is used to scan absentee by mail and provisional ballots. The electronic pollbooks used in Georgia were procured by the state in 2005 and distributed to the counties in 2006. The optical scanners used in Georgia were procured and distributed in 2010.

## **Recommendations and Discussion**

Based on discussions, consideration of public testimony and other submitted documents, and after hearing from election officials (who will be tasked with using this new system and who have firsthand insight into voter experience in Georgia), experts in voting rights, cybersecurity, security, accessibility, and reviewing multiple voting systems, the SAFE Commission makes the below recommendations to the Governor, the Secretary of State, and the General Assembly. These recommendations track best practices from experts in election administration while keeping in mind circumstances that are unique to Georgia. In today's environment, it is vital to have a robust election system that the voting public has confidence in. The SAFE Commission believes that

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<sup>23</sup> See Note 15.

<sup>24</sup> See Note 16.

<sup>25</sup> See Note 13.

<sup>26</sup> See Note 14.

<sup>27</sup> See Note 15.

<sup>28</sup> See Note 16.

<sup>29</sup> In certain circumstances, voters may vote a provisional ballot if they are in the wrong polling place within their county of registration. Their votes will count in the contests that they are eligible to vote in.

putting these recommendations into practice will increase confidence in Georgia's elections and therefore, strengthen our democracy.

**1. Georgia should adopt a voting system with a verifiable paper vote record. Every effort should be made to implement this system statewide in time for the 2020 election. The system should create an auditable paper record for every vote that the voter has an opportunity to review before casting. Rules should be put in place ensuring a rigorous chain of custody for these paper records, as are in place now for security of paper ballots and memory cards.**

The Commission unanimously agrees that Georgia should move to a new voting system that provides a verifiable paper vote record. While there are many good things about Georgia's current voting system; it is running on hardware and software that is approaching the end of its useful life. The Commission further unanimously agrees that Georgia should make every effort to implement this system in time for the 2020 election cycle. The Commission is aware of the court order in *Curling v. Kemp* where a federal judge strongly suggests that if Georgia does not update its voting system soon, a new system will be ordered. The Commission unanimously believes that Georgia voters would be better served by a process that goes through their elected representatives in the General Assembly rather than be subjected to a system that is simply ordered by a federal judge.

A verifiable paper vote record is a method of providing feedback to voters using a paper ballot that is either marked by hand or on a ballot-marking device with a verifiable paper ballot. At the June 12, 2018 SAFE Commission meeting, the Commission heard testimony from Chris Harvey, Elections Director for the Secretary of State, that the strong consensus among election officials was that any new system should have some form of voter-verifiable paper trail component to it. The verifiable paper vote record offers some fundamental differences from a traditional DRE machine because a paper, rather than electronic recording medium, is used when storing votes. Voter's choices are either marked by hand with a writing utensil or marked on a screen in a similar manner to a DRE on a tablet device. However, a ballot-marking device with a verifiable paper ballot does not record the voter's choices into its memory. Instead, it allows the voter to mark the choices on-screen and, when the voter is done, prints the ballot selections in a manner that allows the voter to easily read their selections. The resulting printed paper ballot is then counted using a digital scanner and tabulator. This printed paper ballot, which is the official ballot, is then fed through a scanner into a locked ballot box so that all originals are saved for auditing and recounts. Additionally, the voter has the ability to proofread the ballot before it is scanned and have it voided and start over if there is an error.

While Georgia should move to a new voting system that incorporates a verifiable paper vote record that can be audited, the state should also keep in mind the positive things about the current voting system and the problems that it solved when it was implemented. Georgia has one of the lowest



residual vote rates<sup>30</sup> in the country<sup>31</sup> and that is a strength that the state should seek to keep in a new system. As we make our additional recommendations, the Commission keeps in mind that Georgia voters have voted on DREs for 16 years, and Georgia election officials have administered a DRE based election system for the past 16 years. In making these recommendations, the Commission is thinking of the future of voting in Georgia, but we are mindful of what Georgia's current voting system is and the short amount of time that we are recommending to move to a new system.

## **2. Georgia should remain a uniform system state, with each county using the same equipment that is initially provided by the state.**

Georgia currently utilizes a uniform election system, meaning that every county in Georgia uses the same type of DREs, electronic poll books,<sup>32</sup> and the same Election Management System.<sup>33</sup> The SAFE Commission recommends that Georgia remain uniform in its next system. The Commission heard from numerous experts who endorsed uniformity. Sean Young, Legal Director for the American Civil Liberties Union of Georgia, endorsed a uniform system because it “eliminates a lot of problems of disparate counting.” He further commented on the need for the state to pick a system that does not have a discriminatory impact in order to ensure these problems remain hypotheticals and not a reality. Previous studies conducted in Georgia have shown that different voting systems may have disparate impacts on different populations of voters.<sup>34</sup>

Elisabeth MacNamara, previously President of the League of Women Voters, complimented the current uniform system and stated that uniformity is one of the things that is “good about our system” in reference to Georgia's current voting system. Anne Lewis, General Counsel for the Georgia Republican Party, also testified that she believed a uniform system was best for voters. Cathy Cox, former Georgia Secretary of State, stated that her 21<sup>st</sup> Century Voting Commission found numerous problems with Georgia's lack of uniformity in elections prior to 2002, including large differences in residual vote rates across jurisdictions.

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<sup>30</sup> Residual Vote Rate is “the number of under- and over-votes cast in an election, as a percentage of voter turnout.” Massachusetts Institute for Technology Election Performance Index. <https://elections.mit.edu/#indicatorProfile-AVT>.

<sup>31</sup> Id.

<sup>32</sup> An electronic pollbook is a device that allows poll workers to look up a voter's registration info to determine that the voter is properly registered and in the correct precinct.

<sup>33</sup> An election management system is the database software that allows election officials to build ballots, tabulate results, and perform other tasks necessary to administering an election.

<sup>34</sup> “The data indicates that, across the board, the percentage of undervotes is higher in predominately black precincts than in predominately white precincts in the same county. This variation is referred to as the “undervote gap.” Surprisingly, the undervote gap was greater in counties that use opti-scan systems than in counties that use the punch card. And some of the highest undervote percentages found were in African-American precincts using optical scan equipment.” *Report of the 21<sup>st</sup> Century Voting Commission*, page 19.

A uniform system has several benefits. Chief among these is that a uniform system is ideal for training and administration purposes. All election officials and volunteers throughout the state will be trained on the same equipment, electronic poll books, procedures, and learn the same best practices and procedures. Further, a uniform system ensures that voters have the same voting experience no matter where they vote in Georgia. A voter who moves from one part of Georgia to another will be able to vote in a consistent and familiar way. The SAFE Commission also recommends a uniform voting system because of potential lawsuits challenging the system on equal protection grounds.

**3. The implementation of a new system should include a training plan and budget to educate both voters and county election officials.**

Good training is vital to running good elections. During the implementation of Georgia's current voting system, the state provided money to allow for both voter education and election official training. The State conducted training and awarded grants to counties to implement their own training for their election officials. The SAFE Commission recognizes the importance of both voter education and election official training as we move to a new system, and the Commission recommends that the state take a similar approach to training and education during this implementation as it did during the implementation of the current system.

**4. Any new system should ensure that disabled voters have the same opportunity for access and participation as other voters in accordance with HAVA and the ADA. Any new system should be certified by the EAC.**

The Help America Vote Act of 2002 (HAVA) states that voting systems must be accessible for individuals with disabilities, including a manner of access for the blind and visually impaired that provides the same opportunity for access and participation as other voters. The opportunity for access and participation includes an expectation of privacy and independence in the voting booth. Georgia's current system accomplishes this well because the voting experience is very similar for disabled and non-disabled voters. Giving disabled voters the same amount of access, participation, privacy, and independence as non-disabled voters should be a goal of Georgia's next election system.

The SAFE Commission held a Voting Accessibility Panel at its August 30, 2018 meeting where it heard testimony from panelists who work to ensure that individuals with disabilities are provided proper access to the voting process. Lou Ann Blake, Deputy Director of the National Federation of the Blind and Jernigan Institute, has worked extensively with election technology, developers, voting rights advocates, elections officials, and vendors to ensure accessibility for blind and vision impaired voters. Ms. Blake previously managed NFB's HAVA training, and she testified that the two key issues for blind or vision-impaired voters are being able to access the ballot and then mark

it privately and independently. A third issue revolves around absentee ballots and the fact that typically they are not accessible to a blind voter because it is a paper ballot. When asked what current practices the state should retain in order to make sure disabled Georgians had access to voting, Ms. Blake lauded the uniform system Georgia currently has in place.

Additionally, Anne Kuhns, staff attorney with the Georgia Advocacy Office, advocates on behalf of individuals with physical, mental, and developmental disabilities. Current laws require that people with disabilities have the same opportunity to access and participate in the voting process. Ms. Kuhns commented on the need for any new voting system to have an audio-ballot component for the visually impaired and that ballot access is an issue of utmost importance for individuals with disabilities. There is also a great need for proper training on how to use voting equipment that is used by individuals with disabilities because every experience is different. If a precinct has the greatest equipment in place for use by voters with disabilities, but workers are not adequately trained on how to use it, or for contingency plans, it makes it difficult for these individuals to vote. The SAFE Commission also heard testimony from Elizabeth Jones, Director and COO of the Shiloh Community Center, which provides health and wellness services to the elderly and persons with disabilities. Ms. Jones testified about potential issues for senior citizens when trying to vote. She commented that one of the largest problems for senior citizens was a lack of access to polling places and adequate transportation, especially in rural areas, and that some of these sites lack the type of accessibility elderly people may need including restrooms. Another issue for senior voters is having adequate lighting in polling places. This may be rectified by new technology with the ability to use larger print on ballots and technology that allows for a great deal of contrast on the screen or ballot.

The SAFE Commission also heard testimony from representatives from the Georgia Advocacy Office who stressed that voting with disabilities is not a partisan issue. Disabilities stretch across race, gender, economic, and party lines. Voters all want the same thing – which is to go to the poll, have your vote properly counted, and for it to be done privately and accurately. The uniformity of any voting system is essential to ensuring disabled voters have as seamless a trip to the ballot box as possible.

The Commission is aware of recent litigation regarding accessible voting in both Maryland and Ohio. In National Federation of the Blind v. Lamone, 813 F.3d 494 (4th Cir.) 2016, the United States Court of Appeals for the Fourth Circuit held that Maryland's absentee voting program, which required voters to mark a hardcopy ballot by hand, violated the Americans with Disabilities Act (ADA) and the Rehabilitation Act, 29 U.S.C. § 974, because it did not allow disabled persons to mark their ballots without assistance. In Hindel v. Husted, 875 F.3d 344, (6th Cir.) 2017, the United States Court of Appeals for the Sixth Circuit reversed the district court's holding that a similar absentee balloting design did not violate the ADA. That case was remanded to the district court and continues.

Another byproduct of the passage of HAVA was the establishment of the United States Election Assistance Commission (EAC). The EAC is an independent, bipartisan commission tasked with developing guidance to meet HAVA requirements and adopting voluntary voting system guidelines. The EAC also serves as a national clearinghouse of information on election administration. The EAC also accredits testing laboratories and certifies voting systems, as well as audits the use of HAVA funds.

HAVA also established the Technical Guidelines Development Committee to assist EAC in the development of voluntary voting system guidelines (VVSG). VVSG are a set of specifications and requirements that voting systems may be tested against to determine if they meet standards for accessibility, security capabilities, and basic functionality. These guidelines are voluntary, but they have been adopted in some form by 47 states by rule or law. The EAC and the National Institute of Standards (NIST) currently have a working group that is developing VVSG 2.0, which is currently in its draft phase. Currently, no election vendors offer a voting system that is VVSG 2.0 compliant. It is not currently clear when or if the EAC will review and adopt the new VVSG 2.0 standards; subsequently, the SAFE Commission recommends that any new system must be certified by VVSG 1.0. Whether there will need to be upgrades or patches that would bring the new voting system into compliance with the VVSG 2.0 standard is an open question until VVSG 2.0 is actually adopted. The SAFE Commission recommends that Georgia's next voting system have a mechanism to allow for upgrades and patches to ensure continued reliability and ability to comply with future standards.

**5. Georgia's new voting system should include new vote casting devices, new scanners, and new pollbooks. There should be paper backups for each of these systems to the extent possible, including paper registered voter lists and ballots. For each new type of hardware, steps should be taken to ensure both security and functionality. Any new hardware or software needs to be compatible with Georgia's existing voter registration system.**

While much of the attention regarding voting systems revolves around the vote casting devices, there is a host of other equipment that is vital to administering secure, accessible, and fair elections. This equipment includes pollbooks, scanners, an election management system, and other components. Georgia should update each of these components, but should ensure that any new hardware and software is compatible with the state's existing voter registration system.

As with any piece of hardware or software, security must be a top priority. As SAFE Commission member Dr. Wenke Lee has pointed out, "even when a system is not directly connected to the Internet it can still be attacked by those who have direct access or via data that can be traced back to an Internet facing system."<sup>35</sup> In order to ensure a high level of security of voting system

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<sup>35</sup> "Addendum to Basic Security Requirements for Voting Systems." Dr. Wenke Lee. January 3, 2019.

components, Georgia should adopt security rules based on the following guidelines. Georgia should also ensure that any technology that touches any aspect of a voting system is secure. These recommendations are more appropriate for promulgation by the State Election Board as administrative rules rather than being adopted in statute. These steps include but are not limited to:

- Restricting device functionality to only what is required (e.g. disabling Wi-Fi, Bluetooth, or internet connectivity when not needed for updates or specific functionality).
- Physically disable or otherwise seal exposed ports.
- Encrypt any data transmissions.
- Conduct regular penetration testing.
- Treat all removable media as potential delivery mechanism for malware and put in place appropriate policies for the use of removable media (e.g. thumb drives, etc.).
- Ensure that there is a consistent process to securely patch and update software on devices.
- For any vendor that provides hardware or software—require vendor security measures in accordance with industry best practices, such as those established by the National Institute of Standards and Technology (NIST). Such security requirements for any potential vendor should be included in the RFP process and in any contract so that vendors hold responsibility for cybersecurity failures and are incentivized to properly maintain equipment under contract.
- Have an ability to “hash-test” software to ensure that the code on the hardware matches the certified source code.

**6. Given Georgia’s history as a state that uses DRE’s and the familiarity of voters and election officials with that method of vote casting, Georgia should move to a primarily ballot-marking device with verifiable paper ballots solution for a new voting system.**

While all other recommendations of the SAFE Commission represent the unanimous view of the Commission, the Commission was not able to come to a unanimous view on how Georgia voters should mark their ballots on Georgia’s next voting system. A majority of the Commission believes that Georgia should utilize ballot-marking devices with verifiable paper ballots as the in-person method of voting for Georgia’s next voting system. Ballot-marking devices with verifiable paper ballots ensure that a voter’s selection in each contest is captured in a manner that will be automatically counted by the tabulating mechanism. Georgia’s residual vote rate is very low, and the next system should aim to keep that rate low. Any ballot-marking device utilized in Georgia, in addition to utilizing verifiable paper ballots where voters can easily read their selections prior to casting a ballot, should include features that prevent overvotes, warn about undervotes, incorporate a review screen that lets the voter confirm their selection prior to printing their ballot, and include measures to increase election security such as counting the numbers of voters who utilize the device. Every printed ballot marked on a ballot-marking device must include a way for the voter to read their selections on the printed ballot prior to entering it into the scanner, and the

law should allow for a voter to spoil that ballot and mark a new ballot if he or she sees something on the ballot that needs to be corrected. Any new system should also include a solution that allows voters to cast provisional ballots in a manner that does not require duplication of that ballot by election officials in order for the ballot to count.

The Commission unanimously agrees that federal law requires the availability of ballot-marking devices for disabled voters. Ballot-marking devices with verifiable paper ballots can allow for the efficient use of audio ballots (listening to the ballot being read aloud through headphones) for visually challenged voters and low literacy voters if they choose.<sup>36</sup> Ballot-marking devices with verifiable paper ballots can also be an efficient way to provide ballots in alternative languages.<sup>37</sup> Currently, one jurisdiction in Georgia, Gwinnett County, is required by federal law to provide ballots and other election materials in Spanish in addition to English, and other jurisdictions may meet that threshold after the 2020 Census.<sup>38</sup> Utilizing a ballot-marking device with a verifiable paper ballot also allows a voter to adjust the text size on the screen if they need to.<sup>39</sup> While the Commission's discussions addressed physical disabilities, the Commission is also cognizant that the state must remain cognizant of voters with developmental disabilities. Any new system should also accommodate voters with developmental disabilities and the output of any ballot marking device should be easily readable and verifiable. It is the view of the Commission that Georgia should utilize a voting system that allows both disabled and non-disabled voters to mark their ballots in the most similar way possible that maximizes both independence and privacy. This is especially the case because Georgia's existing system allows both disabled and non-disabled voters to vote in very similar fashions. Moving from a system where a disabled voter's voting experience closely aligns with a non-disabled voter's experience to a system where the experiences are very different would likely invite legal challenges that may well be successful.<sup>40</sup>

The fact that Georgia's current voting system utilizes touchscreen voting through DREs is another reason that the Commission recommends moving to a ballot-marking device with verifiable paper ballots solution. Georgia voters have cast more than 40 million votes on a touchscreen since 2002,<sup>41</sup> and touchscreen technology has become even more widely adopted across all facets of life since that time. The Commission believes that moving from one form of touchscreen voting to another will be an easier transition for Georgia voters than it would be to move to hand-marked paper ballots. Exit polling conducted in a pilot project in Rockdale County using ballot-marking devices with a verifiable paper ballot showed strong support by Georgia voters.<sup>42</sup> On a scale of 1-

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<sup>36</sup> Center for Civic Design, <https://civicdesign.org/why-not-just-use-pens-to-mark-a-ballot/>.

<sup>37</sup> Id.

<sup>38</sup> See Voting Rights Act, Section 203. 52 U.S.C. § 10503.

<sup>39</sup> Center for Civic Design, <https://civicdesign.org/why-not-just-use-pens-to-mark-a-ballot/>.

<sup>40</sup> Muller, Derek T., "The Democracy Ratchet" (June 22, 2018). *Indiana Law Journal*, Vol. 94, 2019. Available at SSRN: <https://ssrn.com/abstract=3201247>

<sup>41</sup> [http://sos.ga.gov/index.php/Elections/current\\_and\\_past\\_elections\\_results](http://sos.ga.gov/index.php/Elections/current_and_past_elections_results)

<sup>42</sup> "City of Conyers Pilot Project Report." Georgia Secretary of State. February 1, 2018.

10 with 10 being the most satisfied in the equipment, the mean response of the 686 respondents was 9.21.<sup>43</sup> On a scale of 1 to 10 with 10 being very confident that their vote was counted accurately, the mean response was 9.28.<sup>44</sup>

The Commission also believes that moving from one form of touchscreen voting to another will be an easier transition for Georgia's election officials. Cynthia Willingham, Elections Director in Rockdale County, utilized ballot-marking devices with verifiable paper ballots in a pilot project during a municipal election and testified that it was an easy transition for her and her poll workers. She found that utilizing a ballot-marking device with a verifiable paper ballot system saved time during opening and closing procedures in precincts, allowed faster reporting of results, and maintained existing functionalities like being quickly able to provide all ballot styles needed during advance voting.<sup>45</sup> The Commission heard testimony from numerous county election officials who voiced concerns about the cost of a hand-marked paper ballot system. These officials pointed out that in a hand-marked paper ballot system, more costs are pushed to the counties. County election officials also testified moving to a hand-marked paper ballot system would require major changes for poll workers and would lead to increased risk of voters not getting the correct ballot. In some precincts in Georgia, poll workers have as many as a dozen ballots styles to choose from depending on where exactly a voter resides. While a statewide transition will undoubtedly be more complex than a pilot project, easing the transition as much as possible is the best way to have a successful implementation.

SAFE Commission member Dr. Wenke Lee, Professor of Computer Science in the College of Computing at the Georgia Institution for Technology, who also holds the John P. Inlay Chair in Software at Georgia Tech, strongly feels that hand-marked paper ballots are more secure than ballots marked using ballot-marking devices. This view is also held and was expressed to the commission by Verified Voting and numerous professors in computer science and cybersecurity.<sup>46</sup> Dr. Lee's views are well-stated in two white papers that he submitted to the Commission and that are attached hereto.<sup>47</sup> Dr. Lee also made a presentation to the Commission on cybersecurity that is attached to this report. Dr. Lee's view is that "a voting system must provide either a human readable, post-vote paper receipt from a ballot-marking device or an actual paper ballot as the durable, independent evidence that can be used as the authoritative source document in an audit or recount."<sup>48</sup> Dr. Lee's concern with ballot-marking devices with verifiable paper ballots is that there is not a systemic study that shows that voters actually do verify their ballot selection even when

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<sup>43</sup> Id.

<sup>44</sup> Id.

<sup>45</sup> Id.

<sup>46</sup> January 7, 2018 Letter from Richard DeMillo, Charlotte B. and Roger C. Warren Professor of Computing, Georgia Institute of Technology.

<sup>47</sup> "Basic Security Requirements for Voting Systems" and "Addendum to Basic Security Requirements for Voting Systems." Dr. Wenke Lee. Attached hereto as Exhibits 1 and 2.

<sup>48</sup> "Addendum to Basic Security Requirements for Voting Systems." January 3, 2019. Dr. Wenke Lee.

they have the opportunity. He is also concerned that even voters who attempt to verify their selections may not actually remember them. Dr. Lee articulated in his white-papers and at SAFE Commission meetings that a ballot marked by hand is more secure than one marked by a ballot-marking device and that any convenience offered by ballot-marking devices should not outweigh the cybersecurity concerns. Dr. Lee understands that at least one ballot-marking device with a verifiable paper ballot per precinct would be required for use by disabled voters, but argues that non-disabled voters should mark their ballots by hand. He strongly recommends that if the state does utilize ballot-marking devices with verifiable paper ballots, that it consider how it will keep those machines up to date. Dr. Lee suggests leasing, rather than buying, those machines to allow for more frequent replacement, vendor incentive to regularly improve their equipment, and reduced cost to the taxpayer.

The Commission agrees with Dr. Lee that the state must ensure a mechanism to keep all hardware and software used in its voting system, including ballot-marking devices with verifiable paper ballots, up-to-date and secure. The state should consider leasing or otherwise ensure via contractual terms that all components of the voting system can be replaced and updated to ensure that after implementing a new system, Georgia remains on the forefront of voting technology and security. The Commission understands that state law and budgetary rules may make leasing technology equipment difficult, but the Commission encourages the General Assembly to review these laws in order to ensure that technology utilized by Georgia remains up-to-date.

The voting systems demonstrated to the Commission use either bar codes, QR codes, or optical character recognition (OCR) in order to tabulate marked ballots. The Commission reiterates its recommendation that the paper ballot that is generated in Georgia's next voting system must allow the voter to verify his or her selections and cure any errors prior to scanning the ballot. Additionally, Georgia law should be updated to clarify that the human readable component of the ballot is the official vote record. Given the Commission's next recommendation that Georgia require post-election, pre-certification audits, we do not believe it is prudent for Georgia to not consider a vendor based on their method of tabulation, whether it be bar code, QR code, or OCR.

**7. Georgia should require post-election, pre-certification audits. These audits will certainly be time consuming and add work to county election officials, but they are necessary to show transparency and maintain trust in the elections process.**

The SAFE Commission unanimously recommends that Georgia require post-election, pre-certification audits of its election results. The Commission recognizes that this requirement adds another post-Election Day activity to county election officials, and recommends that the General Assembly consider amended post-election deadlines for certification to ensure that an audit can be conducted without lengthening the overall certification process. The Commission recommends that the General Assembly put in place an audit requirement for all elections from the November



2020 election going forward, but recommends that the General Assembly not require a certain type of audit, instead leaving the specifics to the State Election Board to enact via administrative rule so that Georgia can be more responsive to updates in election auditing.

A properly designed post-election audit can find errors, correct them, deter fraud, provide data for continuous improvement in election administration, and promote public confidence in elections. Election audits should rely on a paper vote record that is easily readable without a technical device, should be conducted on different machinery than Election Day tabulation, and should be conducted publicly. The Commission reiterates its previous recommendation that robust chain of custody requirements for paper ballots must be adhered to in order to conduct meaningful, precinct-level audits.

**8. In order to successfully implement this new system, other areas of Georgia election law should be updated to ensure compatibility with the new system and improve election administration. Some of these updates may require updates to Georgia statutes, while some may be better suited to regulations promulgated by the State Election Board.**

In order to ensure successful implementation of these recommendations, the Commission recommends that the General Assembly also review the below aspects of Georgia election law in order to allow for a smooth transition to a new system and to improve election administration in Georgia.

- Definitions. Include a definition of verifiable paper vote record. Include a definition of ballot-marking devices and allow for their use. Also clarify the definition of ballot to make clear that the official ballot is the human readable component of the verifiable paper vote record. Include a provision similar to the last voting system update where the State is to provide new equipment to each county and each county is required to use it beginning in the November 2020 election cycle.
- Certification Deadline. In order to implement the post-election, pre-certification audit requirement, the General Assembly should change the county certification deadline to allow for sufficient time for county election officials to conduct required post-election activities. The Commission believes that changing the county certification deadline to the second Friday following the election (10 days following the election) would allow for sufficient time to complete required post-election activities including an audit. It will also be necessary to update the state certification deadline, although the Commission notes that the State should not need a lot of time following the county deadline in order to certify.
- Recounts. With the implementation of a new voting system, the General Assembly should also update Georgia law regarding recounts. Moving to a paper-based system will require

more time and effort for county election officials to conduct recounts than the current system. The Commission recommends updating the threshold for a losing candidate to request an automatic recount to 0.5% to be more in line with other states, and allowing for a hand recount in the discretion of the Secretary of State (for state contests) or the county elections supervisor (for county contests) in certain instances where an audit or recount shows unexplained anomalies

- Runoffs. With the requirement of post-election audits and the corresponding recommended changes to the certification deadlines, the State should consider how these changes will affect preparation for runoff elections, especially a state runoff that is held 28 days after a general election. While the Commission recognizes the benefit to ensuring that elected officials win a majority of the electorate, the Commission also recognizes that runoffs make election administration more difficult and compress timelines.
- Absentee Ballots. Georgia's absentee ballot process should be updated in order to ensure compatibility with a new system and to codify recent court orders. The Commission believes that absentee balloting in Georgia should remain "no-excuse," and recommends that the General Assembly adopt a process where absentee voters are given the opportunity to resolve issues with their absentee ballots by completing an affidavit and submitting a copy of ID that meets HAVA standards. The deadline to cure an absentee ballot should be the same as the provisional ballot verification deadline, which is the Friday after the election.

The Commission also recommends that the State update the requirements on the oath envelope to make them easier for voters to accurately complete and to allow county election officials to more easily verify a voter's identity using the information on the envelope. The Commission recommends that Georgia law make clear that slight variations in any information on the envelope not be a reason to reject an absentee ballot unless the variation does not allow the election official to identify the voter and confirm that the voter cast the ballot.

Georgia should also amend its law authorizing electronic ballot delivery for UOCAVA voters to clarify that electronic ballot delivery is permitted in federal and state elections and runoffs. Georgia should also authorize a pilot project for electronic ballot delivery, marking, and/or return for disabled voters.

- Voter Assistance. Update state law to be consistent with federal law such that the federal voter assistance standard applies for all elections in Georgia.
- HAVA Verification. Georgia law should be updated to expressly state that county election officials are required to check that they accurately typed information into the voter registration system from the registration form and to verify whether the applicant provided documentation with the application.

The Commission also recommends that the State Election Board consider updating its rules for third-party registration groups to require those groups to inform voters that both state and federal law require a voter to put their driver's license number on their voter registration application if they have one.

- Advance In-Person Voting. Advance in-person voting in Georgia is popular and should be maintained. The Commission finds that the current advance voting period is appropriate in federal and state elections. The Commission also recommends that the General Assembly clarify that for statewide runoff elections, advance in-person voting should begin on the same day in each county.

Given the popularity of advance voting, the Commission recommends keeping the functionality that allows a voter to vote in any advance voting location in their county. The next voting system should be able to accommodate that functionality. The Commission further recommends that, instead of treating advance in-person voting as another form of absentee voting as the law currently does, that the law be updated to draw distinction between absentee by mail and advance in-person voting. Particularly, advance in-person voters should not have to fill out an absentee ballot application in order to early vote. The paperwork should be more similar to Election Day voting.

The Commission also recommends that the General Assembly expand allowable advance voting locations to permit advance voting to occur in non-governmental buildings.

- Leasing. The General Assembly should review the laws of Georgia governing and regulating the procurement of large technology purchases including voting systems. Given the speed at which technology adapts, it may be prudent for Georgia to have additional flexibility to lease new technology when doing so is cost effective and in the best interest of Georgia.