



Ensuring Election Integrity for Tennessee Voters

September 1, 2021



**OUR PURPOSE TODAY**

- Who we are.
- The problems: A quick summary of election integrity research findings.
- The solution -- A model: A safer, more secure, comprehensive voting model that bolsters integrity in Tennessee elections.
- Highlight best practices to replace issues we've uncovered.



**WHAT WE'VE DONE**

- Reviewed reports about machines, ballots, voting processes, nullification of legislators and voting laws, court cases, Big Tech/media censorship.
- Evaluated affidavits, data presentations, documentaries, Dominion user manuals.
- Interviewed poll workers.
- Attended open meetings.
- Presented our findings to legislators, government officials and the public.

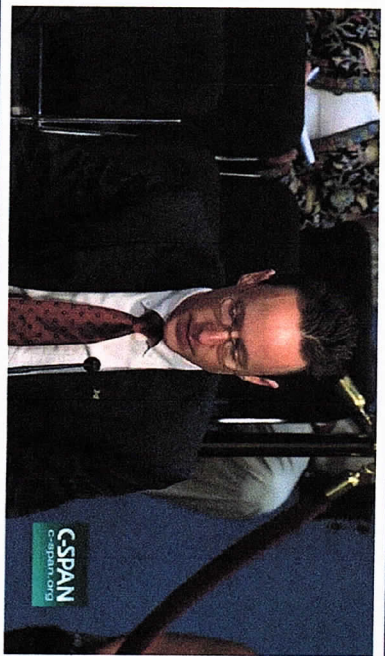


**OUR CONCLUSIONS**

- Issues in our 2020 election -- suspect state-wide similarities:
  - Increased security risks caused by voting system machines vulnerabilities;
  - Overconfidence in a weak, limited audit process; 1 of 3 functions:
    - Dependency on a software vendor; did we outsource the election?
    - Can't audit 70% of Tennessee counties due to no paper ballots.
  - System security standards older than first smart phone and being ignored.
- Confidence in voting has been severely damaged -- Nearly 6 in 10 Americans (59%) believe permanent harm has been done to the US as a result of the 2020 election process (June 2021 Democracy Fund Voter Survey).
- Tennesseans now don't trust our elections process; open meetings.
- We believe Tennessee elections are at risk.



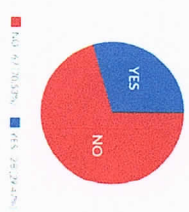
ISSUE ONE:  
ELECTRONIC VOTING MACHINES CAN BE HACKED.



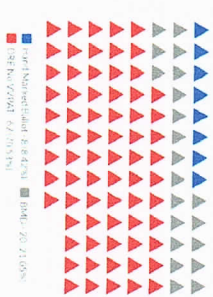
ISSUE TWO:  
MAJORITY OF TENNESSEE VOTING IS DONE ON PAPER'S WITHOUT PAPER BALLOTS FOR ANY VERIFICATION OF THE VOTERS' CHOICES.



**TENNESSEE COUNTY IMPACT**  
COUNTIES WITH DAY-OF PAPER BALLOTS



COUNTIES BY SYSTEM TYPE





**SO, WHAT IF WE DEVELOPED A BEST PRACTICE, COMPREHENSIVE, WORKING VOTING MODEL TO FIX THESE AND OTHER ISSUES....?**

**....IT WOULD LOOK LIKE THIS**









**(1) BE MORE AGGRESSIVE WITH VOTER ROLL INTEGRITY**

- Increased citizen moves in/out of state... integrity efforts should be aggressive.
- Change list maintenance program to at least annual: Continue: US Postal Service National Change of Address (NCOA) System; Department of Safety address records; and Williamson County obituaries. BUT do deeper dive on the rolls:
- Develop minimum voter registration software standards and check for functionality.
- Data logic checks:
- Fraud detection and pattern analysis
- Retain all refinement changes for two years.



**Comprehensive Voting Model Recommendations**

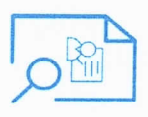
<p><b>01</b> Enhanced Voter Roll Integrity Process</p> 	<p><b>02</b> More Secure Voter: Check-in at Precinct and Absentee Levels</p> 	<p><b>03</b> Secure Voter-marked Paper Ballots</p> 
<p><b>04</b> Optical Scanners for Self-Administration and Tabulation</p> 	<p><b>05</b> Mandatory Post-election Enhanced Risk Limiting Audit</p> 	<p><b>06</b> Complete Operational Audit to Validate Election Integrity Measures</p> 

**07** Review Key Performance Indicators for Post-Model Confirmation



**(1) BE MORE AGGRESSIVE WITH VOTER ROLL INTEGRITY**

- Add innovative resources beyond the basics for monthly checks:
- E-Verify: 8 USC§1373(C): Fed gov MUST respond to state/local officials' request to determine immigration status of individuals;
- U.S. Immigration Services SAVE;
- Social Security's Master Death File;
- County tax records; residence vs. commercial address;
- Tennessee Bureau of Investigation (TBI).





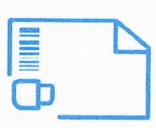
**(2) SECURE THE VOTER REGISTRATION PRECINCT PROCESS**

- Return to precinct-based voting vs. Voting Centers for both Election Day and Early Voting.
- Keep registration software, but go offline for early voting, day-of-election.
- Eliminate the need for an internet connection for day-of-vote registration.
- Which prevents hacking and real-time monitoring of all voting.
- Thus, preventing cheaters from knowing how many voters are left in precinct that can vote during and after Early Voting; so
- You can halt nefarious attempts to insert enough Election Day votes via the technology to change election outcomes.



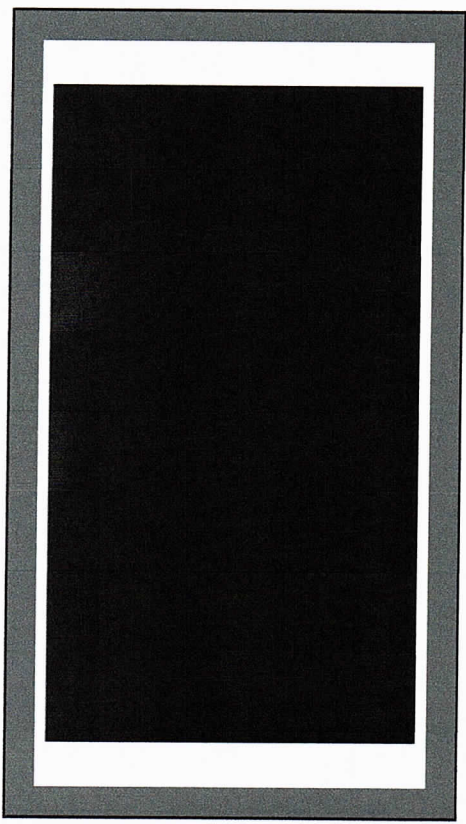
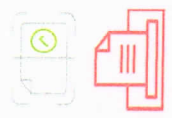
**(3) HIGH SECURITY VOTER-/HAND-MARKED PAPER BALLOTS**

- Same security standards used by U.S. Treasury to prevent counterfeiting.
- Randomized ID, watermark, UV light-reactive throughout full paper.
- Embedded ballot holograms of translucent mylar.
- Microprinting of words, images in the hologram.
- Ballot ID helps with Enhanced Risk Limiting Audit.
- Ensure vote counted as the voter cast it.



**(4) ...COUNTED BY OPTICAL SCANNERS**

- Quickly counts all paper precinct/absentee ballots and tallies results.
- Scanner software/hardware will have been checked via Security Risk Evaluation
  - Separate process independent of the vendor.
- Only one optical scanner & one backup needed per precinct.
- Current Dominion optical scanners allow self-adjudication.
- All precinct tallies must be verified to County totals and, then, to State certification totals.

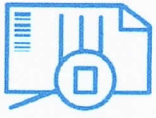






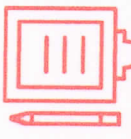
**(5) WITH A MANDATORY, POST-ELECTION ENHANCED RISK LIMITING AUDIT OF PAPER BALLOTS TO SUBSTANTIATE THE MACHINE COUNT.**

- Helps verify – with minimal cost – that the winner won.
- Statistical, random sample, hand-counted, end-2-end, ERLA.
- 99% confidence with 1% hand-counted ballots in a 2% margin race.
- If numbers of ballots don't match, implement hand recount of ballots.
- Higher confidence audit vs. partial (BMD tabulator or recount) audit.
- The randomized number on ballot helps access ballots in audit sample.
- Checks failies from registration, precincts and county-to-state results.
- Update TCA 2-20-103 to achieve this extra security, in process.



**(6) ...AND AN OPERATIONAL AUDIT OF EFFECTIVENESS/ EFFICIENCY OF ACTIVITIES TO ENSURE ELECTION INTEGRITY AMONG ELECTION COMMISSION OPERATIONS STATEWIDE.**

- Evaluates the effectiveness/durability of election integrity procedures, systems and training @ county level to include, but not limited to:
  - Voter identification, registration and oversight, mandatory audits, election & scanner certification, compliance with state and federal laws and operational security.
- State Election Coordinator selects 20% of Tennessee counties annually for this audit, cycling through all counties in a 5-year period. Independent auditor audits this audit + ERLA cover all county recommendations from NASS Task Force on Vote Verification: Post-election Audit Recommendations



**IMPLEMENT KEY PERFORMANCE INDICATORS (KPI'S) TO TRACK SUCCESS OF THE PILOT PROGRAM.**

- Precinct Voter flow.
- Adjudication percentage.
- Ease of adjudication.
- Success of Enhanced Risk Limiting Audit.
- Any validated fraud opportunity found in the models implementation.
- Customer intercepht survey.



**IF WE AREN'T ABLE TO GET ALL OF THESE COMPONENTS... THEN THERE'S A LOT OF ISSUES TO ADDRESS.**



**SECURITY RISK EVALUATION – VERSUS RECERTIFICATION -- OF VOTING & REGISTRATION MACHINERY**

- TEC subcommittee has committed to recertify all 5 brands.
- Recommendation: Security Risk Evaluation of all brands vs. recertification.
- None of five voting machine brands are certified beyond the 2005 VVSG 1.0 standards. (2015)/(2021) Create Minimum Voting System Requirements?
- Evaluate voting equipment and registration equipment.
- Establish bi-partisan independent citizen committee to identify, fix, replace
- Include credentialled data/internal/process control experts and IT/cybersecurity experts. But NO vendors.



**MACHINE CERTIFICATION PROCESS EXCEPTIONALLY WEAK**

- Election Assistance Commission (EAC) oversees vendor election integrity efforts.
- With no public debate, EAC recently, secretly, approved guideline changes requested by machine manufacturers that reduce manufacturers' cost and substantially weakens the security of voting systems, such as:
  - Allow wireless networking devices in machines.
- Jessica Bowers, (Dominion/TEC/Willco) oversees certifications for EAC.
- Vendors do their own cyber reviews, then Voting System Testing Lab (VSTL) checks against the 2005 standards.
- Only 2 VSTLs accredited to do certifications, ProV&V, unsecure website.



**MACHINE CERTIFICATION PROCESS EXCEPTIONALLY WEAK**

- The Dominion Result Tally and Reporting (RTR) system (per manual):
  - Allows for mass vote changing by deleting results previously entered from secure removable media and replacing them with data from a local file... with no dual-party authentication required.
  - Reports can be published to "Public" transfer points inferring that there is at least an indirect connection to the internet.
  - Remote clients can communicate with the server through Dominion... again inferring a network connection.



**VOTER ROLL DATA INTEGRITY IS CONCERNING**

- Bad data implies potential database integrity issue: garbage in=garbage out; Counts don't match; Reconciliation between SoS stats & WillCo voter history shows a potential 269 more ballots cast than reported in WillCo.
- Individual voter registration ID numbers appear to be assigned sequentially with evidence of reuse/reassignment over time
- One voter registered in 2021 has a general election vote history in 2020
- Estimated 100-101% voter registration of 18+ population on 11/3/20.
- One team member found five extra voters between two addresses.
- WCEC Voter Maintenance needs to be active, not passive.



**VOTING CENTERS ARE AN OPENING FOR FRAUD**

- Early Voting locations and Voting Centers require poll books connected to the internet with VPN to prevent duplicate, multiple check-ins by the same voter.
- Tech allows malicious actors the ability to monitor voting activity real-time (number voted, number left to vote, specific voters who have voted, etc.)
- Lose control of precinct-level data and ability to more quickly identify fraud.
- VPNs, other tech can be hacked: (T-Mobile; Marriott; Colonial Pipeline; Yahoo; Facebook; Twitter...) Why take a chance?



**BALLOT MARKING DEVICES HAVE ISSUES – EXAMPLES:**

- BMDs can be hacked, misconfigured or contain malware.
- BMDs actually create longer voting lines and cost twice paper ballots.
- BMDs rely on voters detecting ballot error, yet only 5-7% voters find and report errors.
- BMDs can show one thing on the screen but print something different.
- Voters understand BMDs aren't trustworthy; don't want the technology.



**WITHOUT SECURITY, FAKE BALLOTS CAN BE INSERTED**

- Allegations of pristine absentee ballots into the count in several states.
- Supported by numerous affidavits.
- Halderman affirms that ballot security must be improved.
- Cannot depend on vendor-supplied ballots.



**WEAK AUDITS YIELD FALSE ELECTION CONFIDENCE... AUDITS ARE THE ONLY WAY TO TRULY CHECK ELECTION RESULTS**

- 70% of counties are not even audited.
- Of those audited, only 1 of 3 process functions are examined.
- Gives a false positive, over-confidence with the election audit.
- The audit should be end-2-end and answer these questions:
  - Ballot scan code represent voter's vote? (Voter intention > vote cast)
  - Tabulator correctly record, count the ballot? (Vote cast > vote count)
  - Report system correctly tally tabulator votes? (Vote count > vote tally)



**ENSURE MACHINE AND VOTING PROCESS ISSUES REPLACED WITH BEST PRACTICE SOLUTIONS STATEWIDE**

- Our deep dive in Williamson County revealed issues.
- Believe many of these issues are common with other Tennessee counties.
- Three categories of solutions:
  - Technological solutions;
  - Process solutions;
  - Legislative solutions



**ENSURE MACHINE AND VOTING PROCESS ISSUES REPLACED WITH BEST PRACTICE SOLUTIONS STATEWIDE -- EXAMPLES TECHNOLOGICAL**

- Passwords managed by users & required change on first login and if compromised. All system users should have separate UIDs, forced changes.
- **PROCESS**
- County election officials must ensure sufficient resources/staff are trained to operate election system fully, without machine vendor presence or interaction with the system.



**ENSURE MACHINE AND VOTING PROCESS ISSUES REPLACED WITH BEST PRACTICE SOLUTIONS STATEWIDE -- EXAMPLES LEGISLATIVE**

- Audits recommendations will require legislation.
- **National Integrity sources 25 General Best Practices**, including:
  - Election laws/regulations can't be changed within 180 days prior.
  - No automatic voter registration, no day-of-vote registration.
  - No drop boxes – ease of tampering; no chain of custody.
  - Ballot counting continues without pause until all votes tabulated.



**IN SUMMARY**





**WHAT WE RECOMMEND**

- **Paper ballots:** Hand-marked, random sequenced, watermarked.
- **Voter rolls:** Make them more secure.
- **Precinct voting:** No voting centers, no online check-in.
- **Enhanced Risk Limiting Audit:** Post-election, end-2-end validation vote count.
- **Chain of custody:** Ballots/precincts/County/State totals, physical accountability.
- **Operational audit:** Annual state audit of county election commissions.
- **Security Risk Evaluation:** Of all voting side & registration side machinery
- Our Goal: **Ensuring Election Integrity.**



**WILLIAMSON COUNTY VOTERS  
FOR ELECTION INTEGRITY**

Ensuring Election Integrity for Tennessee Voters

June 2, 2021