

Colorado's Election Integrity Journey

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- Consultant on Big Data, Election Integrity, Voting Methods
- Software developer, Ex-Bell Labs
- Working on election audits and integrity since 2003
- Poll worker
- Pioneered Risk-Limiting Audits in Colorado with my own code in 2010, Boulder County
- On the teams that wrote the software for Colorado's current statewide audit
- Verified Voting Board member
- LWV Colorado Election Security position, 2022
- LWV representative on CO SoS's Bipartisan Election Advisory Commission
- Speaking for myself

The Big Picture of Election Integrity

- Lots of election integrity questions raised in 2000 Bush v Gore election
- Lots of election integrity questions raised in 2020 Biden v Trump election
- Who cares can depend on who loses
- Nearly all election administrators are wonderful public servants
 - But not everyone trusts them all: 2024 conviction of Tina Peters, clerk of Mesa County, Colorado; gave unauthorized people privileged access to her voting system
- My goal: support secure and trustworthy elections

Evidence-Based Elections

- Trustworthy elections are **Evidence-Based Elections**
- Provide transparent, public access to evidence which supports the outcomes
- Require Voter-Verified Paper Ballots and Robust Audits
 - Hard to secure anonymous ballots! Very different than banking, commerce
 - The ballots that are counted must be paper, verified in-person by voter
 - Later audit the paper ballots against the reported outcomes
- Internet voting is an unsolved problem, may never be secure
- Consensus on that in Boulder in 2003 by 4 leading parties!
- Also supported by National Academies study, Bipartisan Senate Intelligence Committee, etc.

20 years ago: reckless computerization

- Many learned the wrong lesson from Bush v Gore
 - Problematic hanging chads led to "paper is bad" notion
- Reinforced by Help America Vote Act (HAVA) money for paperless voting computers
- Even LWV national got it wrong! It took a major effort for LWV to support voter verified paper ballots....
- Some Colorado counties adopted paperless computerized voting: Digital Record Electronic (DRE)

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Colorado in 2006: a tough year

- Initial move to vote centers and electronic pollbooks led to long lines in many polling places in 2004 and 2006

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Colorado Now

- Often cited as a leader in national comparisons

Conroy v Dennis: 2006 Lawsuit over Improper Certification

In 2006, Voter Action USA and other election integrity activists sued Colorado Secretary of State Gigi Dennis for improperly certifying election systems in Colorado, and putting their votes at risk. Myriah Conroy was the lead plaintiff

The **Conroy v. Dennis** lawsuit and subsequent improved certification procedures demonstrated that proper attention to security had been lacking, and DRE systems were insecure and did not meet certification requirements. That violated our fundamental right to vote under the Colorado Constitution

Judge ruled in favor of plaintiffs in 2006. Ordered Colorado to re-test all its voting systems

Quickly accelerated switch to Vote-by-Mail (really drop box)

By 2008, 50% VBM. partly driven by DRE concerns, decertification

That set in action a decade of major reform in Colorado

Decertification of Colorado voting systems, 2007

- In 2007 SoS Mike Coffman performed more rigorous testing of all the Colorado voting systems and decertified all the paperless DREs and many of the other systems.
- Many others were certified only subject to new "Conditions of Use", requiring extra physical security, auditing, etc.

See press release at [SoS Mike Coffman Completes Electronic Voting Equipment Tests](#)

For reference: "[Details of Voting System Applications Submitted for 2007](#)"

- Colorado Legislature in 2008 implemented temporary recertification for just the upcoming election

Election Reform Commission, 2008-2009

- An Election Reform Commission (ERC) was created by the legislature in 2008
- Without further action, the problematic systems would return to decertified status
- ERC agreed on a middle ground: allow use of DREs until counties could make an orderly transition to a better system, by 2014

Replacement of untrustworthy voting systems took longer

- Some counties in Colorado had some untrustworthy voting systems until 2014
- Digital Record Electronic (DRE) without a paper trail: can't be trusted, but **still used in Louisiana and parts of Texas**
- Ballot Marking Devices (BMDs) are important for accessibility, but also are hard to trust

All-mail-balloting

Aka "Vote-by-Mail" but really "receive mail ballot, vote via drop box" for most

- 2008: 50%
- 2010: 60%
- 2012: 66%
- 2013 and on- 100%

Typically 3-7% now choose to vote in-person

Integrity of voting methods; All-Candidate Primary with RCV Initiative 316

- Primary reform - very important!
- Better method for 4-person primary - very important!
- LWVCO supports Initiative 316
- Note: "RCV" term can mean single-winner IRV or multi-winner proportional representation (STV) or terrible Utah method
- Note: no voting method can guarantee a majority winner when there are three or more candidates
 - Despite claims of RCV / IRV proponents
- Note center squeeze failure in Alaska etc.
- => No voting method is perfect
- **LWV explainer of Final-Four Voting**

So how secure is our voting system now?

See my talk last year: [Colorado's Risk-Limiting Tabulation Audits: Accomplishments and Proposed Improvements](#)

Summary:

- Colorado is a leader in voter turnout
- Excellent bipartisan cooperation via Clerks Association
- Colorado has the best tabulation audits around
- They help election officials protect against a wide variety of problems
- They need improvement so the public can independently verify the results
- Most suggested improvements should have minimal impact on audit workload
- Some other improvements are very worthwhile
 - [Principles and Best Practices for Post-Election Audits] (<https://electionaudits.org/principles/>)
- Besides tabulation audits, we all need much more work on Evidence-Based Elections

What about other states?

- Louisiana: no paper trail: can't just trust computers
- Georgia: switched to paper, but voters need to actually check the paper ballots printed by the accessible voting machines (BMDs)
 - And still using old vulnerable software
 - Major lawsuit in Georgia near judgement

How can we get involved?

- Voting is the foundational right of our democracy. We need to pay careful attention to it!
- Sign up with your county clerk to be an elections worker
- Observe the Risk-limiting audit
- Get appointed as a watcher to observe signature verification, etc.
- Ask questions

This presentation is online at:

<https://bcn.boulder.co.us/~neal/elections/co-integrity-history/>