



# What makes MI elections secure?

The State of Michigan uses a decentralized election system; many different people trained across the state utilize technology that has been built and tested with security in mind. In addition, a system of checks and balances throughout the entire election process ensures that mistakes are avoided or identified.

All of this together — **People, Technology, and Cross-Checks** — makes elections secure in Michigan.

## People Involved in Elections

### State Level

#### Michigan Secretary of State

- Serves as Michigan’s chief election officer
- Supports local election officials

#### Michigan Bureau of Elections

- Works under the Secretary of State
- Tests voting systems prior to certification
- Trains and assists election officials
- Oversees and maintains Michigan’s voter registration database called the Qualified Voter File (QVF)

#### Board of State Canvassers

- Composed of 2 Democrats and 2 Republicans
- Accounts for every valid vote cast and certifies results of statewide and multi-county elections
- Approves ballot question wording
- Certifies voting equipment and upgrades

### County Level

#### 83 County Clerks

- Select election equipment for use in their county
- Train election inspectors (poll workers)
- Serve as secretary to their county board of canvassers
- Serve as a member of their county election commission
- Create ballot layout, input content, and coordinate printing of all ballots
- Program and test voting equipment to accurately read ballots
- Accumulate unofficial countywide election results
- Retain and secure election materials and data
- Conduct audits and recounts
- Conduct pre-election logic and accuracy testing, which is open to the public
- May establish early voting sites
- May tabulate absentee ballots

#### 83 County Election Commissions

- Composed of county clerk, chief probate judge, and county treasurer
- Provide election supplies, including ballots

#### 83 Boards of County Canvassers

- Composed of 2 Democrats and 2 Republicans
- Account for and certify votes cast within the county they serve
- Conduct recounts
- Inspect election material containers

### Local Level

#### 281 City Clerks + 1,240 Township Clerks

- Hire, train, and supervise election inspectors
- Maintain voter registration for their jurisdiction
- Conduct pre-election logic and accuracy testing, which is open to the public
- Administer all elections in their jurisdictions
- Select and supervise polling places and early voting sites
- Issue and process absentee voter ballots
- Retain and secure election materials and data

#### 1,521 Election Commissions

- Establish precincts and early voting sites
- Assess voting equipment needs
- Provide election supplies, including ballots
- Appoint election inspectors

#### Election Inspectors (Poll Workers)

- Bipartisan team works at each precinct
- Process voters at early voting sites
- Process voters on Election Day
- Perform poll opening and closing duties, then sign required documents

#### Challengers and Poll Watchers

- Challengers are appointed by authorized organizations
- Poll watchers are not appointed as challengers but still observe the election
- Challengers and poll watchers cannot touch any equipment or election documents, including ballots, or interfere with the election process

## Technology & Tools

### Security

#### Qualified Voter File (QVF)

- Michigan’s voter registration database is used to verify that an individual is registered and eligible to vote in the state
- Election Day electronic pollbooks (e-pollbooks) – Election officials download lists of eligible voters from the QVF by precinct the night before or on Election Day
  - Election Day e-pollbooks are not connected to tabulators, any other communication devices, or the internet during elections on Election Day

#### Election Management System (EMS)

- An EMS is the central computer that totals from all the tabulators are entered into
- Voter Assist Terminal (VAT) – A device that allows voters an alternate or accessible way to vote
  - Tabulator – A precinct-based device that reads hand-marked or VAT-printed paper ballots, but is not connected to the internet

#### Electronic Registration Information Center (ERIC)

A multi-state nonprofit that assists states in updating voting records, including information on registered voters who may have moved to other states and registered to vote

## Cross-Checks for Security

### Process of MI Election Security

In Michigan, election security follows a multi-step process using a system of checks and balances to ensure integrity of the election results

- 1
- 2
- 3
- 4
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- 9
- 10



## STEP

## 1

## PROOF OF VOTER ELIGIBILITY

*What makes Michigan elections secure?***People Involved  
in Elections****Michigan Voters**

To be eligible, a voter must:

- Be a Michigan resident (at the time they register) and a resident of their city or township for at least 30 days (when they vote). Voters who register less than 15 days before or on Election Day must submit proof of residency
- Be a United States citizen
- Be at least 18 years of age (when they vote)
- Not be currently serving a jail or prison sentence
- Provide driver's license or state ID number, last 4 digits of Social Security number (SSN), or other documentation to verify ID

After registering to vote, a voter can check their status at any time through the state's election website ([Michigan.gov/sos/elections](https://michigan.gov/sos/elections))

**Local and County Clerks**

- Verify voter eligibility
- Maintain and update a voter record in the Qualified Voter File (QVF) and mail a voter information (ID) card to confirm residency

**Technology & Tools****Qualified Voter File**

- Clerks use the QVF only after completing training
- Multifactor authentication (MFA) is required to access the QVF
- To ensure the accuracy of the QVF, the Secretary of State utilizes multiple data sources to check for voter changes, errors, moves, or deaths, including, but not limited to:
  - Michigan driver's license database to verify voter's address
  - Social Security and health/human services databases to ensure the person is alive
  - Public records reviews
  - Electronic Registration Information Center (ERIC) to confirm that the voter isn't registered to vote or voting in multiple states
  - Undeliverable or returned election mail audits
- The State of Michigan hosts the QVF system and runs regular security and performance checks

**Cross-Checks  
for Security**

Proof of voter eligibility is cross-checked during the following steps:

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**Absentee Voting**

Signatures of absentee voters are verified using the QVF

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**Early Voting**

Early Voting electronic pollbooks (e-pollbooks) are created using the QVF for election inspectors to verify voters

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**Voting on Election Day**

Election Day e-pollbooks are created using the QVF for election inspectors to verify voters

10

**Post-Election Audits**

The entire process is audited

## STEP

## 2

## BALLOT AND TABULATOR PROGRAMMING

*What makes Michigan elections secure?***People Involved  
in Elections****County Clerks**

- Create the ballots
- Program tabulators to match ballots. May be programmed by qualified vendors under clerk supervision
- Send the draft version of the ballot to the Bureau of Elections for format approval
- Conduct initial ballot tests
- Ensure that only authorized personnel can log in to the election management system (EMS)
- Program EMS to accumulate precinct results

**Candidates, County and Local Clerks, and  
County and Local Election Commissions**

- Proof ballots to ensure proper spelling and content

**Technology & Tools****Hardware and Equipment**

- EMS computers are hardened, meaning they are stripped down and have no browsers or software other than a Windows operating system and EMS software
- Clerks transfer ballot coding from the EMS to the tabulator using encrypted removable media, (i.e. secure SD cards or USB) to ensure that the EMS is never connected to the internet
- Each precinct has a unique ballot style to enhance security
- The Election Assistance Commission certifies the EMS and all software updates
- The Board of State Canvassers tests and certifies all election equipment and software upgrades
- Multifactor authentication (MFA) (i.e. a password and/or an access code) is used to boot up and shut down all types of voting equipment

**Cross-Checks  
for Security**

Ballot and tabulator programming is cross-checked during the following steps:

- 3 Logic and Accuracy Testing**  
EMS and tabulators are tested for election use. Only passing systems are used to tabulate ballots
- 4 Absentee Voting**  
Ballots and programming created are used to tabulate absentee ballots
- 5 Early Voting**  
Results are not generated during the early voting period
- 6 Voting on Election Day**  
Ballots and programming created are used to tabulate ballots at polling places
- 8 Unofficial Election Results**  
Results from tabulators are accumulated at the county level by the EMS based on ballot and tabulator programming
- 10 Post-Election Audits**  
The entire process is audited

## STEP

## 3

# LOGIC AND ACCURACY TESTING

*What makes Michigan elections secure?*



## People Involved in Elections

### Local and County Clerks

- Verify county election programming by testing and validating the ballots and tabulators
- Document all processes to maintain strict chain of custody of equipment and records
- Clear public test tallies after testing
- Maintain proper chain of custody, including recording seals and serial numbers
- Conduct an accuracy test that follows official state processes at a publicly announced meeting at least 5 days prior to the start of early voting

### Local and County Election Commissions

- Sign off on the logic and accuracy testing results by the start of early voting

### Bipartisan Election Inspectors

- Print zero tape and ensure all candidates and proposals are correct



## Technology & Tools

### Voting Equipment

- Tabulators are publicly tested for logic and accuracy using test ballots before the election
- Voter assist terminals (VATs) are tested to ensure accuracy before the election
- Only passing VATs and tabulators that properly identify the series of correctly and incorrectly marked test ballots are used
- County clerks ensure the election management system (EMS) is offline (not connected to the internet)

### Ballot on Demand

- Printed and hand-marked ballots are tested

### Chain of Custody

- The encrypted removable media, EMS, and ballots are all secured with seals and kept in a secure location



## Cross-Checks for Security

Logic and accuracy testing is cross-checked during the following steps:

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### Absentee Voting

Absentee ballot results are generated on Election Day using logic and accuracy tested tabulators

5

### Early Voting

Early voting results are generated on Election Day using logic and accuracy tested tabulators

6

### Voting on Election Day

Ballots are tabulated on Election Day using logic and accuracy tested tabulators

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### Post-Election Audits

The entire process is audited



## STEP

## 4

## ABSENTEE VOTING

*What makes Michigan elections secure?***People Involved  
in Elections****Michigan Voters**

- To receive an absentee ballot, a voter must sign and submit an application

**Local Clerks**

- Verify signatures against clerk records before a ballot is issued or before being placed on the permanent mail ballot list
- Authenticate the signature on an absentee ballot's sealed envelope, confirm information, and secure ballots until tabulation

**Bipartisan Election Inspectors**

- Receive training and are sworn in
- Open envelopes to ensure the stub number on the returned ballot matches the number on the ballot issued to the voter
- Process and tabulate absentee ballots

**Technology & Tools****Secure Location/Containers**

- Approved clerk staff secure and empty absentee ballot drop boxes often
- New, outdoor absentee ballot drop box locations are under 24-hour video surveillance
- Received absentee ballots are kept in a secure location until they are delivered to the precinct or Absent Voter Counting Board (AVCB)

**Qualified Voter File (QVF)**

- The QVF is used to record the actions of the absentee ballot being issued and returned

**Electronic Pollbooks (e-pollbooks)**

- Absentee ballots are tracked in the QVF to the Early Voting e-pollbook and the Election Day e-pollbook to ensure that voters cannot vote more than once

**Voting Equipment**

- Absentee ballots are tabulated using tested and validated equipment

**Cross-Checks  
for Security**

Absentee voting is cross-checked during the following steps:

- 1 Proof of Voter Eligibility**  
The QVF is used to verify the voter's registration status and signature
- 3 Logic and Accuracy Testing**  
Tabulators and the election management system (EMS) are tested for election use. Only passing systems are used to tabulate ballots
- 5 Early Voting**  
Early Voting e-pollbooks identify voters who cast absentee ballots to prevent them from voting in person
- 6 Voting on Election Day**  
Precinct e-pollbooks identify voters who cast early or absentee ballots to prevent them from voting in person on Election Day
- 7 Closing the Polls**  
A bipartisan team of election inspectors closes the polls and a receiving board verifies balancing, certifying, and securing by adhering to standards
- 10 Post-Election Audits**  
The entire process is audited

## STEP

## 5

## EARLY VOTING

*What makes Michigan elections secure?***People Involved in Elections****Election Officials**

- Access the list of voters from the Early Voting electronic pollbook (e-pollbook) which has a secure, live connection to the Qualified Voter File (QVF)
  - Backup reports for the Early Voting e-pollbook are created daily

**Bipartisan Election Inspectors**

- Take a sworn oath
- Look up voter's registration record, verify the voter has not received an absentee ballot or already voted, then assign a ballot to the voter
- Continuously match and balance the number of ballots distributed (tracked in the Early Voting e-pollbook) to the number of votes cast (tracked on the tabulator) throughout the day
- Make remarks on paper or through the Early Voting e-pollbook to document the day's voting activities

**Challengers and Poll Watchers**

Observe and ensure election procedures are properly conducted on-site during early voting

**Technology & Tools****Qualified Voter File**

- The Early Voting e-pollbook has a secure, live connection to the QVF, which is used by authorized election inspectors
- The QVF and the Early Voting e-pollbook are monitored and secured by the state
- Election inspectors securely log in to the Early Voting e-pollbook using unique usernames and passwords with multifactor authentication (MFA)

**Ballot on Demand**

- Election inspectors may print official ballots using approved Ballot on Demand technology
- Reports and audit logs are verified daily by election inspectors

**Voting Equipment**

- Election officials and election inspectors are trained using standardized procedures
- Polls are suspended and voting equipment is stored securely after each day of early voting

**State-Supplied Training Materials**

- The Election Officials' and Election Inspectors' Procedure manuals are used to verify procedures throughout the day

**Cross-Checks for Security**

Early voting is cross-checked during the following steps:

- 1 Proof of Voter Eligibility**  
The QVF is used to verify the voter's registration status
- 2 Ballot and Tabulator Programming**  
Tabulators are programmed to read unique ballots in each precinct
- 3 Logic and Accuracy Testing**  
Tabulators must pass logic and accuracy tests before they are used to tabulate ballots
- 4 Absentee Voting**  
Precinct e-pollbooks identify voters who cast early or absentee ballots to prevent them from voting in person on Election Day
- 6 Voting on Election Day**  
Precinct e-pollbooks identify voters who cast early or absentee ballots to prevent them from voting in person on Election Day
- 7 Closing the Polls**  
Early voting results are not generated until 8 PM on Election Day
- 9 Board of Canvassers Reviews and Certifies Official Results**  
Review of vote tallies, chain-of-custody records, and process documentation
- 10 Post-Election Audits**  
The entire process is audited



## STEP

## 6

## VOTING ON ELECTION DAY

*What makes Michigan elections secure?***People Involved in Elections****Local Clerks**

- Download the list of voters from the Qualified Voter File (QVF) to the Election Day electronic pollbook (e-pollbook)
- Print the list of eligible voters as a backup to the Election Day e-pollbook

**Bipartisan Election Inspectors**

- Take a sworn oath
- Look up a voter's registration record, confirm the voter has not received an absentee ballot or voted early, and then assign a ballot to the voter
- Continuously match and balance the number of ballots distributed (tracked in e-pollbook) to the number of ballots cast (tracked on the tabulator) throughout the day
- Make remarks on paper or through the Election Day e-pollbook to document the day's voting activities

**Challengers and Poll Watchers**

Observe and ensure election procedures are properly conducted on-site during the election

**Technology & Tools****Qualified Voter File**

- The Election Day e-pollbook is created from the QVF and used offline by authorized election inspectors
- The QVF is monitored and secured by the state
- Trained and authorized election inspectors at the polling place operate the Election Day e-pollbook using unique usernames and passwords
- Bipartisan election inspectors ensure that the Election Day e-pollbook is not connected to the internet on Election Day

**Voting Equipment**

- Election officials and election inspectors are trained using certified procedures

**State-Supplied Training Materials**

- The Election Officials' and Election Inspectors' Procedure manuals are used to verify procedures throughout the day

**Cross-Checks for Security**

Voting on Election Day is cross-checked during the following steps:

- 1 Proof of Voter Eligibility**  
The QVF is used to verify the voter's registration status
- 2 Ballot and Tabulator Programming**  
Tabulators are programmed to read unique ballots in each precinct
- 3 Logic and Accuracy Testing**  
Tabulators must pass tests before they are used to tabulate ballots
- 4 Absentee Voting**  
Precinct e-pollbooks identify voters who cast early or absentee ballots to prevent them from voting in person on Election Day
- 5 Early Voting**  
Precinct e-pollbooks identify voters who cast early or absentee ballots to prevent them from voting in person on Election Day
- 7 Closing the Polls**  
Election inspectors close the polls following strict procedures
- 9 Board of Canvassers Reviews and Certifies Official Results**  
Review of vote tallies, chain-of-custody records, and process documentation
- 10 Post-Election Audits**  
The entire process is audited



## STEP

## 7

## CLOSING THE POLLS

*What makes Michigan elections secure?***People Involved in Elections****Bipartisan Election Inspectors**

- Work together to balance, close, tally write-ins, and secure tabulators and ballots
- Place all ballots, results tapes, encrypted removable media, and other documentation in appropriately sealed containers or envelopes for delivery to the receiving board
- Share duties between political party affiliations to ensure that the process is fair to all

**Bipartisan Local Receiving Board**

A local receiving board is an independent board established to ensure the accountability of election precincts

- Takes a sworn oath
- Conducts final check of all materials
- Verifies all containers, ballots, encrypted removable media, etc. are appropriately sealed
- Verifies ballots issued versus votes cast are balanced

**Challengers and Poll Watchers**

Observe and ensure election procedures are properly conducted on-site during the election

**Technology & Tools****Tabulators**

- Election inspectors must use a secure key or code to initiate the closing of the tabulator and to print the totals tapes from the tabulators prior to results being submitted

**Pollbooks**

- Undergo review and are signed by a bipartisan group of election inspectors

**Chain of Custody**

- Election inspectors sign the vote totals tape from each tabulator as part of the strict chain of custody during the closing of the tabulators
- Bipartisan election inspectors place ballots and any electronic media in secured, approved, sealed containers
- Statement of votes, tallied write-ins, and totals tapes are secured in 3 separate, sealed envelopes and directed to the county clerk, county board of canvassers, and local clerk
- Authorized election officials secure and store all voting equipment

**Cross-Checks for Security**

Closing the polls procedures are cross-checked during the following steps:

3

**Logic and Accuracy Testing**

Tabulators and the election management system (EMS) are tested

4

**Absentee Voting**

Records are validated to ensure a voter did not vote more than once

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**Early Voting**

Records are validated to ensure a voter did not vote more than once

6

**Voting on Election Day**

Records are validated to ensure a voter did not vote more than once

9

**Board of Canvassers Reviews and Certifies Official Results**

Review of vote tallies, chain-of-custody records, and process documentation

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**Post-Election Audits**

The entire process is audited





## STEP

## 8

# UNOFFICIAL ELECTION RESULTS

*What makes Michigan elections secure?*



## People Involved in Elections

### County Clerks or Designated Assistants

A bipartisan team verifies the number of ballots balances with the number of votes cast as a check and balance

- Receives preliminary results from local clerk
- Validates the origin of tabulator media using documentation from the polling place and sealed containers prior to loading media onto election management system (EMS) equipment
- Accumulates unofficial results using certified EMS
- Verifies the reporting of all precincts



## Technology & Tools

### Election Management System

- The county uses best security practices when transferring results from encrypted removable media to the EMS

### County Election Results

- Counties must report to the state's website, which is secured via an SSL-certified .gov domain
- Counties may report to their county's website, which should be secured via an SSL-certified .gov domain

### State Election Results Website

- The State of Michigan safeguards, monitors, and conducts regular security and performance checks on the website



## Cross-Checks for Security

Unofficial election results are cross-checked during the following steps:

- 2 Ballot and Tabulator Programming**  
Programming created in Step 2 ensures accurate accumulation of results
- 3 Logic and Accuracy Testing**  
Ballots and programming are tested to ensure that accurate results are returned to the EMS
- 4 Absentee Voting**  
Precinct electronic pollbooks (e-pollbooks) identify voters who cast early or absentee ballots to prevent them from voting in person on Election Day
- 5 Early Voting**  
Precinct e-pollbooks identify voters who cast early or absentee ballots to prevent them from voting in person on Election Day
- 6 Voting on Election Day**  
Precinct e-pollbooks identify voters who cast early or absentee ballots to prevent them from voting in person on Election Day
- 7 Closing the Polls**  
Bipartisan election inspectors attest that all processes have been followed at the polling place and chain of custody is documented
- 10 Post-Election Audits**  
The entire process is audited

## STEP

## 9

## REVIEW AND CERTIFICATION OF OFFICIAL RESULTS BY CANVASSERS

*What makes Michigan elections secure?***People Involved in Elections****Boards of County Canvassers**

- Composed of 2 Democrats and 2 Republicans
- Inspect and approve sealed containers used to secure ballots and election materials
- Review local election records and verify individual precinct results following each election
- Verify that the results in the county election management system (EMS) match the results printed by each tabulator and tabulator tapes are signed by all election inspectors who closed the polls
- Maintain records per retention protocol
- Oversee requested recounts of the local election

**Board of State Canvassers**

- Composed of 2 Democrats and 2 Republicans
- Resolves discrepancies and verifies the outcome of the election statewide
- Oversees requested recounts of state-level elections
- Canvass is subject to the Open Meetings Act, which allows the process to be open to the public

**Technology & Tools****Protocols and Procedures**

- Qualified Voter File (QVF), Early Voting electronic pollbook (e-pollbook), and Election Day e-pollbook can be used to verify the list of participating voters
- Confirm and certify precinct level and overall election results using:
  - Paper ballots
  - Totals tapes
  - Unofficial results
  - Paper pollbooks
  - Tallied write-ins
  - Envelopes

**Cross-Checks for Security**

Boards of canvassers review and certify that official results are cross-checked during the following steps:

- 4 Absentee Voting**  
Training and swearing in bipartisan election inspectors and verifying their adherence to appropriate procedures
- 5 Early Voting**  
Training and swearing in bipartisan election inspectors and verifying their adherence to appropriate procedures
- 6 Voting on Election Day**  
Training and swearing in bipartisan election inspectors and verifying their adherence to appropriate procedures
- 7 Closing the Polls**  
Reviewing chain-of-custody protocol was followed including delivery of sealed containers
- 8 Unofficial Election Results**  
Verifying the number of ballots issued with the number of votes cast as part of the strict chain of custody
- 10 Post-Election Audits**  
The entire process is audited

# STEP 10

## POST-ELECTION AUDITS

*What makes Michigan elections secure?*



### People Involved in Elections

#### Michigan Bureau of Elections

- Randomly selects precincts to be audited by each county
- Conducts additional post-election audits (such as risk-limiting) and procedural audits to further verify security and results

#### County Clerks

- Clerk staff conduct audits of precincts randomly selected by the Bureau of Elections
- Review election materials to confirm proper procedures were followed and documented

#### Local Clerks

- Participate in the audit of their processes and procedures



### Technology & Tools

#### Procedural Audits

- A check of more than 70 key points in the election process, including:
  - Election notices
  - Logic and accuracy testing
  - Election equipment and physical storage
  - Paperwork assessments
- Review of pre-election, election, and post-election procedures to ensure jurisdictions are meeting requirements
- Hand count of all votes cast in the precinct for a specified race to confirm against official results
- Clerks retain all necessary election materials for the security retention period

#### Risk-Limiting Audits (Ballot Audits)

- Draw and hand-tally a random sample of ballots to affirm the accuracy of vote-counting machines

#### Additional Audits

- Work with local and county election officials to resolve discrepancies by reviewing all related documents and election materials



### Cross-Checks for Security

Post-election audits are important for the transparency of elections, and for clerks to review current practices and identify opportunities for future improvement.

The State of Michigan conducts several types of post-election audits to:

- Confirm strict chain-of-custody protocol was followed throughout the post-election audit process
- Utilize discrepancies and deficiencies found during the audits as future training points for local clerks
- Conduct audits of all steps after the election

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