Welcome

Follow-Up from Last Meeting

What stood out in best practices?

- Accessibility
  - Sites need to be accommodating to all voters
  - Number of accessible parking locations required at site
- Mail-in absentee ballot law in Colorado
  - Standing requests; high by-mail voting participation
- Enhancing contractual agreements and visiting polling locations before election

Consensus on Polling Locations/Accessibility

- Polling Site Best Practices:
  - Select polling sites that are familiar to the voters, preferably centrally located within the precinct
  - Develop a polling site facility checklist to ensure needs are met
  - Clearly mark the entrance to and exterior of polling site
  - Easy parking (plenty of spaces, easy entry & exit, close proximity to polling entrance)
  - Adequate signage & clear path to proper building entrance

Consensus on Polling Locations/Accessibility

- Polling sites & Accessibility:
  - Needs to be welcoming to everyone with no bias in location, process or signage
  - Ensure ADA compliance is a standard requirement
  - Complete a physical review before contracts are approved to ensure voting flow is adequate
  - Space for those individuals with physical disabilities to access machines easily is critical
  - Plentiful parking for individuals with disabilities close to accessible entrance & clear path from parking lot to entrance
- Early voting & extended voting hours are methods of increasing accessibility and convenience for all voters
Additional Questions/Feedback

- Who picks polling locations?
  - Precinct-based elections: County Executive (mayor) selects
  - Vote Center elections: Election Board selects but must agree unanimously on locations

- Is there a current checklist for polling locations?
  - The mayor’s office does not have a specific checklist though some items are included on the contract or discussed with the site
    - Sample polling place contract provided at last meeting

Remainder:

- Your feedback is critical to this process
- If you have additional questions or feedback that you weren’t able to share during our scheduled meetings, please email our office
- Comments and feedback will be used to draft the VEF Study Group report to the Election Board

Deadline to submit additional comments is Friday, June 28
Email: myla.eldridge@indy.gov

Cost & Jurisdictional Comparisons

- Must an employer give time-off to employees to vote?
  - In Indiana, no – though there may be provisions in some bargaining agreements extending this benefit to employees.

- Current Voting Technology

  Lever Machine Facts:
  - Invented in the US in 1875
  - Implemented as voters could be more reliable & less tamper resistant than paper ballots, both important to early 20th century election administrators
  - By 1960, more than 60% of US used lever machines

  Before 2002, most jurisdictions used lever machines or punch card voting systems

Background

- Help America Vote Act (2002) changed the way we conduct elections
  - Created new minimum standards for states to follow
  - Implemented new programs & procedures like:
    - Provisional voting
    - Statewide voter registration databases
    - Administrative complaint procedures
    - Updated & upgraded voting equipment
Background
- HAVA sets forth requirements that all voting systems:
  - permit the voter to verify (in a private and independent manner) the votes selected by the voter on the ballot before the ballot is cast and counted;
  - provide the voter with the opportunity (in a private and independent manner) to change the ballot or correct any error before the ballot is cast and counted (including the opportunity to correct the error through the issuance of a replacement ballot if the voter was otherwise unable to change the ballot or correct any error); and
  - notify the voter of overvotes (votes for more than the maximum number of selections allowed in a contest) and provide the voter a chance to correct these errors.

Other HAVA requirements:
- Alternative-language accessibility be available pursuant to the requirements of section 203 of the Voting Rights Act
- All voting systems must be auditable and produce a permanent paper record or ballot image with a manual audit capacity available as an official record for any recount conducted

Current System
- Marion County opted for a hybrid system in 2002
  - Purchased equipment from ES&S:
    - M100 optical scan ballot reader
    - Each precinct has 1 M100
    - iVotronic touch screen machine
    - Each polling location has at least 1 iVotronic
    - Satisfies HAVA requirements for independent voting experience
- Only jurisdiction in the country to marry the two technologies using the Personalized Electronic Ballot (PEB) reader
  - Important for being able to combine results of both machines and print out a zero tape to start the day and a results tape at the end of the day

iVotronic (touch screen machine)
- Provides independent voting experience
  - Satisfies the HAVA requirements
    - Audio-enabled ballot & Braille buttons aid voters with low or no vision
    - Touch pad can be removed from stand and placed on a wheelchair tray or lowered table
    - Large on-screen buttons require less precise hand movements
    - Provides confidential and independent access for voters with disabilities, though any voter can use it

On average, about 1,000 people use the iVotronic to vote in Marion County each election

iVotronic (touch screen machine)
- Process
  - Personalized electronic ballot (PEB) “wakes” the machine and allows the poll worker to select the correct ballot
  - Voter touches the screen or uses the buttons to mark selections
  - Requires voter to double-check their selections before submitting their ballot
- Tabulating results
  - iVotronic stores results on a secured flash card, PEB & machine
  - Connects to M100 through PEB reader to transfer the iVo results and collates the results on one totals tape
  - Does not print individual confirmation receipts for the voter or provide other voter verified “paper trail” or other paper record of votes recorded on the ballot
iVotronic (touch screen machine)

- **Features**
  - No ballot printing costs
  - Provides accessible voting experiences
  - Redundancy of data storage
  - Clear instructions
  - Permits voters to double-check their ballot before submission
  - Can hold ballot styles for all 600 precincts
  - Won’t permit over-voting

- **Challenges**
  - Slow due to multiple screens per ballot; the audio ballot is especially lengthy
  - Limited access – only 1 voter at a time
  - Awkward set-up for poll workers
  - Character limits will shrink size of ballot text on the screen, affecting performance for voters with low vision
  - No paper trail

M100 (Optical Scan Ballot Reader)

- **Features**
  - Uses paper ballot cards and scanner reads and tabulates each ballot
  - Reminders:
    - Ballots created using the precinct key developed by Voter Registration
    - Printing requirements outlined in state law:
      - One ballot be printed for every registered voter of the precinct in a general election
      - In a primary election, a formula is used to calculate the number of D & R ballots to make available in each precinct
    - On Election Day, ballot on demand printers located at a central location can print ballots in emergency situations

- **Challenges**
  - Stray and incorrect marks on ballots
  - Optical readers very sensitive and jostling during delivery can cause issues for poll workers
  - Example: need just 1 electrical outlet, voting booths don’t require electricity
  - More common voting method; poll workers & voters are accustomed to it
  - Folded ballots are difficult for machine to read; some have to be re-made by poll workers
  - Can only read ballots & tabulate results for 1 precinct at a time

M100 (Optical Scan Ballot Reader)

- **Process**
  - Voter ‘bubbles in’ their choices in ink on their ballot (no erasing)
  - Voter feeds ballot through scanner & machine reads the ballot
    - If voter over-votes, the machine will beep and the voter can direct machine to accept their ballot or return it so that it can be spoiled by the poll workers & voter can mark a new ballot

- **Tabulating results**
  - Machine reads and tabulates voters’ choices
  - Results stored on an M100 card, which is secured in the machine and after breaking the seal, removed at the end of the day
    - Card delivered to regional site and results are transmitted electronically to a central server
  - Precinct results printed by machine once polls close

Security Needs

- State law outlines basic voting system requirements like:
  - Multiple memories, including but not limited to retention of ballot and/or electronic image of ballot
  - Built-in diagnostic software to detects & report system’s operability
  - Audit records
  - Zero tapes
  - Accuracy testing
  - Access controls and security features must be disclosed by vendor during the certification period
  - Certification process to be reviewed next meeting

Health of Current System

- **Overview**
  - State law requires system access procedures be determined by the county by election

- **Machines & software purchased in 2002; installed in 2003**
  - iVotronic (touch screen machines) first used in 2006 Primary election
  - iVotronic and M100 developed before 2000 and no longer in production
  - Tabulation hardware out of date and near end life
  - Poll workers struggle with Marion County’s machine configuration
  - System still functional due to proactive maintenance, but the technology becomes increasingly more difficult to support each election
Health of Current System

**iVotronic**
- 613 iVotronic machines
  - At least 1 deployed to every polling location; sites with more than 3 precincts receive 2
  - 50 machines set aside for mechanics to use as replacements on Election Day
  - 4-5 machines used during early voting & cannot be used on Election Day

**PEB readers**
- 504 working units
  - Pins on printer cables bend easily, making it difficult to maintain a connection with M100
  - iVotronic has to be opened first, so if unable to make connection M100 won’t work until mechanic arrives

**PEBs**
- Battery replacement needed on a regular basis

**Tabulation Network**
- Server built in 2003 running outdated software and hardware near end of life
- Individual workstations built in 2004 and hardware near end of life
- Laptops used at 4 Regional Sites to transmit election results
- Reliance on landline infrastructure antiquated
  - Sites need fax line capabilities and many locations are improving their communication networks and moving away from hard lines
- Closed system
  - Though not required in state or federal law, the county decided not to connect server and tabulation system to internet

Health of Current System

**M100 optical scanner**
- 737 scanners & compatible ballot storage bins
  - Each precinct gets 1 M100 system (about 600 deployed)
  - Another 50 are set aside for mechanics use as replacements on Election Day
  - Replacement parts are mostly refurbished and are difficult to find
  - PCMCIA cards are no longer in production & obsolete technology makes them more expensive to replace
  - Batteries on flash cards need replaced
  - Transportation expedites wear & tear

**Tabulation Software**
- ‘UNITY’ developed by ES&S for first generation equipment
  - State certification only permits the software to run on Windows XP Service Pack 1 (operating system released around 2000)
  - Can’t put software on newer machines because today’s computers are too advanced to be compatible with software certifications
  - Hardware with tabulation software cannot be connected to the Internet or otherwise upgraded

**Contracts Expiring**
- Service maintenance agreement expires in December 2014
  - Current vendor services fleet of voting equipment, securing additional parts when necessary
- Tabulation software license expires in December 2014
  - Unclear if software will continue to be certified with the state or if vendor will continue to support it

**Bottom Line**
- Current technology still has useful life and ongoing maintenance ensures secure and safe elections BUT
  - Technology is outdated
  - Machine repair and failure rate increasing each election
  - Replacement parts are difficult to secure
  - Software and hardware licenses may not be supported in the near future
  - Tabulation network is outdated
Practical Considerations & Demonstration

Next section puts into context how our current voting technology (M100 & iVotronic) might work in a precinct or vote center election. Newer technology exists to alleviate many of these issues, but these slides illustrate the limitations of our current system.

Practical Considerations

- **M100 (optical scan reader)**
  - Precinct-based system
    - 1 unit per precinct
    - 600 precincts x 1 machine = 600 machines (+ reserve)
    - Machine's small footprint permits use of smaller polling locations
    - Poll workers only need to open one machine
    - Limits effects of precinct key issues or other potential machine problems
  - Vote Center
    - Using M100 exclusively, need 600 per site to read each precinct’s ballots
    - 84 sites x 600 machines per site = 38,400 machines (+ reserve)
    - Though equipment footprint small, still requires a lot of space to hold 600 machines, including areas to navigate around equipment
    - Burdensome for poll workers to open and support 600 machines
    - Consider how many people would need to be available to lead voters to correct machine to vote!

- **iVotronic (touch screen machine)**
  - Self-contained unit
  - Physical footprint small
  - Can store & tabulate data for all 600 precincts and related ballot styles
  - Voting booths not needed if county exclusively used direct recording electronic (DRE) technology
  - Slew – anticipate each machine handling 120 voters for entire 12-hour Election Day
    - Takes voter about 5-6 minutes to complete a presidential election ballot (significantly longer if using audio ballot)
  - Satisfies HAVA requirements for accessibility
  - County doesn’t own compatible printer packs to print zero or results tapes (this is why the M100 and iVo are connected via PEB reader)
  - No paper trail

Dimensions of the M100:
- Width: 1'10"
- Length: 2'

Additional room needed for maneuverability:
- 2'5" in front; 3' on side

Total footprint: 21.35 sq ft per M100

If current M100 used in vote center model, would need 12,600 square feet for machines alone!

Close-up view of our fleet of 737 M100s in a staging area at the Election Services Center, taking up about 5,000 square feet

Practical Considerations

- **iVotronic**
  - Precinct-based election
    - Currently, 1 assigned per polling location but will deploy 2 if 3 precincts or more are assigned
    - Using DRE exclusively:
      - (1200 voters per precinct/120 voters per day) = 10 machines per precinct
      - 10 machines x 600 precincts = 6,000 machines (+ reserve)
    - Vote Center
      - Using DRE exclusively:
        - (10,000 voters/120 voters per day) = 84 machines per site
        - 84 machines x 64 sites = 5,376 machines (+ reserve)
      - Though footprint small, 84 units & additional room to navigate would require significant square footage at site
      - Burdensome for poll workers to open 84 machines in less than an hour
    - Would need to have enough staff to support machines throughout the voting day as poll workers need to retrieve ballot using the PEB

Practical Considerations

- **iVotronic**
  - Precinct-based election
    - Currently, 1 assigned per polling location but will deploy 2 if 3 precincts or more are assigned
    - Using DRE exclusively:
      - (1200 voters per precinct/120 voters per day) = 10 machines per precinct
      - 10 machines x 600 precincts = 6,000 machines (+ reserve)
    - Vote Center
      - Using DRE exclusively:
        - (10,000 voters/120 voters per day) = 84 machines per site
        - 84 machines x 64 sites = 5,376 machines (+ reserve)
      - Though footprint small, 84 units & additional room to navigate would require significant square footage at site
      - Burdensome for poll workers to open 84 machines in less than an hour
    - Would need to have enough staff to support machines throughout the voting day as poll workers need to retrieve ballot using the PEB
Dimensions of the iVotronic:
• width: 2'8"
• length: 2'4"
Additional room needed for maneuverability:
• 3’ in front; 3’ on side
Total footprint: 30.7 sq ft per iVotronic

Dimensions of the 613 iVotronics (touch screen machines) currently in storage at the Election Services Center

Equipment Demonstration
- Open iVotronic first!
  • System will not work if iVo is not properly opened
- Assemble iVotronic & plug-in
- Insert PEB reader to wake machine & follow instructions
- Attach PEB reader to front of M100
- Plug in & turn on M100
- Follow instructions on machine & insert PEB into reader when prompted
- Unplug PEB reader when prompted
- Turn key to vote & lock down scanner to ballot bin

Election Board Needs
- System needs to be robust enough to handle large turnout elections
  • New system should be better than current system; don’t take step backward in efficiency & flexibility
- Durable
- Simple to use for poll workers & voters
  • Would like plug & play to simplify the process & use poll worker training time better
- Paper trail
  • Difficult to perform recounts in a virtual environment only
- Accessible to all voters & allows them to vote independently
- Must be able to count tens of thousands absentee ballots at a central site
  • SB621 requires only Marion County to centrally count its absentees and our current technology is NOT designed to do so
- Voters must have confidence in the system

Poll Worker Needs
- Simplicity of set-up
- Reliability
- Lightweight, easily transportable
- Process at the end of the day takes a long time – is there a way to simplify, make it more efficient?
- Smart technology – possible for machine to help poll workers and lessen chances for error?

Polling Location Needs
- Accessible location – easy to get to, parking, getting into and out of the location
- Easily visible – known location
- Power outlets, access to internet, space (square footage) needs to accommodate new technology

Looking Ahead to Next Meeting
ELECTION BOARD NEEDS
POLL WORKER NEEDS
POLLING LOCATION NEEDS
VOTER NEEDS
SECURITY NEEDS

With the exception of Election Board needs, the content on the following slides was contributed by the VEP group members.
Voter Needs

- Convenience
- Time-off for employees (change in state law?)
- Privacy
- Confidence with technology, process
- Voting system easy to use, which may encourage people to vote consistently
- Early election nights – technology should share results more quickly after polls close

Security Needs

- Encryption

What did we miss?

- How will new technology help (or not) with provisional voters?
- Straight party voting issues with the software when system first implemented

Next Meeting

VOTING TECHNOLOGY & SECURITY (PART II)
MONDAY, JUNE 3, 2013 | 5:30PM
PUBLIC ASSEMBLY ROOM
CITY-COUNTY BUILDING