RETURN TO HAND COUNTING

Missouri Method Hand Count Process

Myth-Debunking Workbook

FINDING:
Hand Counting Saves Money

Linda Rantz

Note on Links:

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Page numbers correspond to page locations in the full eManual, available in paperback or hardcover from Amazon.com, or downloadable from ReturntoHandCounting.com/eManual

ISBN: 9798264460395 (Paperback)
ISBN: 9798264610059 (Hardcover)

Independently published
September 2025, Linn, Missouri

The hand-counting process and commentary in this manual reflect a layperson's interpretation of Missouri statutes and rules by someone not qualified as a legal authority. This content is not offered as legal advice and should not replace advice from a licensed attorney. Readers are encouraged to consult a licensed attorney for legal guidance on Missouri's (or other states') laws, statutes, and rules, and to verify compliance with local election regulations before applying these methods. The author has made every effort to ensure the information in this book was correct as of August 2025. However, the author does not assume, and hereby disclaims, any liability for loss, damage, or disruption caused by errors, omissions, misuse of this manual, or unauthorized alterations, whether resulting from negligence, accident, or any other cause.

Names appearing on sample forms are fictional. Any resemblance to actual persons, living or deceased, is purely coincidental.

FINDING: HAND COUNTING SAVES MONEY

The answers for page 256: ALL examples for both hand counting and machine counting are VALID. The questions posed were, “are the markings valid votes?” All are valid, but will all be counted? Probably yes, if they are being hand counted, but will a voting machine discern voter intent and count the valid votes? That question needs to be asked.

Myth: Hand Counting Costs Too Much

One of the most popular myths is that hand counting ballots would cost too much.

What they won't tell you is how much it costs to use voting machines.

What they will tell you is that whatever it costs to use voting machines, hand counting will cost more than that.

Nationwide, obtaining detailed cost information on voting machines has proven elusive. It was beginning to feel as if the data was being deliberately withheld. What is becoming more apparent is that it is not that 'they' will not tell us the costs of using voting machines but that they do not know.

"No one knows how much it costs to run elections" was a quote cited in the initial release of this eManual. The quote is from the National Conference of State Legislators in a 2018 brief (see page 24). While the 2018 brief is no longer available online, more than four years later, their 2022 brief does not have an answer about costs and conveys a similar message: "Inquiring minds want to get a better sense of what it costs to run elections that are efficient, accurate and secure."

2022, Apr. 20 – Democracy Is Priceless, but Elections Cost Big Bucks

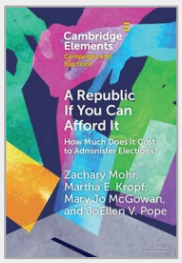
NCSL, National Conference of State Legislatures, by Wendy Underhill

From 2018 until 2022, the Conference for State legislatures could not provide specifics on the costs for elections in general, never mind specific costs for voting equipment.

Tags: costs, voting machines

298 QR Code: NCSL Brief April 2022

As of January 2025, nothing on the NCSL website makes it seem that the organization has come any closer to determining election costs other than they are "big bucks." They may not have known that a new academic study was published about election costs.



2024, Dec. 2 – *A Republic If You Can Afford It. How Much Does It Cost to Administer Elections?*

Published by Cambridge University Press

"The cost of administering elections is an importantly understudied area in election science. This book reports election costs in 48 out of 50 states. It discusses the challenges and opportunities of collecting local election costs." "The relationship between spending and election administration outcomes is also explored and finds that the voters' confidence and perceptions of fraud in elections is associated with the amount spent on election administration."

299 QR Code: Republic If You Can Afford

"A Republic If You Can Afford It" is an academic study. It does not focus on nor break out the costs of voting machines. It studied elections from 2008 to 2016, returning a "wide variation in costs across the country." I was told by an academic that the purpose of a scholarly study is not necessarily to conclude but to present data so that others can use it to research the topic further. Ultimately, the study in *"A Republic"* means that not even a prestigious university can tell us the costs of elections or, more specifically, the cost of using voting machines.

Confirming the lack of data for election costs brings us to the Wyoming article discussed at the beginning of this section (see page 239 and highlighted below). **How did a clerk from a county in Wyoming calculate that hand-counting an election would cost between $99,000 and $1.4 million?**

With the same questions we posed on page 239, we will repeat here: What costs are included in the estimate? Is this for a single election? Is it an annual estimate? Is it for 20,000 ballots? Is it offset by any savings for not using voting machines?

300 QR Code: Human Error

2024, Dec. 3 – 'This is a human error': Carbon County Clerk Gwynn Bartlett Explains Weston County Election Controversy

Laramie Boomerang via Wyoming News Exchange, by Joshua Wood

In the November 2024 election, voting machines were unable to correctly count ballots in a Wyoming county due to an error with programming for ballot printing. Clerks quoted in this article point to "human error" but use the incident to make claims against hand counting, both costs and number of people needed to count, without providing receipts or substantiation.

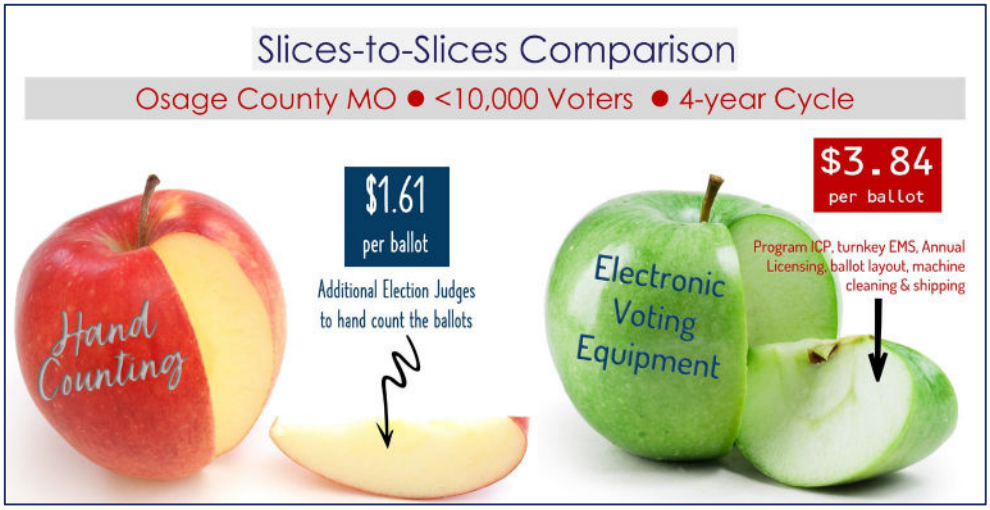
Tags: 2020 election, human error, voting machines, ballot printing, costs, Carbon County, Campbell County, Wyoming

Apples to Apples Comparison of Costs

Even Mike Lindell has asked for an "apples to apples" comparison of costs for hand counting versus machine counting. However, since getting the voting machine costs has been impossible, we cannot do "apples to apples."

What can be done instead is an "apple-slice to an apple-slice" comparison.

We looked at the labor costs for the extra people needed to hand-count the ballots. For the voting equipment, we took the vendor invoices we were able to obtain from an open records request and pulled very specific costs for preparing the machines for an election: programming, licensing, additional ballot design machines to be able to tabulate, software updates, and cleaning or maintenance of the machines for each election. It was the closest comparison of putting people in a polling place to count compared to putting the machine there to count.



301 Slice-to-Slices Cost Comparison of Hand Counting vs Electronic Voting Equipment

The "apple slice" analysis is based on a 4-year election cycle (2020 thru 2023) in Osage County, Missouri, with just under 10,000 registered voters. For hand counting, the costs for election judges for all the elections during that cycle would be $1.61 per ballot cast.

Voting Machine "Apple Slice" Costs

The voting machine "apple slice," for the specific costs we pulled, was $3.84 per ballot cast. A difference of $2.23 per ballot cast compared to hand counting. There were 27,415 ballots cast in the 4-year period.

Costs for the "Rest of the Apple"

What is the cost of the "rest of the apple"? For voting equipment, we don't know. Some possible items are shown in image 302 below, including items like the purchase or lease of the machines. How much would those costs increase the per ballot price? Also, consider the staff and time that goes into the pre-election testing of the machines, as well as the post-election testing. By law, these machines require 24/7/365 security and monitoring. How much does that all cost?

302 Examples of Other Costs for Voting Machines

So, I cannot tell you how much the per ballot cast would increase costs. It suffices to say that, at a minimum, it is $3.84 per ballot cast to count using voting machines, but I have heard estimates of over $20 per ballot cast to use voting machines.

What about the "rest of the apple" for hand counting? These costs include secure ballot boxes, security seals, printing, binders, office supplies, etc. Everything needed for hand counting adds about $1.10 per ballot cast. Combine the labor cost for hand counting of $1.61 per ballot plus the additional $1.10 per ballot for other expenses, and the entire "apple" cost for hand-counting is $2.71 per ballot cast.

The "apple" (hand counting) to "slice" (machine counting) comparison is $2.71 per ballot cast for hand counting compared to ***at least*** $3.84 per ballot cast for voting machine costs. That is a difference of $1.13 per ballot cast at a minimum, but likely much higher if the actual costs of voting machines were known.

Are Hand Count Estimates from Elected Officials Accurate?

When an elected or government official announces their estimate of hand count costs, I believe they expect it to be believed without question. How many county commissioners will research to verify a clerk's estimate of millions of dollars? It is easier to go along and rubber stamp it. In Missouri, a senate bill from 2023 sought to secure elections with hand counting. A fiscal note was issued by the former Secretary of State's office estimating the bill's statewide costs to be $15,762,500 per election. This estimate was based on an "assumption" of five minutes to count each ballot, multiplied by 3,025,962 total ballots cast statewide, and paying election judges $125 per day.

Calculate Hand Count Estimates

The first "costs too much" myth I wanted to debunk was from the fiscal note mentioned in the preceding paragraph.

> This myth only requires simple math to make the comparison. Using the exact estimates used in the fiscal note, except for changing the number of ballots counted per hour to 50, the statewide cost per election to hand count would be $3,782,453. In years with three elections, the estimate is $11,347,358, which is still less than the single-year estimate of $15,762,500 "assumed" in the fiscal note.
>
> More about how many ballots can be counted in an hour will be explained beginning on page 274 in *Same-Day Results,*

In response to hand-count costs, which I knew to be incorrect, published for the hand-counted election in my county, I began developing a worksheet to use historical election data, open records, and projections to calculate hand count estimates.

> How did I know the published costs were incorrect? When our team requested the documentation supporting the published expenses, we were told there was no documentation. The county clerk merely flipped through the "dailies" of incoming invoices and did a running total on a calculator.
>
> Subsequent open records requests resulted in the receipt of (what we believed to be) all election-related invoices. Much of that information is the basis for the "apple" and "apple-slice" estimates on the preceding pages. More details about the Osage County hand-counted election begins on page 293.

Tool: Hand Count Estimator

I began receiving more requests from around the country for help calculating hand count costs. My Osage County spreadsheet evolved into an Estimator Tool that anyone could use to create reliable hand cost estimates.

The tool is a Microsoft Excel spreadsheet. After entering historical data and projections, the spreadsheet auto-calculates estimates for costs and labor. It is then possible to "tweak" projections to get real-time updates on how costs, staffing, etc., would be affected.

> For example, the clerk in the Wyoming "human error" article stated that hand counting costs would range from $99,000 to $1.4 million, and about 2,200 people would be needed to count 20,000 ballots in four hours.

How the Estimator Tool Works

> First, I downloaded election results from the Campbell County website for the presidential elections in 2012, 2016, 2020, and 2024. The reports were summaries rather than by precinct, but I could tell the total turnout, so I spread the number of ballots cast evenly across the 37 precincts, with one exception, which I will explain on page 264.
>
> Image #303 on the next page shows the results section from the Estimator Tool. The red boxes are for information the user completes. The blue boxes show the auto-calculated results.
>
> It took me 50 minutes to download the election results and enter the info to see the results. The clerk provided important information: they wanted the ballots counted in 4 hours. You can see that I entered 4 people per team, 4-hour shifts, 50 ballots per hour, the number of registered voters, and $15 per hour for counters.

Wyoming County Clerk's Estimates vs. Estimator Tool Results

Clerk's Estimate	Estimator Tool
Cost Estimate $99,000 to $1.4 Million	Cost Estimate $29,040 (30% of clerk's low estimate)
Ballots to be Counted 20,000	Ballots to be Counted 18,547
Counting Time Required 4 hours	Counting Time Required 4 hours
# People to Count 2,200	# People to Count 484 (22% of clerk estimate)

Hand Counting Estimator for Same Day Election Results

Jurisdiction	Campbell County, WY	Election Type or Date	Presidential Elections

Enter Shift and Team Preferences		Same Day Results based on Averages	
4	Enter # of persons on each hand count team	484	# Individual Counters needed, unless some work more than 1 shift
4	Enter preferred # hours for shift-length of teams	121	# of teams/shifts to cover
50	Enter estimate of # of ballots to be counted per hour	11	Average # hours to complete *IF* only one team used to count ballots at each location
18,547	Anticipated # ballots to be cast (based on historical voter turnout averages) SAME DAY REG. ALLOWED	39	# Counting Locations (ie., polling places, precincts, etc.)

How are there enough people to count the ballots?

16,370	Enter # of Registered Voters in Jurisdiction	2.96%	Percentage of registered voters needed to hand count the election

Enter Hourly Rate		Labor Cost Estimate based on Average	
$15.00	Enter hourly rate paid to hand counters	$29,040	Labor Cost for Hand Counters (based on per ballot cast cost below)
$1.10	Estimated cost per ballot cast for hand counting expenses (other than labor)	$1.57	Labor Cost for Hand Counters per Ballot Cast

303 Screenshot of Estimator Tool results for Campbell County, WY

Notes about the Results

At this point, the spreadsheet can be used to see how different projections would change the estimates. For example:

- What if teams only count 40 ballots per hour?
- What if counters are paid $25 per hour?
- What if there are 6 people on a counting team?

The Estimator Tool will auto-update as variables (in red boxes) are changed. It also updates the precinct data at the bottom of the spreadsheet (but not shown here).

Exception to Averaging Total Ballots Across All 37 Precincts

Although none of the election results downloaded for Campbell County provided a breakdown of turnout by precinct, the November 2024 download did provide interesting statistics.

I mentioned a few pages previously (see page 262) that I would speak to an exception about how many ballots were estimated per precinct, and this is the information promised. In the screenshot below, take note of how many ballots were cast as absentee or early absentee:

Campbell County, Wyoming
GENERAL ELECTION
November 5, 2024

Statistics	TOTAL	Election Day	Absentee	Early-ABS
Precincts Complete	37 of 37	37	0	37
Registered Voters - Total	17,109			
Ballots Cast - Total	18,450	9,483	1,396	7,571
Ballots Cast - Blank	0	0	0	0

304 Statistics of Ballots Cast in the November 2024 election in Campbell County, WY

A total of 8,967 ballots were cast as absentees. That is 49% of the 18,450 total ballots cast in the county. Without that statistic, we would have evenly distributed 18,450 ballots across 37 precincts, or about 500 ballots per precinct. Our recommendation would have been to have two teams or counters (or 8 people) at each precinct.

With only 9,483 ballots to count across 37 precincts, the average is 256 ballots per precinct. A team of four could count that in four hours, or I would even suggest sending six counters to each precinct so they can rotate and take breaks. That is a total of 222 counters at precincts on election day.

What about the 8,967 absentee ballots? How are they counted?

Tool: Central Counting Locations Estimator

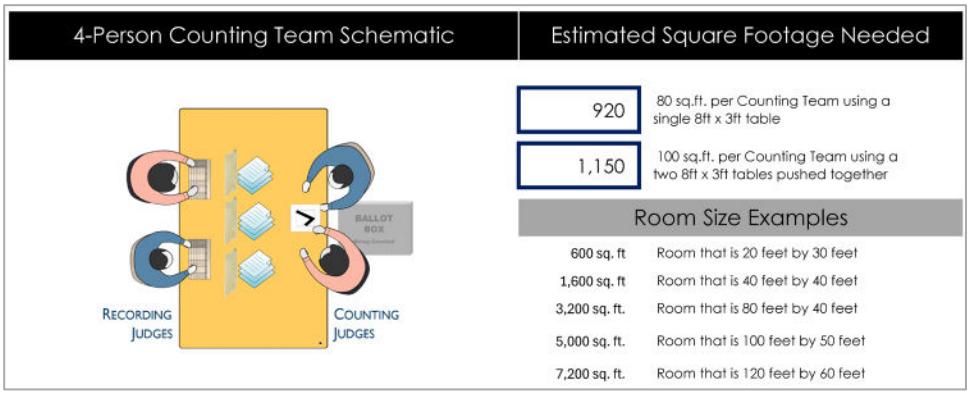
If Campbell County treats absentee ballots like most other jurisdictions, they will be counted in a central location. There is a separate estimator tool for central counting locations. It is very similar to The Estimator, with some adaptations for central locations.

Enter type of ballots	Enter Ballots Cast per Election — Similar Elections in previous years				Average # Ballots Cast	50 Ballots per HR	4 Hour Shifts	4 PPL/team
	2012	2016	2020	2024		Hours to Count	# Shifts	# Counters
Early Absentee	7,238	7,524	8,091	7,571	7,606	153	39	156
Absentee	1,412	1,468	1,579	1,396	1,464	30	8	32
BALLOTS CAST	8,650	8,992	9,670	8,967	Rounded Up	92	47	188

305 Central Counting Location Estimator - estimates of absentee ballots for Campbell County, WY

Using the county's 2024 statistics for absentee ballots, I created percentages and applied them to the 2012, 2016, and 2020 elections. In the bottom right corner of the screenshot is the number of counting judges estimated to be needed to count ALL absentee ballots in 4 hours. This estimate is **not** in addition to the 484 from the Estimator Tool; this is the portion of the 484 that would count absentee ballots.

I recommend creating estimates for jurisdictions that count ballots in a central location and enter precinct and central location projections using appropriate tools. That will result in a separate forecast.



306 Central Counting Location Square Footage Estimate - Campbell County, WY

Square Footage Estimate for Central Counting Locations

The Central Counting Location Estimator will also estimate the square footage necessary for all counting teams to work in one area. If space is tight, 80 sq ft per team will work. If there is enough room, 100 sq ft per team is better.

Tool: Forms and Supplies Estimator

Whether working on a cost comparison, planning for an official election, or putting together emergency supplies, it is essential to have an approximation of the supplies and forms needed for hand counting in the county.

The bottom row of the screenshot on page 263 shows the per-ballot cost estimates for supplies (left bottom box) and labor (right bottom box). These amounts are not included in the total labor estimate. I believe the supplies estimate of $1.10 per ballot cast could be used in most jurisdictions, but there is a tool to calculate a more accurate estimate, the Forms and Supplies Estimator.

More information about estimating forms and supplies needed by a county for an election will be discussed beginning on page 298, "Forms and Supplies Prepared in Advance by the Clerk," regarding preparation for emergencies. Using the tool for Campbell County, WY, based on the ballots cast in the November 2024 election, these are the resulting estimates:

$16,301	One-time purchase of supplies, replenished only when depleted or damaged
$ 717	Paper and other supplies required for each election

The estimates above are calculated to be 88¢ per ballot cast for one-time supplies and 4¢ per ballot cast for supplies that must be replenished every election. The combined total is 92¢ per ballot cast – less than the $1.10 recommended for estimates. As illustrated, clerks can use the $1.10 estimate or the Form and Supplies Estimator for estimates based on their county.

Downloading the Estimating Tools

The estimating tools are available at ReturntoHandCounting.com/Tools.

AUTHOR BIO

Linda Rantz

In October of 2022, in response to Mike Lindell's call to "get rid of machines," Linda Rantz asked herself, "and replace them with what?" She took action to find out, starting with a visit to Louisiana where that team was demonstrating their hand count method. Returning to Missouri, Linda immersed herself in Missouri's laws, learning that not only was hand counting permitted in her state, but the laws dated back to 1977 (and probably even earlier).

Based on Missouri statutes, Linda began to write an 'outline' of the Missouri Method hand count process. It grew into a 300-page eManual, which includes 60 pages of process and a multitude of links to supporting documents and laws, all with the hopes of giving others the information they need to speak with their election officials. The guide, "*Return to Hand Counting*," is available in paperback, hardcover, digitally, and a downloadable PDF at ReturntoHandCounting.com/eManual.

Linda, with her husband Craig Rantz, continues to promote and teach hand counting around the country. Together they have already trained groups, in person or online, in more than half the states, including Georgia, Pennsylvania, Nevada, Oregon, and New York!

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From the Author, Linda Rantz:

Return to Hand Counting is a resource dedicated to sharing a hand-counting process for elections, based on my layperson's interpretation of Missouri statutes. This eManual, available in print and digitally, is the result of my efforts to design and document a complete hand count process: from opening of polling places to delivering election results to the clerk.

The Missouri Method hand count process is easy to learn, taking less than 60 pages of this publication (Section 5, pages 70 to 128). The other 200 or so pages contain additional commentary, illustrations, and resources.

All hand count forms and instructions provided in this eManual or as downloadable files were created by me, including the distinctive ballot tallying form design with oval-style vote marking. These forms may be printed and used as provided, but they must not be altered in part or in whole (including their design style) or claimed as new works without permission.

To protect the integrity of this work and prevent unauthorized edits that could be misrepresented as my own, the PDF version of this eManual and all downloadable forms are password-protected to allow printing and reproduction but prohibit editing. The Microsoft Word version is not provided for these same reasons. Visit ReturntoHandCounting.com/Copyright for more information.

Election Officials

The Missouri Method is very adaptable and could potentially be used in many other states. If you are an election official interested in using the Missouri Method hand-counting process at no charge for non-commercial election purposes, I invite you to contact me for permission. Please submit a permission request form (available at ReturntoHandCounting.com/Copyright) detailing your intended use and acknowledging the manual's disclaimers. Upon review, I will grant written permission with specific conditions, such as attribution to Linda Rantz and verification of local legal compliance. The permission process ensures the Missouri Method is used responsibly and allows me to offer guidance where needed.

Not Intended as Legal Advice

This work is not legal advice, and readers are encouraged to consult a licensed attorney to ensure compliance with local election laws before applying the process. I have made every effort to ensure accuracy as of August 2025, but I disclaim liability for any errors, omissions, misuse, or unauthorized alterations.

Let's work together to promote transparent elections—feel free to reach out with questions or feedback!