Report on the Projected Costs of Precinct-only Voting With Hand-marked, Hand-counted Ballots in Tarrant County

Dr. Grant Ferguson*

David Lambertsen†

Mei Wang‡

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Abstract

Some Tarrant County voters have proposed that Tarrant County change its style of election administration and adopt precinct-only voting with hand-marked, hand-counted paper ballots. We performed a test with different ballot-counting teams to evaluate the amount of time it takes to manually count a typical hand-marked ballot. We then analyzed the projected costs of a change in Tarrant County election administration to precinct-only voting using hand-marked, hand-counted paper ballots, using both the Texas Secretary of State's estimates of counting time and our own most optimistic estimates. The projected costs in time, money, and number of ballot-counting election workers required for this form of election administration are reported here. We find that the costs of adopting precinct-only voting with hand-marked, hand-counted paper ballots in Tarrant County are significant, and any consideration of implementing this form of election administration should take that into account.

^{*}Department of Political Science, Texas Christian University

[†]Presiding Judge of the Tarrant County Early Voting Ballot Board and Signature Verification Committee Chair

[‡]Tarrant County Ballot Board

Introduction

Election integrity and security are important. Recent surveys show that many Americans lack confidence that the ballots in our elections our counted fairly, and this has implications for our democratic republic. When people are skeptical that ballots are counted fairly, they are less likely to believe the outcomes of elections, especially when their preferred candidates do not win.

There are many ideas about how to improve election integrity and security. At the county level, one proposal to increase security and transparency in elections is the adoption of precinct-only voting with hand-marked, hand-counted paper ballots. Tarrant County currently uses countywide voting with vote centers, which allow eligible voters to cast their ballots at their choice of dozens of vote centers, regardless of where they live within Tarrant County. Votes are tabulated with the help of machines and electronic pollbooks, which also print out paper versions of the ballots that are cast electronically.

A return to precinct-only voting with hand-marked, hand-counted paper ballots would mean that Tarrant County voters would only be able to vote at their precinct polling location. The election workers in each precinct, including the election judge and other poll workers, would have the responsibility for counting the ballots in that precinct on election day. The Ballot Board would still count absentee ballots and ballots cast during early voting.

Some Texas counties with small populations, such as Glasscock County¹, administer their elections using hand-marked, hand-counted paper ballots. Tarrant County, however, is one of the most populated counties in America. It has about 1.2 million registered voters. To know whether it is a good idea to administer Tarrant County elections using precinct-only voting with hand-marked, hand-counted paper ballots, an analysis of the projected costs of doing so is essential.

In this report, we provide an estimate of these projected costs in terms of time, money, and number of ballot-counting election workers required. Our projections are based on ballot-counting time estimates from the Texas Secretary of State's office and the most optimistic results from our own ballot-counting test, which is discussed below.

 $^{^{1} \}texttt{https://www.votebeat.org/texas/2023/10/13/23915131/hand-count-ballots-kerr-county-elect.org/texas/2023/10/13/23915131/hand-count-ballots-kerr-county-elect.org/texas/2023/10/13/23915131/hand-count-ballots-kerr-county-elect.org/texas/2023/10/13/23915131/hand-count-ballots-kerr-county-elect.org/texas/2023/10/13/23915131/hand-count-ballots-kerr-county-elect.org/texas/2023/10/13/23915131/hand-count-ballots-kerr-county-elect.org/texas/2023/10/13/23915131/hand-count-ballots-kerr-county-elect.org/texas/2023/10/13/23915131/hand-count-ballots-kerr-county-elect.org/texas/2023/10/13/23915131/hand-count-ballots-kerr-county-elect.org/texas/2023/10/13/23915131/hand-county-elect.org/texas/2023/10/13/23915131/hand-county-elect.org/texas/2023/10/13/23915131/hand-county-elect.org/texas/2023/10/13/23915131/hand-county-elect.org/texas/2023/10/13/23915131/hand-county-elect.org/texas/2023/10/13/23915131/hand-county-elect.org/texas/2023/10/13/23915131/hand-county-elect.org/texas/2023/10/13/23915131/hand-county-elect.org/texas/2023/10/13/2391511/hand-county-elect.org/texas/2023/10/13/239151/hand-county-elect.org/texas/2023/10/13/239151/hand-county-elect.org/texas/2023/10/13/2391/hand-county-elect.org/texas/2023/10/13/2391/hand-county-elect.org/texas/2023/10/13/2391/hand-county-elect.org/texas/2023/10/13/2391/hand-county-elect.org/texas/2023/10/13/2391/hand-county-elect.org/texas/2023/10/13/2391/hand-county-elect.org/texas/2023/10/13/200/hand-county-elect.org/texas/2023/10/13/200/hand-county-elect.org/texas/2023/10/13/200/hand-county-elect.org/texas/2023/10/13/200/hand-county-elect.org/texas/2023/10/13/200/hand-county-elect.org/texas/2023/10/13/200/hand-county-elect.org/texas/2023/10/13/200/hand-county-elect.org/texas/2023/10/13/200/hand-county-elect.org/texas/2023/10/13/200/hand-county-elect.org/texas/2023/10/13/200/hand-county-elect.org/texas/2023/10/13/200/hand-county-elect.org/texas/2023/10/13/200/hand-county-elect.org/texas/2023/10/13/200/hand-county-elect.org/texas/2023/10/13/200/hand-county-elect.org/texas/2023/10/10/10/$

Our analysis provides these estimates to county officials and Tarrant County voters, with the hope of encouraging an informed discussion of the pros and cons of election administration with precinct-only voting and hand-marked, hand-counted paper ballots. We find that the costs of adopting precinct-only voting with hand-marked, hand-counted paper ballots in Tarrant County are significant, and any consideration of implementing this form of election administration should take that into account.

Estimating Costs Based on Past Elections

To determine the costs of election administration with precinct-only voting and hand-marked, hand-counted paper ballots in Tarrant County, we need estimates of how many contests will be on the primary and general election ballots in 2024, and how many people will vote. The past is often the best predictor of the future, so we took these numbers from the 2020 Republican and Democrat primary ballots and 2022 general election.²

Four numbers related to these elections are particularly important to look at: the total votes cast, the number of votes cast on election day, the combined number of votes cast in early voting and as absentee ballots, and the number of contests on the ballot. The total ballots are divided into ED³ and EV/Abs.⁴ totals because according to state law, if a county adopts precinct-only voting with hand-marked, hand-counted paper ballots, the election judge, alternate election judge, and poll workers at each precinct must count the ballots cast there on election day. EV and Abs. votes would be counted by the Tarrant County Ballot Board, starting on election day. The number of contests on the ballot is important because the more contests that are on the ballot, the longer it takes to for election workers to count each ballot by hand.

According to the official numbers from Tarrant County Elections, there were a total of 125,203

²Based on population growth in Tarrant County alone, more people will probably vote in 2024 than in 2022 or 2020, so using these numbers from past years probably *underestimates* what the real numbers will be next year. In other words, these numbers provide a reasonable representation of a "best case" for the amount of time, money, and election workers required to count ballots.

³Ballot cast on election day

⁴Ballots cast in early voting, and absentee ballots

votes cast in the March 2020 Republican primary election for President⁵ in Tarrant County, with 55,635 votes cast on election day (ED) and 69,568 combined cast in early voting (EV) and as absentee ballots (Abs.). The 2020 Republican primary election in Tarrant County had 42 contests on the ballot.⁶

There were a total of 155,113 votes cast in the March 2020 Democratic primary election for President⁷ in Tarrant County, with 83,507 votes cast on election day (ED) and 71,606 cast in early voting (EV) and as absentee ballots (Abs.). The 2020 Democratic primary election in Tarrant County had 37 contests on the ballot.⁸

According to the official numbers from Tarrant County Elections, there were a total of 593,080 votes cast in the November 2022 general election for Governor⁹ in Tarrant County, with 180,381 votes cast on election day (ED) and 412,699 cast in early voting (EV) and as absentee ballots (Abs.).¹⁰ The 2022 general election in Tarrant County had 31 contests on the ballot.¹¹

Figures 1, 2, and 3 show these numbers below.

⁵This was the highest office on the ballot, which received the most votes. However, not all voters select a candidate for the highest-level office on any ballot. The total number of ballots cast overall in the 2020 Republican primary was 128,316. 3,113 Republican voters "undervoted" (or didn't mark a choice) in the Presidential contest that year.

⁶32 of these were contested offices with 2 or more candidates, while 10 of these were ballot propositions. Some of the contest numbers varied somewhat by district.

⁷The total number of ballots cast overall in the 2020 Democratic primary was 158,046. 2,933 Democratic voters "undervoted" (or didn't mark a choice) in the Presidential contest that year.

⁸26 of these were contested offices with 2 or more candidates, while 11 of these were ballot propositions. Some of the contest numbers varied somewhat by district.

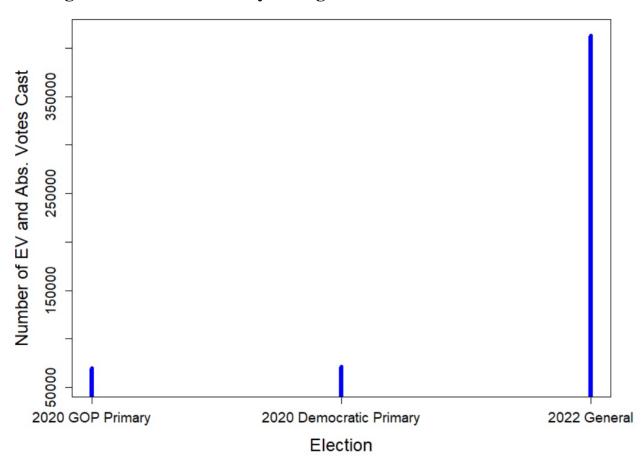
⁹The total number of ballots cast overall in the 2022 general election in Tarrant County was 593,172. 92 voters "undervoted" (or didn't mark a choice) in the gubernatorial contest that year.

¹⁰There will be far more ballots cast in the 2024 general election in Tarrant County in November of 2024, since it is a Presidential election year, so again these numbers are a "best case" for the amount of time, money, and election workers required for this form of election administration.

¹¹31 of these were contested offices with 2 or more candidates, while 0 of these were ballot propositions. Some of the contest numbers varied somewhat by district.

Figure 1: Number of Election Day Votes Per Election

Figure 2: Number of Early Voting and Absentee Ballots Per Election



Number of Contests Per Ballot

10 20 30 40 50

2020 Democratic Primary

Election

2022 General

2020 GOP Primary

Figure 3: Number of Contests on the Ballot Per Election

Estimating Costs Based on Contemporary Numbers

Time and Money

A few other numbers are important for estimating the election administration costs of precinct-only voting and hand-marked, hand-counted paper ballots in Tarrant County. State law requires that for elections with precinct-only voting and hand-marked, hand-counted paper ballots, there must be 3 tally sheets and 3 people tallying ballots. If there is additional person calling out the votes, that means that each precinct in Tarrant County would need to have 4 people counting ballots.

State law permits these teams to start counting ballots as soon as 10 ballots have been cast at a polling location on election day. The hourly wages of each of these workers is \$18.98, so the hourly cost for a four-person ballot-counting team is \$75.92.

The amount of time that it takes each of these teams to count each contest on the ballot is important. The Texas Secretary of State's office estimates that the amount of time that it takes for one contest between 2 candidates¹² to be counted on each ballot is 6 seconds.

Many contests, however, feature more than 2 candidates. This is often the case in primary elections, which might feature 3 or 5 or 7 or more candidates. Contests with more candidates take longer to count. Even two-candidate contests are more complex to count than they seem, because ballot counters must keep tallies for "undervotes" (when the voter marks fewer candidates than he should) and "overvotes" (when a voter marks more candidates than he should) as well.¹³

The Tarrant County Test

Due to these counting complexities, we decided to test the Secretary of State's estimate that it will take ballot counters 6 seconds to count each contest on each ballot. We invited several people to come to the Tarrant County Elections office and serve as sample ballot-counting teams to do a hand count of some real ballots. All of these people are involved in local politics in some way, as precinct chairs, leaders in local political groups, or past election workers. Their backgrounds

¹²This is equivalent to the "For" or "Against" contest on a ballot proposition.

¹³If a mistake is made in a hand count, state law requires that the hand count of ballots must be repeated for that office.

were designed to be similar to those of actual election judges, alternate election judges, and poll workers, who typically have some past experience in elections. ¹⁴¹⁵

We divided our volunteer ballot-counters into 2 teams. One team, our "Experienced Team," had counted hand-marked ballots before, and the other (the "Inexperienced Team") had not. The team that had counted ballots before was mostly comprised of people who work for Tarrant County Elections, and arguably represented a "best case" scenario of the poll workers that a precinct might have.

After a couple timed trials, the best rate of counting ballots was achieved by the Experienced Team, as expected. They were able to count ballots of only two-candidate contests at a rate of 17 seconds per contest. The Inexperienced Team, and the Experienced Team counting ballots with contests with more than 2 candidates, were notably slower. Our Experienced Team estimate of 17 seconds per contest, therefore, represents a "best case" for how long it would probably take precinct-level ballot-counting teams to count each contest on each ballot. Our 17-second estimate is almost 3 times as long as that estimated by the Texas Secretary of State's office, and suggests their estimate might be overly optimistic about the capacities of poll workers.

Estimating the Cost by Ballot for the 2024 Republican Primary

We predict the estimated costs of adopting precinct-only voting with hand-marked, hand-counted ballots for the March 2024 Republican primary election, and use it as an example of how much this form of election administration will cost in general. If this form of election administration is adopted, its costs will be similar for the 2024 Democratic and Republican primary

¹⁴If anything, however, our volunteers were more familiar with election processes than the average poll worker would be, so we might expect them to be better at counting ballots than the average poll worker.

¹⁵At least 1 person that we invited likes the idea of precinct-only voting with hand-marked, hand-counted ballots, so there was some variation in opinion about the desirability of this form of election administration. We didn't invite only strong opponents of the proposal. Furthermore, before doing this analysis, our lead author was undecided about whether this form of election administration should be adopted by Tarrant County.

¹⁶The Inexperienced Team counted ballots for two-candidate contests at about 39.13 seconds per contest. The Experienced Team counted ballots with contests with more than 2 candidates at about 44 seconds per contest.

¹⁷It's worth noting that because undervotes and overvotes must be tallied separately, all contests effectively have at least 4 choices or "candidates," though there are usually more undervotes than overvotes.

elections.

The November 2024 general election will cost notably more to administer than the March 2024 Republican primary, since turnout will be (as it always is) much higher in the general election. If the costs of adopting this form of election administration for the March 2024 Republican primary election are too great for the county to bear, the costs will also be unacceptably expensive for the 2024 Democratic primary or the 2024 general election.

Using the Secretary of State's estimate of 6 seconds per contest, and our most optimistic test estimate of 17 seconds per contest, and the other numbers above, we can estimate how much time, money, and ballot-counting election workers will be required to administer the 2024 Republican primary election in Tarrant County with this form of election administration.

We start with the time, money, and workers estimated for the Ballot Board to count early voting and absentee ballots. For the 2024 Republican primary, an estimate of 42 contests¹⁸ at 6 seconds and 17 seconds to count each contest results in estimates of 4.2 minutes and 11.9 minutes to count each ballot. If there are 69,568 EV and Abs. ballots again, as there were in 2020, it would take 4,869.76 hours¹⁹ to count all of those ballots by hand at 4.2 minutes per ballot, and 13,797.65²⁰ hours at 11.9 minutes per ballot.

Since the hourly cost of each four-person count team is \$75.92, that would result in a total cost of \$369,712.20²¹ if they count at 4.2 minutes a ballot, and \$1,047,518²² if they count at 11.9 minutes per ballot. This is just the estimated cost for the Ballot Board workers necessary to count the estimated 2024 Republican primary early voting and absentee ballots.

According to Texas state law, the Ballot Board has a maximum of 36 hours, starting at 7 AM on election day, to count all the early voting and absentee ballots. They cannot start before 7 AM on election day, and must finish by 7 PM the following day. Since this count must be finished in 36 hours, and we estimate either 4,869.76 hours or 13,797.65 hours for 1 four-person count team to

¹⁸As was the case in the 2020 Republican primary

¹⁹(4.2 minutes * 69568 ballots) / 60 minutes in an hour

²⁰(11.9 minutes * 69568 ballots) / 60 minutes in an hour

²¹4869.76 * 75.92

²²13797.65 * 75.92

count all these ballots, additional teams must be hired to finish the count in 36 hours. Based on our time estimates, this means either 135.27 four-person teams²³ or 383.27 four-person teams²⁴ must be hired to count these ballots to get them in on time in 36 hours and avoid criminal penalties.

This is a total of either 541 or 1,533 people who must be hired to count early voting or absentee ballots, and that's if they work straight through that 36 hours, *with no breaks or sleep*. Based on the difficulty of hiring election workers in general, even at \$18.98 per hour, the staffing required for the Ballot Board alone may pose a significant challenge.

Of course, the election day vote must be counted as well. In precinct-only voting with hand-marked, hand-counted ballots, the election judge, alternate election judge, and poll workers at each polling location must count the election day ballots at each precinct.

According to Texas state law, in this form of election administration, the election workers in each precinct can start counting election day ballots after 7 AM on election day and as soon as 10 ballot have been cast at the precinct. They must turn in their finished count of the hand-marked ballots within 24 hours, or by 7 AM the next day, and the election judge at a precinct cannot leave that precinct until all the ballots have been counted. At most, therefore, the election workers at each precinct have 24 hours to count all the ballots.

In the 2020 Republican primary in Tarrant County, there were 192 precincts where Republican ballots were cast.²⁵ These precincts had as few as 4 Republican ballots cast²⁶, and as many as 1,247 Republican ballots cast.²⁷

The average number of ballots cast per precinct was 293.099. It's worth noting that the average, in this case, is not an entirely desirable summary measure of the ballots cast by each precinct in the 2020 Republican primary. The average is distorted up as a measure of central tendency by 10 precincts that had over 800 ballots case. Only 80 of 192 precincts exceeded the average of

²³4,869.76 hours / 36 hours

²⁴13,797.65 hours / 36 hours

²⁵The number of precincts required in the 2024 Republican primary is estimated to be more than 192, but for purposes of creating a "best case" estimate, let's assume it is only 192.

²⁶Paul Laurence Dunbar High School

²⁷Keller Town Hall

293 ballots cast. However, the median number of precinct ballots, 254, is not wildly different.²⁸ Using 293.099, the average number of ballots cast per precinct, is a reasonable representation of the "typical" precinct's number of votes.

If we use our estimates of 4.2 minutes and 11.9 minutes to count each ballot, and there are 293.099 ballots on average at each precinct, as there were in the 2020 Republican primary, it would take 20.51693 hours²⁹ to count the average precinct's ballots by hand at 4.2 minutes per ballot, and 58.1313 hours³⁰ at 11.9 minutes per ballot.

Since the hourly cost of each four-person count team is \$75.92, that would result in a per precinct cost of \$1,557.645³¹ if they count at 4.2 minutes a ballot, and \$4,413.328³² per precinct cost if they count at 11.9 minutes per ballot. Since there are 192 precincts, these figures project a total cost of \$299,067.80³³ if they count at 4.2 minutes a ballot, and \$847,359³⁴ if they count at 11.9 minutes per ballot.

State law requires that the ballots in each precinct are counted in 24 hours. If each four-person count team counts at 4.2 minutes per ballot and counts the average precinct's ballots in 20.51693 hours³⁵, this requirement is satisfied by 1 count team in the average precinct. Since there were 192 precincts with Republican ballots cast in the 2020 Republican Primary in Tarrant County, that would mean hiring at least 192 four-person teams to count ballots.³⁶ That is 768 poll workers who must be hired.³⁷

However, if each four-person count team counts at 11.9 minutes per ballot and counts the av-

²⁸254 represents the number of ballots cast that is exactly between the 96th (255) and 97th (253) highest turnout precincts in the 2020 Republican primary.

²⁹(4.2 minutes * 293.099 ballots) / 60 minutes in an hour

³⁰(11.9 minutes * 293.099 ballots) / 60 minutes in an hour

³¹20.51693 * 75.92

^{3258.1313 * 75.92}

³³1557.645 * 192

³⁴4413.328 * 192

³⁵(4.2 minutes * 293.099 ballots) / 60 minutes

³⁶Note that this estimate assumes the election judge, alternate election judge, and two poll workers can spend all of election day counting ballots, which is unlikely. Usually, the election judge or alternate election judge will need to supervise how things are going at the polling location, and the poll workers will need to interact with voters. Therefore, additional poll workers will probably need to be hired while the main counting team counts. The costs for these additional workers are not included in this analysis.

³⁷192 * 4

erage precinct's ballots in 58.1313 hours³⁸, 3 count teams will be required in the average precinct. These 3 teams will count the average precinct's ballots in about 19.3771 hours³⁹, and get these 293.099 ballots counted within the 24-hour limit for avoiding criminal penalties. If 3 four-person count teams are required for the average precinct polling location, and there are 192 precincts, that means 2,304 poll workers must be hired.⁴⁰

This is a total of either 768 or 2,304 people who must be hired to count election day ballots, and that's if they work straight through that 24 hours, with no interruptions to run the polling location, no breaks, and no sleep. Based on the difficulty of hiring election workers in general, even at \$18.98 per hour, the staffing required for running the 192 Republican primary precinct polling locations and counting their ballots may pose a significant challenge.

Estimating the Total Costs for the 2024 Republican Primary

Election Workers

Hiring election workers for the precinct polling locations and the Ballot Board to hand-count the election day votes, early votes, and absentee ballots will cost a considerable sum of money. If four-person teams count the projected 2024 Republican primary ballots at the rapid rate the Texas Secretary of State estimates, and count at 4.2 minutes per ballot, Tarrant County will need to hire about 541 election workers for the Ballot Board to count the early votes and absentee ballots within the 36-hour window required by state law. To count the election day votes at 192 precinct polling locations using the quick Texas Secretary of State count estimate, Tarrant County will need to hire about 768 poll workers to complete the count within the required 24-hour window specified by state law.

Based on the Secretary of State's counting time estimate, Tarrant County will need to hire about 1,309 election workers⁴¹ to be able to administer the 2024 Republican primary election

³⁸(11.9 minutes * 293.099 ballots / 60 minutes)

³⁹58.1313 hours / 3 teams

⁴⁰192 * 4 * 3

⁴¹541 on the Ballot Board and 768 at the polls

with precinct-only voting with hand-marked, hand-counted ballots. Based on our own Tarrant County Elections counting test, however, we believe the Secretary of State's estimates are probably optimistic. It would probably take far more than 1,309 election workers for Tarrant County to run the 2024 Republican primary election with precinct-only voting and hand-marked, hand-counted ballots.

Our most optimistic estimate of counting the projected 2024 Republican primary ballot suggests a counting time of 11.9 minutes per ballot. If that's the case, Tarrant County will need to hire about 1,533 election workers for the Ballot Board to count the early votes and absentee ballots within the 36-hour window required by state law. To count the election day votes at 192 precinct polling locations using our most optimistic counting estimate, Tarrant County will need to hire about 2,304 poll workers to complete the count within the required 24-hour window specified by state law.

We therefore estimate that, at minimum, Tarrant County will need to hire 3,837 election workers⁴² to be able to administer the 2024 Republican primary election with precinct-only voting with hand-marked, hand-counted ballots. These estimates of how many election workers will need to be hired, based on the Secretary of State's counting estimates and our own, are displayed in Figure 4.

⁴²1,533 on the Ballot Board and 2,304 at the polls

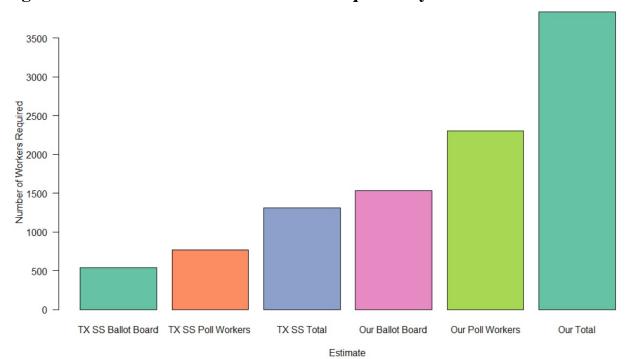


Figure 4: Number of Election Workers Required By Estimator and Position

Money

Hiring these workers will cost a lot of money. Our projections based on the Secretary of State counting estimates suggest that Tarrant County will need to hire at least 1,309 election workers to run the 2024 Republican primary election with precinct-only voting and hand-marked, hand-counted ballots. We estimate that these 1,309 workers will cost a total of \$668,780.00.⁴³

We believe, however, that the Texas Secretary of State's counting estimates understate how long it will take to count ballots. Our projections based on our own most optimistic counting estimates suggest that Tarrant County will need to hire at least 3,837 election workers to run the 2024 Republican primary election with precinct-only voting and hand-marked, hand-counted ballots. We estimate that these 3,837 workers will cost a total of \$1,894,877.00.⁴⁴. These estimates of how much it will cost Tarrant County to administer the 2024 Republican primary using this form of election administration, based on the Secretary of State's counting estimates and our own, are

⁴³\$369,712.20 for the Ballot Board + \$299,067.80 for the poll workers

⁴⁴\$1,047,518 for the Ballot Board + \$847,359 for the poll workers

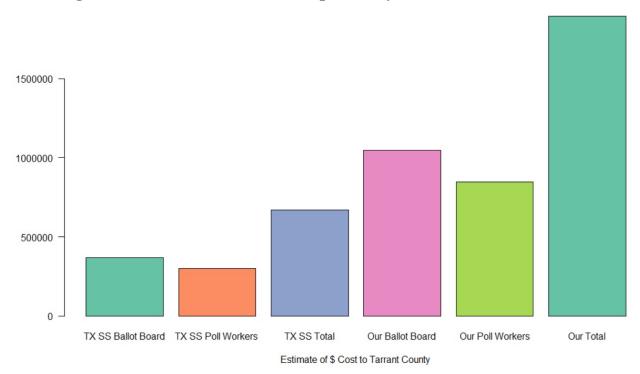


Figure 5: Estimate of \$ Cost Required By Estimator and Position

displayed in Figure 5.

Potential Confounding Factors

We, the authors of this report, are confident in our estimates and conclusions. However, we do believe it is worth noting some potential factors that may affect our findings.

The length of time that ballot counting takes place may affect how well that teams of election workers count ballots. They may be able to count faster as they get used to the practice, so initial estimates based on test counts may overestimate how much time it takes experienced teams to count ballots. On the other hand, as election workers grow tired after remaining awake through the night to count ballots, their ability to count ballots quickly and without errors may decrease. That would mean our projections underestimate the amount of time that it takes to count ballots.

Our estimates of the costs of changing to a different form of election administration are based on election numbers from 2020. If significantly more or fewer citizens of Tarrant County turn out to

vote next year, our projections will need to be adjusted accordingly. Lower-turnout elections cost less money to administer, and higher-turnout elections cost more, especially with precinct-only voting with hand-marked, hand-counted ballots.

A notable change in the number of contests on the ballot may also affect our estimates. As of this writing, the filing deadline for appearing on the March 2024 primary ballot had not passed, so we don't know for sure how many candidates will file to run for office, or how many contested elections there will be. If there are notably fewer contests or candidates on the ballot, the costs required to hand-count ballots will go down accordingly. If there are considerably more contests or candidates, costs will go up.

It's also worth noting that many current election workers are recruited with the help of Tarrant County's party organizations. If adopting precinct-only voting with hand-marked, hand-counted ballots created a lot of excitement among party precinct chairs and activists, that might help ease some of the challenges of recruiting enough election workers to implement it. However, if a switch to this form of election administration reduced enthusiasm for working elections among party precinct chairs and activists, that would make recruiting workers even more difficult.

Discussion and Conclusion

Ultimately, we estimate that to run the 2024 Republican primary with precinct-only voting with hand-counted, hand-marked ballots, Tarrant County will need to spend between \$668,780.00 and \$1,894,877.00, and hire between 1,309 and 3,837 election workers. We believe the best estimate is at or above the higher end of those ranges, based on our own Tarrant County Elections ballot test.

It's important to note that the almost \$2 million-dollar cost estimate, which is a large sum in itself, only covers the costs of the election workers needed to run the 2024 Republican primary election. It doesn't include the costs of training the election workers, printing the ballots or any other associated costs, running the 2024 Democratic primary election, or running the 2024 general election in November 2024.

This form of election administration may be worth the cost to Tarrant County. However, based on our estimates, it will not be cheap.

The cost of this form of election administration alone, however, is not the only noteworthy challenge. Hiring between 1,309 and 3,857 election workers would be a considerable task.

Representatives from our local Republican and Democratic parties have both noted that it is difficult to recruit enough election workers to run our Tarrant County elections using our current form of election administration. Switching to precinct-only voting with hand-marked, hand-counted ballots would probably require hiring even more election workers, and thus pose a more significant challenge. This is especially true due to the criminal penalties associated with not turning in a hand count on time, which may scare away some of the people who usually sign up to be election judges and poll workers. Should Tarrant County decide to switch to this form of election administration, it may have to spend extra resources on election worker recruitment.

Overall, we suggest that Tarrant County politicians and voters considering precinct-only voting with hand-marked, hand-counted ballots evaluate both its costs and benefits before deciding for or against adopting it. We support Tarrant County voters' desire for election security, integrity, and transparency, and want to ensure Tarrant County elections are the best in the world.