## Ensuring That Our Votes Are Counted Accurately

Soon Maryland will begin using the most reliable, recountable voting system available: votermarked paper ballots counted by optical scanners. But all computer-based systems are susceptible to error, malfunction, tampering, and misinterpretation of voter intent. The best way to ensure that our election results are correct is to compare the machines' totals to a hand/eye count of the same ballots to see if the votes add up to the same result.

## Why Post-Election Audits?

- Verify that vote-tallying machines are functioning properly
- Find error, whether accidental or intentional
- Deter fraud
- Promote public confidence in elections
- Provide for continuous improvement in the conduct of elections


## How Many Votes Should Be Audited?

This bill would require auditing all federal and state-wide races. Many states hand-count a fixed percentage of ballots, but this method often counts more votes than necessary in contests where the outcome was not in doubt and counts too few in tight races to be confident that the election results were correct.

Most experts agree that the most efficient and cost-effective type of audit is one based on the margin of victory in a race. This allows resources to be targeted to tight races where small errors could change the outcomes. This bill uses a statistically derived table to determine the votes to be counted based on the margin of victory.

## Election Transparency

Casting of votes is a private act, but the counting of our votes should take place in full public view where everyone can see that our elections are conducted fairly. Transparency in the conduct of our elections is essential to ensure voter confidence in the results.

## How Much Will This Cost?

Because the number of votes counted is based on the margin of victory, costs will vary from one election to another. The tables on the next pages estimate the costs of the 5 most recent past elections. The efficiency of statistically based audits keeps costs low, averaging roughly $\$ 20,000$ per election cycle (including both the primary and general elections), and as low as $\$ 11,000$. Even a close race such as the one in November 2008 in Congressional District 1 would have cost less than \$30,000 for Election Year 2008.

# SAVEourVotes SECURE•ACCESSIBLE•VERIFIABLE ELECTIONS FOR MARYLAND 

## Audit Cost Estimates 2000-2008

These tables show the estimated costs for auditing all federal and statewide races in both the primary and general elections in Maryland from 2000-2008.

- The number of precincts audited is based upon the margin of difference between the top two candidates in the race.
- The precincts are selected by means of a random draw from all the precincts in which the race appeared on the ballot.
- The number of random draws from the total pool of precincts in that race is determined by the charts in the legislation.
- Since it is mathematically possible to draw the same precinct more than once, when a large number of draws are required, the actual number of precincts to audit usually will be less than the number of draws.

To arrive at an estimated cost of auditing each race, the number of precincts to be audited was multiplied by the average number of ballots cast per precinct. This number of paper ballots to be hand-counted was then multiplied by $\$ 0.20$, which is the national average cost of hand-counting paper ballots (as reported by jurisdictions that already do hand-count audits).

2008 Primary

| Dem |  | of Difference | \# of Draws | Precincts to Audit | COST* |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | CD-1 | 9.38\% | 7 | 7 | \$ | 359 |
|  | CD-2 |  | 0 | 0 | \$ | - |
|  | CD-3 | 78.16\% | 2 | 2 | \$ | 150 |
|  | CD-4 | 21.97\% | 3 | 3 | \$ | 439 |
|  | CD-5 | 65.20\% | 2 | 2 | \$ | 210 |
|  | CD-6 | 7.38\% | 9 | 9 | \$ | 439 |
|  | CD-7 | 86.10\% | 2 | 2 | \$ | 154 |
|  | CD-8 | 78.49\% | 2 | 2 | \$ | 263 |
|  | President | 24.88\% | 7 | 7 | \$ | 672 |

Rep

| CD-1 | $10.34 \%$ | 6 | 6 | $\$$ | 335 |
| :--- | ---: | ---: | ---: | :--- | ---: |
| CD-2 |  | 0 | 0 | $\$$ | - |
| CD-3 | $6.66 \%$ | 10 | 10 | $\$$ | 205 |
| CD-4 | $13.61 \%$ | 5 | 5 | $\$$ | 70 |
| CD-5 | $15.13 \%$ | 4 | 4 | $\$$ | 108 |
| CD-6 | $69.09 \%$ | 2 | 2 | $\$$ | 110 |
| CD-7 | $46.41 \%$ | 2 | 2 | $\$$ | 21 |
| CD-8 | $12.59 \%$ | 5 | 5 | $\$$ | 129 |
| President | $26.31 \%$ | 5 | 5 | $\$$ | 175 |

## 2008 General

| CD-1 | $0.79 \%$ | 86 | 74 | $\$$ | 19,268 |
| :--- | ---: | ---: | ---: | :--- | ---: |
| CD-2 | $47.07 \%$ | 2 | 2 | $\$$ | 531 |
| CD-3 | $39.60 \%$ | 2 | 2 | $\$$ | 451 |
| CD-4 | $72.95 \%$ | 2 | 2 | $\$$ | 666 |
| CD-5 | $49.64 \%$ | 2 | 2 | $\$$ | 660 |
| CD-6 | $18.99 \%$ | 4 | 4 | $\$$ | 1,097 |
| CD-7 | $60.92 \%$ | 2 | 2 | $\$$ | 418 |
| CD-8 | $53.41 \%$ | 2 | 2 | $\$$ | 680 |
| President | $25.44 \%$ | 5 | 5 | $\$$ | 1,439 |
| TOTAL COST 2008 |  |  |  |  | $\$ 29,051$ |


| 2006 | Primary | \% Margin of Difference | \# of Draws | \# of Precincts to Audit |  | OST* |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Dem | CD-1 | 10.22\% | 6 | 6 | \$ | 219 |
|  | CD-2 | 64.65\% | 2 | 2 | \$ | 132 |
|  | CD-3 | 6.48\% | 10 | 10 | \$ | 652 |
|  | CD-4 | 3.32\% | 19 | 18 | \$ | 1,635 |
|  | CD-5 |  | 0 | 0 | \$ | - |
|  | CD-6 | 18.41\% | 4 | 4 | \$ | 128 |
|  | CD-7 |  | 0 | 0 | \$ | - |
|  | CD-8 | 82.64\% | 2 | 2 | \$ | 179 |
|  | Senator | 3.15\% | 60 | 59 | \$ | 3,804 |
|  | Governor |  | 0 | 0 | \$ | - |
|  | Att. Gen. | 11.35\% | 17 | 17 | \$ | 955 |
|  | Comptroll. | 2.53\% | 72 | 71 | \$ | 4,577 |
| Rep | CD-1 |  | 0 | 0 | \$ | - |
|  | CD-2 | 2.50\% | 25 | 24 | \$ | 389 |
|  | CD-3 | 4.57\% | 14 | 14 | \$ | 256 |
|  | CD-4 |  | 0 | 0 | \$ | - |
|  | CD-5 |  | 0 | 0 | \$ | - |
|  | CD-6 | 58.55\% | 2 | 2 | \$ | 95 |
|  | CD-7 |  | 0 | 0 | \$ | - |
|  | CD-8 | 13.51\% | 5 | 5 | \$ | 73 |
|  | Senator | 84.10\% | 5 | 5 | \$ | 120 |
|  | Governor |  | 0 | 0 | \$ | - |
|  | Att. Gen. |  | 0 | 0 | \$ | - |
|  | Comptroll. | 6.52\% | 29 | 29 | \$ | 564 |
| 2006 General |  |  |  |  |  |  |
|  | CD-1 | 37.69\% | 2 | 2 | \$ | 389 |
|  | CD-2 | 38.54\% | 2 | 2 | \$ | 377 |
|  | CD-3 | 30.27\% | 2 | 2 | \$ | 362 |
|  | CD-4 | 62.03\% | 2 | 2 | \$ | 389 |
|  | CD-5 | 66.22\% | 2 | 2 | \$ | 389 |
|  | CD-6 | 20.53\% | 3 | 3 | \$ | 596 |
|  | CD-7 | 98.06\% | 2 | 2 | \$ | 236 |
|  | CD-8 | 54.62\% | 2 | 2 | \$ | 490 |
|  | Governor | 6.53\% | 29 | 29 | \$ | 5,671 |
|  | Att. Gen. | 22.10\% | 7 | 7 | \$ | 1,310 |
|  | Comptroll. | 18.14\% | 10 | 10 | \$ | 1,885 |
| TOTAL COST 2006 \$ 25,874 |  |  |  |  |  |  |


| 2004 Primary |  | \% Margin of Difference | \# of Draws | \# of Precincts to Audit | COST* |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Dem | CD-1 | 11.05\% | 6 | 6 | \$ | 172 |
|  | CD-2 |  | 0 | 0 | \$ | - |
|  | CD-3 | 79.65\% | 2 | 2 | \$ | 94 |
|  | CD-4 | 67.99\% | 2 | 2 | \$ | 128 |
|  | CD-5 |  | 0 | 0 | \$ | - |
|  | CD-6 | 2.94\% | 22 | 21 | \$ | 586 |
|  | CD-7 | 82.85\% | 2 | 2 | \$ | 85 |
|  | CD-8 | 84.58\% | 2 | 2 | \$ | 165 |
|  | President | 34.05\% | 5 | 5 | \$ | 263 |
|  | Senator | 82.82\% | 5 | 5 | \$ | 249 |
| Rep | CD-1 | 23.84\% | 3 | 3 | \$ | 83 |
|  | CD-2 | 24.79\% | 3 | 3 | \$ | 38 |
|  | CD-3 | 63.86\% | 2 | 2 | \$ | 24 |
|  | CD-4 | 10.49\% | 6 | 6 | \$ | 43 |
|  | CD-5 | 3.74\% | 18 | 17 | S | 241 |
|  | CD-6 | 50.03\% | 2 | 2 | \$ | 13 |
|  | CD-7 | 9.27\% | 7 | 7 | \$ | 47 |
|  | CD-8 | 29.49\% | 2 | 2 | \$ | 34 |
|  | President |  | 0 | 0 |  |  |
|  | Senator | 40.02\% | 5 | 5 | \$ | 76 |

## 2004 General

| CD-1 | $51.70 \%$ | 2 | 2 | $\$$ | 467 |
| :--- | ---: | ---: | ---: | :--- | ---: |
| CD-2 | $35.96 \%$ | 2 | 2 | $\$$ | 476 |
| CD-3 | $29.61 \%$ | 2 | 2 | $\$$ | 444 |
| CD-4 | $54.95 \%$ | 2 | 2 | $\$$ | 579 |
| CD-5 | $39.44 \%$ | 2 | 2 | $\$$ | 571 |
| CD-6 | $37.92 \%$ | 2 | 2 | $\$$ | 508 |
| CD-7 | $48.77 \%$ | 2 | 2 | $\$$ | 356 |
| CD-8 | $49.76 \%$ | 2 | 2 | $\$$ | 639 |
| President | $12.98 \%$ | 13 | 13 | $\$$ | 3,393 |
| Senator | $31.06 \%$ | 5 | 5 | $\$$ | 1,270 |

TOTAL COST 2004 \$ 11,041
(*Calculated at a national average of $\$ 0.20$ per ballot per race)

2002 Primary

\# of
Dem

|  |  | Difference | Draws | to Audit | COST* $^{\prime}$ |  |
| :--- | ---: | ---: | ---: | ---: | ---: | :---: |
| CD-1 |  | 0 | 0 | $\$$ | - |  |
| CD-2 | $14.09 \%$ | 5 | 5 | $\$$ | 315 |  |
| CD-3 | $80.02 \%$ | 2 | 2 | $\$$ | 108 |  |
| CD-4 | $66.55 \%$ | 2 | 2 | $\$$ | 176 |  |
| CD-5 |  | 0 | 0 | $\$$ | - |  |
| CD-6 | $4.68 \%$ | 14 | 14 | $\$$ | 379 |  |
| CD-7 | $82.88 \%$ | 2 | 2 | $\$$ | 111 |  |
| CD-8 | $2.87 \%$ | 23 | 22 | $\$$ | 2,109 |  |
| Governor | $60.02 \%$ | 5 | 5 | $\$$ | 297 |  |
| Att. Gen. |  | 0 | 0 | $\$$ | - |  |
| Comptroll. | $40.81 \%$ | 5 | 5 | $\$$ | 304 |  |

Rep

| CD-1 | $23.73 \%$ | 3 | 3 | $\$$ | 128 |
| :--- | ---: | ---: | ---: | :--- | ---: |
| CD-2 | $59.91 \%$ | 2 | 2 | $\$$ | 47 |
| CD-3 | $57.65 \%$ | 2 | 2 | $\$$ | 34 |
| CD-4 | $1.04 \%$ | 64 | 54 | $\$$ | 591 |
| CD-5 |  | 0 | 0 | $\$$ | - |
| CD-6 |  | 0 | 0 | $\$$ | - |
| CD-7 |  | 0 | 0 | $\$$ | - |
| CD-8 |  | 0 | 0 | $\$$ | - |
| Governor | $89.17 \%$ | 5 | 5 | $\$$ | 135 |
| Att. Gen. | $2.08 \%$ | 90 | 88 | $\$$ | 1,774 |
| Comptroll. | $15.43 \%$ | 10 | 10 | $\$$ | 194 |

2002 General

| CD-1 | $53.52 \%$ | 2 | 2 | $\$$ | 362 |
| :--- | ---: | ---: | ---: | :--- | ---: |
| CD-2 | $8.59 \%$ | 8 | 8 | $\$$ | 1,502 |
| CD-3 | $31.54 \%$ | 2 | 2 | $\$$ | 342 |
| CD-4 | $57.75 \%$ | 2 | 2 | $\$$ | 370 |
| CD-5 | $38.75 \%$ | 2 | 2 | $\$$ | 381 |
| CD-6 | $32.31 \%$ | 2 | 2 | $\$$ | 371 |
| CD-7 | $47.14 \%$ | 2 | 2 | $\$$ | 272 |
| CD-8 | $4.22 \%$ | 16 | 15 | $\$$ | 3,635 |
| Governor | $3.88 \%$ | 47 | 46 | $\$$ | 8,582 |
| Att. Gen. | $30.41 \%$ | 5 | 5 | $\$$ | 893 |
| Comptroll. | $36.37 \%$ | 5 | 5 | $\$$ | 906 |

TOTAL COST 2002 \$ 24,318

2000 Primary

| \% Margin <br> of | \# of of <br> \# of <br> Precincts |
| :---: | :---: | :---: |

COST*
Dem

| Difference | Draws |  | to Audit |  | COST* $^{*}$ |  |
| :--- | ---: | ---: | ---: | ---: | ---: | :---: |
| CD-1 | $2.59 \%$ | 25 | 24 | $\$$ | 804 |  |
| CD-2 | $11.47 \%$ | 6 | 6 | $\$$ | 262 |  |
| CD-3 |  | 0 | 0 | $\$$ | - |  |
| CD-4 | $76.21 \%$ | 2 | 2 | $\$$ | 153 |  |
| CD-5 | $61.35 \%$ | 2 | 2 | $\$$ | 111 |  |
| CD-6 | $30.27 \%$ | 2 | 2 | $\$$ | 71 |  |
| CD-7 | $0.00 \%$ | 0 | 0 | $\$$ | - |  |
| CD-8 | $47.50 \%$ | 2 | 2 | $\$$ | 144 |  |
| President | $38.87 \%$ | 5 | 5 | $\$$ | 277 |  |
| Senator | $73.29 \%$ | 5 | 5 | $\$$ | 253 |  |

Rep

| CD-1 |  | 0 | 0 | $\$$ | - |
| :--- | ---: | ---: | ---: | :--- | ---: |
| CD-2 |  | 0 | 0 | $\$$ | - |
| CD-3 |  | 0 | 0 | $\$$ | - |
| CD-4 |  | 0 | 0 | $\$$ | - |
| CD-5 | $55.61 \%$ | 0 | 0 | $\$$ | - |
| CD-6 | $51.98 \%$ | 2 | 2 | $\$$ | 124 |
| CD-7 |  | 2 | $\$$ | 11 |  |
| CD-8 | $20.07 \%$ | 7 | 0 | $\$$ | - |
| President | $5.53 \%$ | 35 | 7 | $\$$ | 288 |
| Senator | 35 | $\$$ | 1,186 |  |  |

## 2000 General

| CD-1 | $28.94 \%$ | 2 | 2 | $\$$ | 371 |
| :--- | ---: | ---: | ---: | ---: | ---: |
| CD-2 | $37.27 \%$ | 2 | 2 | $\$$ | 500 |
| CD-3 | $51.61 \%$ | 2 | 2 | $\$$ | 346 |
| CD-4 | $74.59 \%$ | 2 | 2 | $\$$ | 437 |
| CD-5 | $30.23 \%$ | 2 | 2 | $\$$ | 489 |
| CD-6 | $21.40 \%$ | 3 | 3 | $\$$ | 692 |
| CD-7 | $74.23 \%$ | 2 | 2 | $\$$ | 225 |
| CD-8 | $7.17 \%$ | 9 | 9 | $\$$ | 2,985 |
| President | $16.39 \%$ | 10 | 10 | $\$$ | 2,215 |
| Senator | $26.44 \%$ | 5 | 5 | $\$$ | 1,064 |

TOTAL COST 2000 \$ 13,006
(*Calculated at a national average of $\$ 0.20$ per ballot per race)

