

Post-Election Audit Summary

September 12, 2017 Primary Election

Mayor – City of East Cleveland

There were 42,077 total ballots cast in the September 2017 Primary Election. A hand count was conducted of 927 ballots cast in the audited contest. The accuracy rate for the post-election audit is 100%.

November 7, 2017 General Election

Issue #61 – Cuyahoga Community College District Bond Issue

There were 273,393 total ballots cast in the November 2017 General Election. A hand count was conducted of 1,606 ballots cast in the audited contest. The accuracy rate for the post-election audit is 100%.

On December 20, 2017 we conducted Risk-Limiting Post-Election Audits for the September 2017 Primary and November 2017 General elections. Audited race and batch details are provided below:

RACE	TOTAL BALLOTS CAST	UNIQUE BATCHES AUDITED	TOTAL BALLOTS AUDITED	NUMBER OF PRECINCTS IN CONTEST
Mayor – City of East Cleveland <i>[September 2017 Primary]</i>	1,808	13	927	15
Issue #61 – Cuyahoga Community College District Bond Issue <i>[November 2017 General]</i>	272,773	8	1,606	975

Our Risk-Limiting Audits were based upon the Kaplan-Markov method as explained by Philip B. Stark and Mark Lindeman. Auditing best practices recommend we split up the total ballots cast by precinct into multiple batch types. We utilized five batch types each consisting of one single ballot type category: Absentee, Election Day, Provisional, Post Absentee, and Post Election Day.

A master spreadsheet was created for each contest with statistical formulas to determine the number of batches that must be audited in order to reach a 90% confidence level. This confidence level means the audit has at least a 90% probability of leading to a full recount if the apparent outcome is incorrect.

We used a “Probability Proportional to Error Bound with Replacement” selection method. We assigned numbers ranging from 000000 through 999,999 for each batch within each contest. Unique ranges of numbers were allocated to specific batches based upon their error bound - i.e. the greater the possibility of a miscount within a batch, the more numbers assigned, and the more likely it is to be selected. For example, if a single batch has a high probability of a miscount, multiple numbers would be assigned to that single batch, making the random selection of that batch more likely during the audit. Each of those individual numbers might be randomly selected and included in the overall batch audit requirement, but the single batch to which those numbers are assigned would need to be audited only once. To obtain the precinct batch number we rolled differently colored dice numbered 0 - 9, each one of the colored dice representing one digit of the batch number.

Mayor – City of East Cleveland

PRECINCT NAME	NUMBER OF TIMES SELECTED	SELECTED BATCH TYPE	OFFICIAL BALLOTS CAST	AUDIT HAND COUNT	DIFFERENCE / DISCREPANCY
EAST CLEVELAND -02-A	1	Absentee	21	21	0
EAST CLEVELAND -02-D	2	Election Day	83	83	0
EAST CLEVELAND -03-B	2	Election Day	116	116	0
EAST CLEVELAND -03-D	1	Election Day	98	98	0
EAST CLEVELAND -03-E	1	Absentee	11	11	0
EAST CLEVELAND -03-E	1	Election Day	112	112	0
EAST CLEVELAND -04-A	1	Election Day	56	56	0
EAST CLEVELAND -04-C	1	Election Day	102	102	0
EAST CLEVELAND -04-C	1	Provisional	4	4	0
EAST CLEVELAND -04-D	1	Election Day	159	159	0
EAST CLEVELAND -04-E	2	Election Day	64	64	0
EAST CLEVELAND -04-E	1	Provisional	4	4	0
EAST CLEVELAND -04-F	1	Election Day	97	97	0
TOTAL		-	927	927	0

Issue #61 – Cuyahoga Community College District Bond Issue

PRECINCT NAME	NUMBER OF TIMES SELECTED	SELECTED BATCH TYPE	OFFICIAL BALLOTS CAST	AUDIT HAND COUNT	DIFFERENCE / DISCREPANCY
BAY VILLAGE -01-A	1	Election Day	267	267	0
BEACHWOOD -00-B	1	Election Day	299	299	0
BEREA -04-A	1	Election Day	181	181	0
BROOK PARK -02-B	1	Election Day	316	316	0
CLEVELAND -05-I	1	Election Day	85	85	0
CLEVELAND -08-O	1	Election Day	173	173	0
CLEVELAND -09-S	1	Election Day	164	164	0
FAIRVIEW PARK -05-A	1	Absentee	121	121	0
TOTAL		-	1,606	1,606	0

Historical Post-Election Audit Accuracy Rate

