

Voting Transparency Project • <http://votingtransparency.net/>

About the Voting Transparency Project

The Voting Transparency Project creates tools for the study and evaluation of local public elections.

We hope these tools will allow elections officials, citizens and equipment makers better understand and manage elections processes, support informed debate, and reveal problems with technology choices and operating practices.

Boards of elections have many duties beyond running elections, and are not expected to be expert process designers. Nonetheless, running an election is an exercise in security, logistics and planning. Elections occur infrequently. The general public and poll workers have little ability to know what to expect when voting and cannot easily recognize errors. And officials have few opportunities to study their own processes and to react to process errors because the only trials of the process are live trials, the stakes are too high to allow for experimentation in process improvement.

Our work is not about "voting machines" per se, but about the whole act of voting, from the time a voter appears at a polling place to the time that voter's intentions are recorded to the satisfaction of all. "Voting machines" are involved, of course, but only as part of the larger process. Every voting machine presents a different set of properties, concerns, behaviors and vulnerabilities. Some machines encapsulate the entire process of voting and vote-counting. Others merely augment a process that involves other machines, people, and external processes.

Through process description and analysis tools, we hope to constrain the vocabulary for the discussion of voting, so that focus can be aimed tightly at process and technology issues.

Projects

- Polling Place Simulator - predicting wait times and polling place capacity through simulation. Must voters inevitably wait hours to vote? Can officials avoid long delays through pre-election simulations of possible scenarios?
- Public web page and database for storing voting process models, to collect voting processes as observed or reported.
- Analysis of reported processes to reveal problems, and interactive assistance in completing process reports.
- Process study tools, such as process diagrams, to help analyze the reported processes.
- Pre-emptive materials to prevent problems, such as a guide to help voters audit their voting experience and report anything not done correctly, with feedback so processes can be analyzed for execution failures and errors in the model.
- Polling place calculator - a shorthand version of the simulator, applying queuing theory to run many scenarios rapidly.
- Fully interactive simulations of polling places and their operations including ballot custody and other security concerns.

Polling place simulator, QueueSim

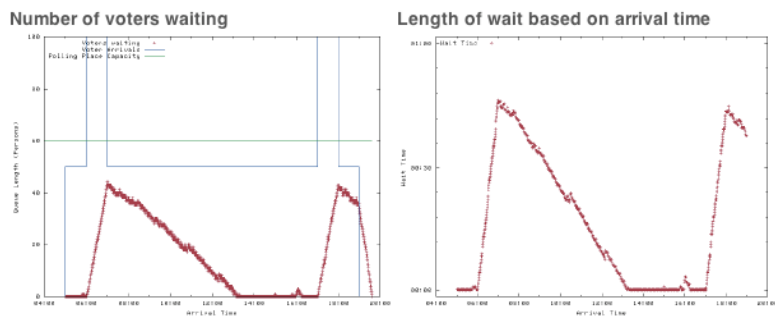
Voting Transparency Project
Polling Place Simulator v0.1
for voting day capacity and wait-time estimates

[Instructions](#) | [About the simulator](#) | [Voting Transparency Project home page](#)

Polls open at: 5 :00 AM Polls close at: 12 :00 PM (Polls must be open at least 2 hours)

(1-100) _____
minutes per voter (1.0-60.0) _____
(1-99999) _____
% (1.0-100) _____
% (0.0-100) _____

FLAT BEGINNING-END MID-DAY



The polling place simulator is a tool for experimentation to estimate polling place capacity requirements, as well as the potential magnitude of voter backlogs when capacity is insufficient, and possible voter-waiting times. QueueSim replicates several facets of an actual polling place. It predicts how many voters will arrive throughout the day from provided turnout estimates, then simulates an actual polling place minute by minute. When a voter arrives, he/she is put in a first-in first-out queue. When a voting station is open, the next voter is moved to it, and so on. The simulation allows an error rate, in which voters make errors and take additional time in the polling station, and other parameters. We provide graphical outputs of the entire simulated voting day, as well as an animated step-by-step playback of the voting day. Later we will create a "solver" version, to prescribe the polling place capacity required to cope with projected voting day conditions.

Contact

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