

Comparing the Costs of Optical Scan and Touch-Screen/DRE Machines

Comparison of Operating Costs

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Actual Cost Comparisons of Touch-screen, Optical Scan and Punch Card Systems

6 year operating cost study of Punch Card and Electronic Voting Machines in Sarasota County, Florida and Optical Scanners in Manatee County, Florida
by [Rosemarie F. Myerson](#) <http://www.votersunite.org/info/costcomparison.asp>

Touch-screen Voting Increases Election Costs in Florida. Report on a Survey of Changes in Total Annual Expenditures for Florida Counties Before and After Purchase of Touch Screens - A Comparison of Total Annual Expenditures for Touch Screens and Optical Scanners. <http://www.votersunite.org/info/costcomparisonextended.asp>

6 Year operating cost study of 2 large DRE counties and 2 large optical scan counties in North Carolina. Touch-screen Voting Increases Election Costs in North Carolina. The study covers the years 1999 - 2004 and provides actual county budgets as back-up.
<http://www.ncvoter.net/affordable.html>

Feasibility Study of Switching from Touch-Screen to Optical Scan Systems

Miami Dade Election Supervisor cost and feasibility study - Supervisor Lester Sola found that Miami Dade County would save \$millions each year by ditching touch-screens and replacing with optical scan systems. Savings are derived by the fact that with touch-screens, you have 5 times as many machines to pay maintenance and software licensing fees for. With optical scan machines you only need one machine per voting location (1 optical scan, 1 ballot marking device).

This study also addressed costs of printing and distributing multiple language ballots. Study by Miami-Dade county in Florida determined that the cost of distributing multiple language ballots and of maintaining them (they have a strong multi-lingual requirement there) was still less than the costs of touch-screens/DREs even DREs with paper. There is little to no indication that the cost of setting up, maintaining, and transporting one or more \$4,000 pieces of equipment is less than shipping a similar volume of paper.

And remember that the promises of "paper savings" would be wiped out by the transporting back of the receipts. See:

<http://www.votersunite.org/info/MiamiInitialReportfromSoE.pdf>

Comparing the Costs of Optical Scan and Touch-Screen/DRE Machines

5 Year Estimated Cost Comparisons Based on Prices Lists for Purchase, Maintenance and Software Licensing Fees:

North Carolina. A five year cost comparison (592 KB) purchasing optical scan machines versus touch screen machines. This study is based on the ES&S price sheet available on the North Carolina Association of County Commissioners web site, and the 2005 per-precinct registration data available from the North Carolina State Board of Elections web site. This also provides county by county info.

<http://www.cs.duke.edu/~justin/voting/nc-costs/index.html>

Georgia. Similar 5 year cost comparison for Georgia - of touch-screen/DRE verses optical scan with 5 year forecast

<http://www.cs.duke.edu/~justin/voting/ga-costs/index.html>

2005/2006 Price Lists for Diebold and ES&S, with 5 year software & maintenance quotes:

ES&S price list to North Carolina, includes 5 year software & maintenance quotes:

http://www.ncvoter.net/downloads/ess_equipmentpricing.pdf

Diebold's price list to North Carolina, includes 5 year software & maintenance quotes

http://www.ncvoter.net/downloads/diebold_equipmentpricing.pdf

An interview with an election official from a locality that uses optical scan devices. They discuss the process of preparing for the election, from tech support to machine testing to selecting and working with the ballot printing company. Very useful for any locality that is thinking of purchasing an optical-scan-based election system. http://www.cs.duke.edu/~justin/voting/op_scan.html

Ballot price quotes: one North Carolina county advises that in 2006 they paid around .15 for plating, printing, wrapping and shipping of the ballots. This is the complete cost.

The printer is: PrintCom of Flint, Michigan, Jerry Minarik - owner 810-239-5763

Terminology:

DRE - stands for "Direct Recording Electronic" voting machine. As the name suggests, the voter directly enters the votes, which are recorded electronically. Almost all touch screen voting machines are DREs, although there are other DREs that have knobs or switches instead of touch screens

Precinct Count Optical scan - with this system, the voter marks his choices on a paper ballot that resembles a multiple choice test. The ballot is then fed into the scanner, which counts the votes and stores the ballot in a secure manner. The machines can reject the ballot if it can't be read properly, has undervotes or overvotes. Precinct count optical scan systems are very widely used in the United States.

<http://www.verifiedvoting.org/article.php?id=5018#s1q1>