

330 Jefferson Dr.  
Pittsburgh, PA 15228

March 21, 2006

Members, County Council  
436 Grant St.  
Pittsburgh, PA 15219

Dear Council Members

I have taught Computer Science at Carnegie Mellon for three years, after having received my Ph.D. there. My areas of specialty are computer operating systems and computer networks. In addition, I have served as a Judge of Elections in Mt. Lebanon since 1997.

In concert with others, I am here today to comment on the County's current voting-machine upgrade plan. Our shared concern is that any future voting machine system used by the county provide voters the assurance we are entitled to that our votes are accurately recorded. As you may know, the Election Services Division plans to purchase "Direct Recording Electronic" (DRE) machines manufactured by Sequoia. The DRE machines currently certified for use in Pennsylvania share a fatal flaw: there is no way for a voter to be sure that a DRE machine has correctly recorded his or her vote, and thus after an election there is no way to carry out a meaningful recount.

In terms of PA-certified voting machines, the main alternative to DRE is optically scanned paper ballots. We believe that "precinct-count" optical scanners, which provide voters with immediate on-the-spot feedback about overvotes and undervotes, provide the requisite degree of voter verifiability and meaningful post-election recounts. It is our understanding that Election Services plans to deploy unverifiable Sequoia DRE machines due to concerns about the recurring costs of printing and storing ballots.

I would like to draw the attention of the Members to the following considerations.

First, at a February meeting of the Board of Elections, I urged the board to solicit from the Elections Division an "apples to apples" comparison of the costs associated with optical-scan ballots and paper-audit accessory printers for DRE's. *Both* have paper costs, *both* have accounting costs, *both* have storage costs—and both have recount costs. Without seeing those costs laid out side by side I fear the "paper ballots cost too much" claim is mostly hunch.

Second, I would like the Council to consider the attached report prepared by the Verified Voting Foundation, which compares the actual acquisition and operating costs paid by counties using DRE machines and optical-scan machines in several states. This is a brief, clear, three-page summary based on longer reports and studies which demonstrate that precinct-counted optical-scan systems are at least competitive, and often cheaper, than DRE's.

We urge the County to scrap the current Sequoia DRE plan, which has serious implementation issues, and switch to precinct-count optical scanners (which Sequoia also sells).

In summary, precinct-counted optical-scan systems, while not necessarily representing the last word in voting-machine technology, are certified in Pennsylvania, are cost-effective, and, most importantly, provide on-the-spot voter verification and credible post-election recounts.

Sincerely,

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Department, Carnegie Mellon  
University  
Judge of Elections, Mt. Lebanon,  
1997-present

encl: "Are Voter-Verified Paper Ballots Cost-Effective?"—by The Verified Voting Foundation,  
<http://www.verifiedvotingfoundation.org/downloads/New%20vvpbcosts.pdf>