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Maricopa County, Ariz.

Selects A Voting System

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Following the general election of Nov. 5, 1968, Maricopa County officials were targets of well-founded criticism. This criticism was motivated by extremely long waiting lines encountered at the polls by the county's voters on that election day.

Several factors combined to create this massive "voter slowdown" in voting:

First, Maricopa County's population had increased to the point where the ratio between the number of voters in a precinct and the number of mechanical voting machines at that precinct was undesirably high. Since the population growth showed no signs of abating this problem could be expected to be even more acute in future elections.

Second, the county elections director reported that 264 of the county's 1,204 mechanical voting machines had sat idle in a warehouse during the Nov. 1968 general election. There was insufficient time after the Sptember primary election to service and prepare them.

Third, the ballot for the Nov. 5, 1968 election contained 12 propositions, creating an abnormally long ballot. This prolonged the voting time with the lever machines, even forcing some voters to drop to their knees to vote.

Fourth, many of the lever machines did not operate properly.

Fifth, storage for the voting machines and transporting them to and from the polls were expensive. Replacement of inoperable and soon-to-be obsolete lever machines, and the acquisition of new machines to keep up with population growth would have cost at least $2,300 per machine. These continuing large expenses prohibited the county from keeping enough lever machines on hand.

Faced with the 1968 general election experiences, our county supervisors concluded that Maricopa County should not face another Presidential election year (1972) with lever machines. In mid-1969, then, we decided to find an alternate voting system. A March 1970 deadline was set for obtaining the new system to allow sufficient time for its use in an off-year election before facing the complexities of a

Presidential election year. March was chosen as the last practical month to purchase the equipment that would provide ample time to familiarize voters and election workers with the new devices.

There are four basic voting systems availabe. All four were researched thoroughly before Maricopa County made Its final decision. The other three voting systems available are: 1.) Paper ballots; 2.) Optically-read ballots (mechanically-tabulated paper ballots); and 3.) Computer puch card voting..

The continued use of lever machines was rejected because of the problems mentioned earlier. Paper balloting was rejected because of the long time period required to obtain a tally, the potential for tally inaccuracies, and the cost of tally boards. The optically-read system was rejected because of its great, and unjustifiable, expense. The optically-read system can only be used for this one purpose. Furthermore, they did not appear to have the proper capability to process straight-party ballots.

This left only the computer punch card system, which offered several attractive advantages. We were aware that some problems had been encountered with some punch card systems, but our research indicated that the Votomatic Vote Recorder System was relatively problem-free.

We knew also that at the time of our investigation nine other Arizona counties had successfully converted to the Votomatic. It was indicated that the Votomatic punch card voting devices, in addition to costing less and being simpler to use, would also provide these advantages: 1.) Reduced election costs; 2.) Reducation in storage facilities by 90%; 3.) Lower investment in additional machines to accommodate an increasing voter population; 4.) Less time required to prepare and set up the voting devices between elections; 5.) Greater vote counting accuracy. *(Previously election officials often erroneously transcribed the totals from the machines.);*6.) No obsolesence, mechanical repair or replacement costs; 7.) Voter preference for the Votomatic over lever machines and paper ballots; and 8.) It would provide a single, uniform voting system throughout the county. *(No need for paper ballots in some precincts or paper ballot absentee voting.)*

The purchase of 2,000 Votomatics was concluded in sufficient time for the Sept. 8 primary election. We now had nearly twice as many voting devices as before.

PREPARING FOR A PUNCH CARD ELECTION: Maricopa County purchased the Votomatic Vote Recorders in April, 1970. The next three months were spent organizing our elections department to deal with the new system.

A new elections director was hired when the previous director retired. The former voting machine custodian was brought from the warehouse into the elections department office where his experience would be used in planning the details of the computerized elections. The voting machine warehouse was converted into a general storage facility – only a small portion of it was needed for voting devices.

Members of the election department visited other punch card voting counties during their spring primaries in order to learn from their experiences. In July we established an Elections Preparation Committee. The purpose of the committee was to bring together all the departments within the county that work on the election. The departments represented were: County Attorney – *election law interpretation and council;* Cheriff – *ballot processing security and traffic control;* Data Processing – *ballot processing and tabulation;* Clerk of the Board – *ballot receiving and storage;* County Recorder – *voter registration, poll lists, and absentee balloting;* Elections – *election preparation and conduct;* Information – *voter eucation;* Maintenance – *facilities preparation for ballot processing.*

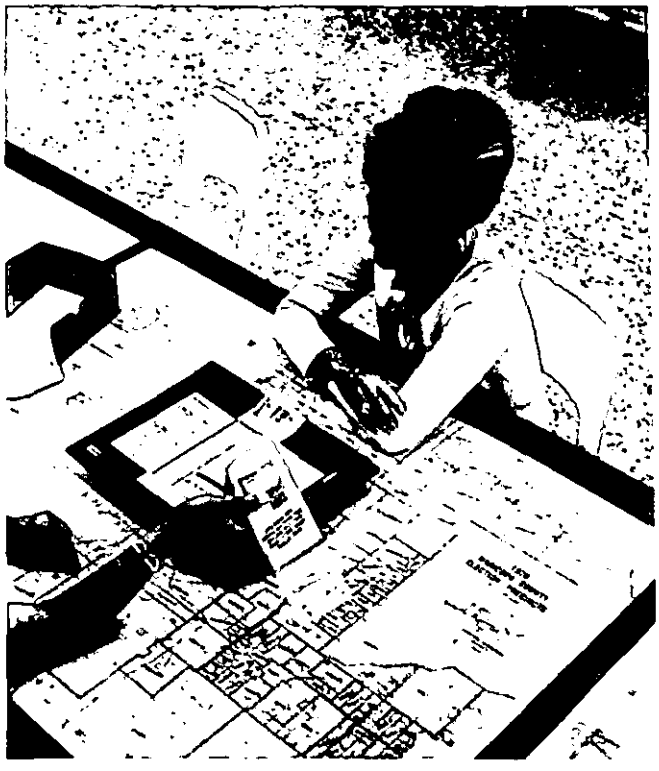
The committee's work was extremely valuable in coordinating the planning and the conducting of the elections. In fact, this is the key to successful punch card elections. In preparing for an election, everything must be well-coordinated down to the smalles detail. To help us in this respect we even had a dress rehearsal of the ballot receiving and processing at "Election Central" to be sure we hadn't overlooked anything.

Meanwhile, the elections department was busy getting everything ready for the polls. The precinct supply kits had to be prepared as in the past with poll lists, pencils, flags, etc.

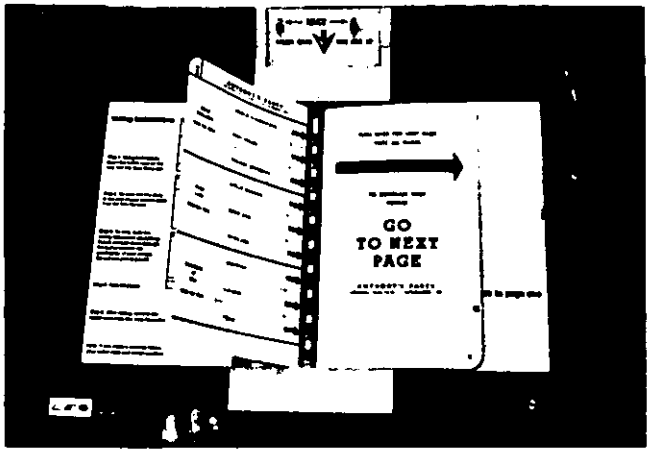
The vote recorders were prepared by first printing the ballot pages. This was an especially difficult task since each precinct is different due to the rotation of candidates and the precinct office of precinct committeeman.

Next the yellow template which guides the voting stylus to the proper punch hole had to be punched for each vote recorder. Then a hinge had to be attached to each page and the pages inserted and sealed in the vote recorder itself. It took three men about ten days to complete this preparation.

Now we began one of the most critical functions of



Demonstrations on how to use the Votomatic are given at the Maricopa County Elections Department in Phoenix. On election day, demonstrations are given at each polling place.



Votomatic is 13 inches deep and 16 inches wide, and is made from a durable but lightweight plastic. Computer card is inserted in the slot (top center). Thick paper pages containing names of candidates are simply clamped into the Votomatic.

One table supports two voting booths with three-sided cardboard compartments to assure a voter's privacy. Booths are lightweight and can be folded.

punch card election preparation – checking the prepared vote recorders against the computer program. This is probably the single most important step in the entire process. The ballot county computer program produces an "Edit List" or facimile of each vote recorder's pages. Each precinct's offices, candidate names as rotated, and corresponding voting position of the vote recorder pages are listed by the computer.

This edit listing is compared to the vote recorder pages as assembled for each of our 366 precincts. We are then certain that the computer program matches the vote recorders as set up. We know for example that if Candidate A in Preceinct 99 is in voting position 43 of the vote recorders, the computer will tally all ballots from Precinct 99 with a vote in position 43 for Candidate A.

After the vote recorders are checked against the Edit List, they are sealed in the ballot box (which holds eight vote recorders) and delivered to the polls, along with the voting booths and supply kits. We contracted with a local moving company for this job.

voter education was spearheaded by employees of our county information office. Their job was to reach the 350,000 registered voters and show them how to vote on the punch card vote recorder. More importantly, they wanted to point out how easy it is to vote this way and discourage any voter from staying home because he thought the new machines too difficult.

The Information Office established a speakers bureau of 40 trained county employees to go to civic club meetings and demonstrate the vote recorder. They gave well over 150 demonstrations. They also participated in local television programs and distributed news releases aimed at voter education.

Classes were held for the precinct election officers to teach them how to process a voter through the polls. By state law, all election officials are required to attend. In all, we instructed about 2,000 officials in five days.

election day came and we felt we were fully prepared for any contingency. We had instructed the electorate, schooled the election officials, checked and rechecked the vote recorders and supplies, and rehearsed the receiving of the ballot cards at the end of the day. The rest was up to the election workers, the voters, and the computers.

VOTING THE PUNCH CARD WAY: On primary election day we felt that we had selected the best voting system available and that we had done a good job of preparing for the election. But the final test would be its acceptance by the voters and the tabulation of the ballots by the computer.

A check of the precincts showed that voting was proceeding very smoothly. Several factors may have contributed to this. First, was the simplicity of the system. Second, we insisted that every voter entering the polls be given a domonstration of the use of the vote recorder.

The elections department had divided the county into six districts. Troubleshooters were assigned to each. They resupplied precincts, solved vote recorder problems, fixed booths, changed light bulbs, and lent general assistance to the precincts.

The precincts also had telephone access to deputy county attorneys to answer legal questions. Several deputies sheriff were standing by to repsond to civil disorders.

After the polls closed at 7 p.m., two election officials from each of the 366 voting precincts delivered the punch card ballots, sealed in a metal container to the Salt River Project building in Phoenix. The county had rented the Project's two IBM computers for the evening. Precinct officials were issued a receipt for their ballots and they went home.

Then the computer tabulation began. The first ballots arrived at 7:45 p.m. and the last ones at 11 p.m. Some precincts, which were more than 50 miles away, delivered their ballots to an intermediate collection station. The ballots were later relayed to the Salt River Project, referred to as "Election Central," and this accounted for the late 11 p.m. receiving. The majority of the ballots, in fact more than the computers could keep up with, were delivered with 90 minutes after the polls closed.

After the ballots were received, they were taken to another room where they were inspected by two member teams. The inspectors were looking for damaged ballots, pieces of the card punched out but still clinging to the back

side, jagged tears where the stub has been removed, and voter identifiable ballots.

The inspection process was finished soon after the last precinct was delivered. The ballot cards were then sent into the computer room where they were tabulated by the two IBM 360's at Election Central.

Write-ins (on the ballot envelopes) were sent to another room where they were manually tallied. Damaged ballots were sent to a special board where they were duplicated and then returned to the computer room.

The first ballots to be tabulated were the absentees and the results were immediately available after the polls closed. In Maricopa County the absentee vote was also recorded on a punched card by the voter. This early count gave the news media something to work with until the regular cumulative totals started coming out around 8:30 to 9:00 p.m.

Cumulative totals differed from precinct totals in that they were a summary of the races in all the precincts tabulated so far. Precinct totals showed only the results in a particular precinct. Precinct information was not needed until the next day so precinct results were printed after all the ballots were counted and final cumulative reports were run. Processing in this fashion speeded up the cumulative tabulation.

Precinct totals by candidate were automatically printed out as a "key" precinct was tabulated. These "keys" were those precincts picked by the news media as bellweather precincts for their projections.

Cumulative totals by candidate can be printed out as often as necessary. We elected to print them every half hour. It only takes a few seconds to print this up-to-the minute cumulative report of the results, and then the computer returns to tabulating ballots until the next half hour report is due. Each report contains the time it was prepared. The cumulative results were copied on a Xerox prior to distribution to the press and the general public. In addition, a projection foil of each cumulative report was prepared and the results were displayed on a large screen.

The final cumulative report was printed at 2 a.m. in the general election. We had processed almost 250,00 ballot cards. In the primary we were finished at 1:30 a.m., but had fewer ballots to count.

To complete the counting, we had to insert the few cards that were duplicated and run the precinct by precinct results as well as the final canvass printing. But, of course, everyone had gone home by then. The election was over.

SUMMARY: Maricopa County is committed to punch card elections. So are the other 11 Arizona counties using the system. Over 95% of the voters in the entire state use the punch card vote recorders.

During our investigation of voting systems, we talked to officials from scores of cities and counties which have used the system successfully in many elections. Each official had the highest praise for it.

The key to successful punch card elections is local planning. The first election is the most difficult. Subsequent elections are merely a repeat, and improvement, of the first one.

No county should exactly copy the procedures of another county or indeed the procedures of a previous election. Each situation is unique. Each county has a different number of voters, different "election central," different geography, different election laws, different requirements, and a different political climate. In short, just as no two counties are identical, no two elections are exactly the same.

Our planning was based on the experience and ideas of other counties and election experts, but we tailored it all to what would work best for Maricopa County in this particular election.

We're proud of our first experience with punch card voting. Proud because we are saving substantial tax dollars. Very few citizens realize the tremendous costs involved in holding elections. They only know what they encounter at the polls. And so they demand a system that is simple to use, doesn't require any waiting in line, and affords them a safe and accurate county of the ballots within a reasonable length of time. The punch card vote recorders satisfied these demands in Maricopa County.

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