1999 Travis County Elections Study Group
Report of Findings and Recommendations
May 1999

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I. PROBLEM STATEMENT

The components of a successful election system in Travis County can be compared with a three-legged stool. The first leg is accuracy of the count; the second is timeliness of results; and the third is cost to the voter/taxpayer. Recently, one of these components—timeliness of results—has come into question by our community. To address this concern, the Travis County Clerk convened an election study group or task force to investigate the problems limiting timely election returns and recommend possible solutions to ensure that future elections comply with established community standards. The challenge of the 1999 Travis County Election Study Group is to balance the stool by allocating the correct resources to each leg so that a fragile egg, the integrity of the system, sitting on top does not roll off and destroy the public's confidence in the election process.

As the Group investigated this issue, we found that the community expects election returns that are fully complete—or at least complete enough to accurately predict the final outcome of each race—by the 10 PM news broadcast. The Study Group believes that consistently falling short of the public standard to report election outcomes during the 10:00 PM news undermines public confidence in the election process and leaves Travis County vulnerable to criticism.

Table 1. Travis County Election Statistics

The table below shows that Travis County generally completes election results between 10:30 PM and 1:30 AM, depending on the type and size of the election.

Election	Type of Audit	# of Scanners	# of Precincts	Voter Registration	Early Vote Ballots Cast	Election Day Ballots Cast	Total Ballots Cast	Final Returns Released
11/98 General Joint with City (2 ballots)	Central	12	227 201	499,766 399,270	55,352 43,782	121,130 89,034	176,449 132,816	2:56 AM
4/98 Dem Runoff	Central	6	227	482,544	3,336	8,898	12,234	11:15 PM
4/98 Rep Runoff	Central	6	227	482,544	2,978	9,936	12,914	11:15 PM
3/98 Dem Primary	Central	6	227	477,688	8,227	21,894	30,121	11:50 PM
3/98 Rep Primary	Central	6	227	477,688	5,707	17,166	22,873	11:30 PM
11/97 CnAmd/Joint with City (2 ballots)	Central	12	213 188	478,873 375,746	24,300 10,315	80,601 33,205	104,901 43,520	12:41 AM
8/97 Const. Amend	Central	12	213	471,948	19,687	21,269	40,956	10:35 PM
11/96 General	Central	12	213	459,414	99,008	148,866	247,874	1:25 AM
4/96 Dem Runoff	Precinct	6	213	422,633	4,700	16,017	20,717	11:30 PM
4/96 Rep Runoff	Central	6	213	422,633	4,762	13,616	18,378	11:30 PM
3/96 Dem Primary	Precinct	6	213	415,690	12,181	27,951	40,132	11:40 PM
3/96 Rep Primary	Central	6	213	415,690	13,394	29,584	42,978	12:20 AM
11/95 Const. Amend	Precinct	12	204	404,035	11,598	31,680	43,278	11:30 PM
11/94 General	Central	12	204	371,892	97,600	114,632	212,232	1:00 AM
4/94 Primary Runoff	Precinct	12	204	381,407	6,856	29,401	36,257	10:30 PM
3/94 Primary	Precinct	12	204	379,131	12,549	34,508	47,057	12:30 AM
11/93 Const. Amend	Precinct	12	195	369,379	12,613	51,317	63,930	11:30 PM
6/93 Joint Runoff	Precinct	12	195	363,837	36,989	60,010	96,999	Midnight
5/93 Joint Special	Precinct	12	195	359,468	29,184	75,101	104,285	Midnight
11/92 General	Precinct	12	195	352,737	118,641	157,833	276,474	1:30 AM

As illustrated above, over the past decade, Travis County has, on average, completed election results by midnight. In the past, final returns by midnight often allowed the County to satisfy the public demand for information because a large number of precincts were in by 10:00 PM, and an accurate projection of the winners and losers of an election could be made during the 10:00 PM news broadcast. This standard is no longer regularly being met, and providing completed or substantially completed returns by 10:00 PM has become difficult or impossible in medium to large elections. The main factors contributing to this delay include:

- legally required hand audit procedures which make it necessary to examine each ballot for "voter intent,"
- the sensitive policy of examining ballots for "voter intent" only at the Central Counting Station,
- a greater voter population and an increase in the number of ballots cast,
- delays in delivering some election day voted ballot boxes to Receiving Substations,
- a positive trend toward holding more joint elections, and
- closely contested local races.

In addition to addressing these issues and examining Travis County's current voting system, the Study Group also is reviewing the potential impact of federally mandated changes and court rulings related to accommodating voters with visual or other physical limitations. In America, everyone is entitled to vote a secret ballot. However, not all Americans actually enjoy that right.

In order to cast a ballot, most current voting systems require voters who have visual or physical limitations to reveal their vote choices to another person. Several Texas counties have recently undergone litigation ending in a ruling for the counties to provide a secret ballot voting process for all visually impaired voters, which is currently required by the Americans with Disabilities Act of 1990 (ADA). In addition, pending federal and state legislation may require all counties to use voting systems that address secret balloting for ***all*** individuals. Our current optical scan voting system does not address secret balloting for individuals with visual impairments or other disabilities which prevent use of a writing instrument.

The 1999 Travis County Elections Study Group convened in February 1999. As shown by the membership roll, the County Clerk brought together community leaders from diverse environments—including politics, government, and technology—to investigate Travis County's ballot counting problems and recommend solutions. The results of these efforts are detailed in this report.

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III. PROBLEM BACKGROUND

In 1988, County Clerk Dana DeBeauvoir formed an Elections Study Group to recommend a replacement for the over 20-year-old and failing punchcard ballot counting system. After more than a year of work, the 1988 Study Group recommended the purchase of a new, optical scan central ballot counting system. In 1990, Travis County purchased the current optical scan voting system from American Information Systems (AIS) at a cost of approximately $680,000. The optical scan technology was chosen because of its ease-of-use for voters, ability to produce fast and accurate election returns, and relatively low purchase price. *[For more explanation of the decision process in 1990, see the Travis County Elections Task Force Report of Findings and Recommendations, February, 1990.]*

With the purchase of the AIS Optical Scan System, a new community standard of producing substantially complete returns by the 10:00 PM news broadcast was set. The AIS system has worked well for Travis County voters over the last decade. However, issues have arisen during the past several years that challenge the efficiency and capacity of the current system. These factors include the "intent of the voter" audit requirement, ADA compliance, voter population growth, joint election trends, closely contested local races, and election night ballot box deliveries.

"INTENT OF THE VOTER" AUDIT. Elections historically were conducted using paper ballots that were tallied or counted in the polling place by the election judge and clerks. At the end of the day, a precinct return sheet was prepared and delivered to the County Clerk for accumulation into the countywide report. In the 1950s, lever machines were introduced as the first mechanical voting tool. The advantages included the elimination of human error in the count and the ability of the voter to ensure that his/her vote correctly reflected his/her intent. However, because of their bulk, lever machines were difficult for elections administrators to transfer and store. As technology has progressed, it has slowly changed the way ballots are cast and counted. Now, the vast majority of counties in Texas use some type of electronic ballot counting system.

The main challenge with these electronic systems is that regardless of how the voter marks his/her ballot, the accuracy of the count depends upon the machine's ability to correctly count the voter's intent. For those machines not designed to interpret the vast number of ways a voter might communicate his/her intent, the Texas Election Code as well as the Secretary of State demand that a human intercede.

Legal Mandate: When using an electronic ballot counting system, sections 65.009 and 121.001 of the Texas Election Code (T.E.C.) as well as Secretary of State (S.O.S.) directive memorandums (see Appendix) require election officials to examine every voted ballot to ensure the scanning machine will count a voter's ballot choices accurately. Failure by the voter to mark a ballot according to the instructions *does not invalidate that vote*. In practice, if a voter marks his/her ballot contrary to written instructions and in such a manner that the optical scan machine cannot read the ballot or interpret a voter's mark as the voter clearly intended, a "resolution process" must be conducted to ensure the voted ballot is counted accurately. Election officials are legally obligated to perform a manual examination of all voted ballots to determine that the machine will accurately read the voter choices, however they are written. If a voted ballot is found to be "unreadable by the machine," that ballot must undergo "resolution," a process through which the ballot will be handled to allow the machine to accurately read and reflect the intended vote.

Precinct Audit vs. Central Audit. With the advent of centralized electronic ballot counting equipment, whether punchcard or optical scan technology, ballots were no longer tallied or counted in the precinct. The ballots were delivered to the Central Counting Station, a single location where the votes were tallied and accumulated, and final returns prepared by the electronic counting system. One of the drawbacks to this centralized system is that the ballots must be prepared for reading by the electronic counting equipment. Preparing the ballots for counting involves two steps: 1) ensuring that the voter has marked the ballot in a way that the computer will accurately interpret the voter's intent, and 2) stacking and aligning the ballots so they can be directly fed into the counting machine with no additional handling.

Prior to 1996, the reviewing of the voted ballots to ensure clarity of the "intent of the voter" was conducted in the precinct by the election judge and clerks while the polls were open on Election Day. Procedures and safeguards for opening the ballot box and examining the voted ballots in the precinct are given in the Election Code [T.E.C. Section 65.002]. Also during this review, the election officials sorted, straightened, and correctly oriented the voted ballots so these ballots could be directly fed through the scanning machine without any additional preparatory work or special handling at the Central Counting Station. Using the precinct election workers to perform this task during the twelve hours of election day voting provided an efficient use of resources and had a fundamental effect on the speed of the centralized counting process on election night.

In 1993 and again in 1994, the precinct audit procedure came under fire by some members of the community concerned about the security of the voted ballots if the ballot boxes were opened in the precinct. In response to this concern, the County Clerk convened the 1994 Election Study Group to review the practices used during Election Day. The Study Group's recommendation was to continue the precinct audit procedure because of its proven efficiency and cost-effectiveness. The Group believed the precinct audit contributed greatly to the timeliness of election returns and that early return completion promoted confidence in the election process. *[For more explanation of the 1994 Election Study Group findings, see the Travis County Election Study Group Final Report, August 1994.]*

However, despite this finding and although no incident of inappropriate handling of ballots at the precinct was ever substantiated, the community concerns over the security of the voted ballots during a precinct audit were inescapable. Thus, in an effort to ensure public confidence in the election process, in 1996 the County Clerk chose not to allow election judges to process the voted ballots at the precinct. Locked and sealed ballot boxes were distributed at election day supply pickup, and the ballot boxes were not opened until they arrived at the Central Counting Station for processing.

This change in policy created severe constraints on Travis County's ability to quickly process the voted ballots at the Central Counting Station. However, the County Clerk believed the concerns being raised about the precinct ballot audit were spreading fears that could ultimately undermine the community's trust in the conduct of its elections. As the 1994 Study Group predicted, this change in ballot handling procedures requiring all ballots to be reviewed *after* they were received at the Central Counting Station resulted in dramatic increases in needed personnel and significantly delayed the final return completion time.

INDEPENDENT VOTING. Pending federal (S511-McCain) and state (HB 1053-Yarbrough) legislation could radically change the requirements of voting systems regarding accessibility for all individuals, regardless of physical or mental disabilities. Current laws governing these issues include the Americans with Disabilities Act of 1990 (ADA), the Voting Accessibility for the Elderly and Handicapped Act, and the Rehabilitation Act of 1973. The pending bills have a good chance of

passing and could mandate all voting systems be fully accessible as early as December 31, 2000, allowing all voters (including individuals with visual, physical, or mental disabilities) to vote independently, completely unassisted. The proposed federal legislation institutes attorneys' fees and fines for noncompliance. The elections community is sensitive to the issues and concerns raised by disabled individuals and is currently working to develop fiscal notes to determine cost to the taxpayers for the proposed mandate of compliant voting systems.

Additionally, recent litigation against some Texas counties is bringing to the forefront the issue of providing a secret ballot to visually impaired voters. Travis County's current optical scan voting system does not allow for visually impaired voters to vote completely unassisted and is thus not currently compliant with ADA. In all likelihood, Travis County will be faced with providing a different method of voting to accommodate these requirements or face court action.

VOTER POPULATION GROWTH. The registered voter population in Travis County has nearly doubled since 1987. The following table states past voter registration and projects future counts based on similar growth trends.

Table 2. Travis County Voter Registration Statistics and Projections

TRAVIS COUNTY			# of Pcts	Voter Registration	*Annual change*
1987-March		Statistics	178	278,726	
1988-March	Pres	Statistics	189	325,160	46,434
1989-March		Statistics	189	326,752	1,592
1990-March	Gov	Statistics	197	338,705	11,953
1991-March		Statistics	197	306,526	-32,179
1992-March	Pres	Statistics	201	331,632	25,106
1993-March		Statistics	201	361,283	29,651
1994-March	Gov	Statistics	204	381,407	20,124
1995-March		Statistics	204	381,873	466
1996-March	Pres	Statistics	213	422,869	40,996
1997-March		Statistics	213	463,104	40,235
1998-March	Gov	Statistics	227	480,861	17,757
1999-March		Statistics	227	498,177	17,316
2000-March	*Pres*	*Projected*	*229*	*539,173*	*40,996*
2001-March		*Projected*	*229*	*579,408*	*40,235*
2002-March	*Gov*	*Projected*	*239*	*597,165*	*17,757*
2003-March		*Projected*	*239*	*614,481*	*17,316*
2004-March	*Pres*	*Projected*	*244*	*655,477*	*40,996*
2005-March		*Projected*	*244*	*695,712*	*40,235*
2006-March	*Gov*	*Projected*	*249*	*713,469*	*17,757*
2007-March		*Projected*	*249*	*730,785*	*17,316*
2008-March	*Pres*	*Projected*	*254*	*771,781*	*40,996*
2009-March		*Projected*	*254*	*812,016*	*40,235*
2010-March	*Gov*	*Projected*	*259*	*829,773*	*17,757*
2011-March		*Projected*	*259*	*847,089*	*17,316*

Purchased in 1991 when the Travis County registered voter count was 306,526 and the number of precincts 195, the current optical scan voting system was originally designed to complete or substantially complete counting ballots by 10:00 PM. As Travis County's population grows, the current system's ability to meet these standards diminishes. With the registered voter count now around 500,000 people in 227 precincts and Travis County growth showing no signs of slowing, a

typical general election exceeds the current ballot counting system's capacity and does not meet Travis County's standard of timeliness.

Also, the emergence of a positive new trend of holding optical scan joint elections with two or more jurisdictions on one election date often results in more than one type of ballot (i.e. City and County) being cast by each voter. This reduction in the number of separate elections provides significant savings of tax dollars and decreases voter fatigue. However, combining elections and the consequential increase in the number of ballots to process slows down the release of election returns. For example, during the November 1998 Travis County General Gubernatorial and City of Austin Bond Joint Election, the ballot counting system handled 309,265 voted ballots—176,449 for Travis County and 132,816 for the City of Austin—well over the designed capacity. Sheer volume contributed greatly to the 2:56 AM completion time of final election returns.

CLOSELY CONTESTED RACES. As mentioned in the *Problem Statement*, the current Travis County voting system was designed to substantially complete returns for the 10:00 PM news. In races with significant vote margins, the outcome of an election could often be determined before all the boxes had been counted. Many speculate that the shifting political climate in Texas and in Travis County will mean more closely contested candidate elections. As a result, the outcome of an election may not be evident until the last precinct is counted. Thus, not only the community, but also the candidates, are calling for a change in the system so that results can be completed more quickly.

ELECTION NIGHT BALLOT BOX DELIVERIES. Late arrival of the voted ballots from the precincts also contributes significantly to late returns. Speeding up the arrival time of precinct election judges to the Receiving Substations is a problem that tends to defy solution. In most cases, election judges are delayed due to voter lines at the polls, long travel time, and/or problems in completing the numerous legally mandated election forms. Attempts to alleviate this problem through additional personnel and increased training has improved but not solved this situation.

IV. MISSION STATEMENT

On Monday, February 8, 1999, the County Clerk convened the 1999 Travis County Election Study Group to address issues facing Travis County elections. The Study Group worked from the following charge:

> ***To improve the timeliness of final election results and to select a voting system that meets Travis County voters' and administrators' expectations of open, fair, and accurate elections, at a cost Commissioners Court can justify to taxpayers.***

V. STUDY GROUP FINDINGS

During the course of nine meetings held from February through May 1999, the Travis County Election Study Group made the following findings.

1. **Group support of the *Problem Background*.** The Study Group supports the facts established in the *Problem Background* of this report. All factors listed are vital points to consider in the evaluation of a solution to the problem statement.

2. **Positive perception equals trust.** "Perception is everything." Travis County election officials have made a commitment to this community to implement an accurate and fair election process. Their objective is to produce the most open and accessible elections possible. However, as our electronic voting system appears to have reached its capacity, producing later and later results, the community perceives the voting process as unorganized, *when the system is actually insufficient*. A system that **is** unorganized leaves itself open to error. Thus, a system **perceived** as unorganized leaves itself open to criticism and the perception that errors are occurring. Therefore, maintaining an open and orderly voting process will retain the public's trust in our elections.

3. **The human element is a critical factor in the conduct of elections.** In other countries' governmental systems, the military may conduct the elections. In America, registered voters become election poll workers and give their time and talent to conduct elections. Election professionals serve as the resource to administer election programs. The election judges and clerks working at the polling place are typically a diverse and representative cross-section of precinct residents. These minimum wage poll workers receive materials and training from the election administrators, but they conduct the election for themselves and their neighbors—of the people, by the people, for the people. Any change in election procedures or equipment must be easily implemented to ensure smooth transition for voters and poll workers alike. As with voters, election workers should not feel intimidated by the election process or system of voting.

4. **Elections involve complex procedures.** In evaluating voting systems, the Study Group has discovered that from the voter's position, the act of voting appears to be uncomplicated. Yet the administration of an election proves very complex. The challenge comes in keeping such a complicated election system "voter-friendly."

   VOTERS' PERSPECTIVE—SIMPLE PROCESS. Following is a basic outline of the election process from the voter's viewpoint.

   1) Citizen registers to vote
   2) Voter becomes aware of an election
   3) Voter goes to the polling place
   4) Voter's eligibility is confirmed
   5) Voter signs in on the Poll List
   6) Voter selects ballot, votes, puts in ballot box, gets "I Voted" sticker
   7) Voted ballots are counted
   8) Results are announced

ADMINISTRATORS' PERSPECTIVE—COMPLEX DETAILS. To ensure open and impartial elections, federal, state, and local statutes have been established. In line with those statutes, policies and procedures are developed, systems are created, and administrative tasks are detailed. Following is the previous voter outline with a brief listing of some of the associated administrative tasks.

1) Citizen registers to vote
   - Voter Application must be processed
   - Voter Certificates must be mailed
   - Voter Registration Rolls must be maintained

2) Voter becomes aware of election
   - Election Order must be approved and "Notice of Election" published
   - Candidates must file and be certified for place on ballot
   - Candidate must follow Campaign Finance Requirements
   - Elections Division must respond to voter questions

3) Voter goes to the polling place
   - Approximately 80-90 Early Voting locations must be recruited, confirmed, and locations published
   - More than 200 Election Day polling places must be recruited, confirmed, and locations published
   - Arrangements must be made for delivery of tables, chairs, voting booths, etc.
   - Precinct polling place information must be provided to the public
   - Election Judges and Clerks must be recruited and appointed
   - Election Judges and Clerks must be trained and paid
   - Election Judge must maintain order and handle problems at polling place

4) Voter's eligibility is established
   - List of Eligible Voters must be maintained and provided to election judges
   - Procedures must be established to confirm that the voter is indeed registered to vote and in which Travis County precinct
   - Election Division and Voter Registration Offices must provide administrative phone support to precincts

5) Voter signs in on the Poll List
   - Forms and supplies must be procured and distributed to all Early Voting and Election Day polling places
   - Verification process must be established and implemented to ensure that the number of signatures on the Poll List equals the number of voted ballots

6) Voter selects ballot, votes, puts in ballot box, gets "I Voted" sticker
   - Number of ballots must be determined for each precinct
   - Ballots must be prepared, printed, and distributed
   - Ballot inventory records must be maintained
   - Ballot boxes must be locked, sealed, and distributed
   - Election Judge must sign ballots
   - Voter must receive oral voting instructions from Election Clerk
   - Number of voted ballots must equal number of signatures on the Poll List

7) Voted ballots are counted
   - Central Counting Station must be secured and set-up
   - Ballot Counting staff must be recruited, assigned, trained and paid
   - Scanner Programming must be obtained
   - Scanners must be prepared
   - Ballots, forms and supplies must be processed through Receiving Substations
   - Secured ballots and forms must be sent to Central Counting Station by Sheriff's deputies
   - Ballots must be received and secured at the Central Counting Station
   - Ballots must be sorted, straightened, and aligned
   - Ballots must be individually audited for "intent of the voter"
   - Unresolved ballots must be processed
   - Ballots must be tabulated
   - Counts must be checked and verified against the Poll Lists

8) Results are announced
   - Election Return Reporting Systems and Computer Technicians must be in place
   - Data must be transferred from scanners to computer for processing
   - Cumulative and Precinct returns must be printed, checked, and copied for posting and distribution throughout Election Night
   - Return files must be created, converted, and transmitted to media and the Internet throughout Election Night
   - Final Reports must be produced for public distribution
   - Canvass of Official Election Returns by authority ordering election
   - Recount process must be implemented if recount petition is filed by candidate or party
   - Contest occurs if filed and granted in district court

Any voting system must be fair and accurate in administration, yet uncomplicated and straightforward in application. The challenge once more is to keep it simple for the voters, yet maintain a sophisticated check and balance system to ensure the integrity of the election process.

5. **Travis County elections involve three voting programs**. In Texas, a voter has three voting opportunities—early by mail (EVBM), early in person (EVIP) or on Election Day (E-Day). Travis County's current optical scan ballot counting system allows for the same ballots and counting method to be used for EVBM, EVIP, and E-Day voting.

   1. Early Voting By Mail (EVBM)

   To vote early by mail, a voter must first apply to the Early Voting Clerk for a ballot by mail and meet certain criteria. Once all requirements are met, a ballot packet is mailed to the voter, the voter votes, and returns the packet to the Early Voting Clerk. Before Election Day, the Early Voting Ballot Board meets and processes the by-mail voted ballots and prepares these ballots for counting on Election Day.

   2. Early Voting In Person (EVIP)

   To vote early in person, an eligible registered voter simply visits any early voting polling place. Every early voting location, whether a stationary or mobile site, must provide a ballot for any registered Travis County voter, regardless of his/her residence. With the current optical scan paper ballot system, each Travis County Early Voting Polling Place must have 227 different ballot styles (one style for each precinct) in stock

at all times, even if each ballot has the same text. Each precinct's ballots must be printed with a special code specific to that precinct to meet the statutory requirements of printing election returns by precinct. For a party primary election or in a joint election with the City of Austin, each location must have between 428 and 454 different ballot styles. To ensure enough ballot stock at each Early Voting location, ample quantity of ballots must be purchased. Depending on the size of the election, approximately $38,000 to $57,000 will be spent on ballot printing and ballot administration for early voting, some of which is unavoidably wasted due to the unpredictability of turnout.

A precinct-specific, paper ballot system creates a lengthy, complicated, and cumbersome ballot distribution process for early voting. When ballots are received from the printer, they are in 227 precinct packets. These ballots must be allocated or split up to provide ballots for every precinct at every early voting site. This ballot allocation process is similar to dealing 227 decks of cards (with 300 to 1,500 uniquely serial numbered cards in each deck), into 30 separate groups—a paper heavy and labor intensive process. The early voting pollworkers must then ensure that adequate ballot stock is maintained throughout the 14-day early voting period. Additional ballot requests are sent to the elections operations center and ballots are pulled and inventoried. Daily supply couriers deliver additional ballots to the early voting polls as requested.

This burdensome process is not foolproof, however. Occasionally, a location will run out of a particular precinct's ballot. A specific procedure is required if a voter comes to vote at an early voting location that has temporarily run out of ballots for that voter's precinct. Additionally, an emergency ballot run must occur to replenish that location's ballot supply. After early voting in person ends, these substituted ballots must be duplicated onto the appropriate precinct's ballot stock code by the Early Voting Ballot Board as they process and prepare the voted ballots for counting on Election Day. The prepared, early voted ballots are processed on Election Day and the results released at 7:01 PM, just as the polls close election night.

3. Election Day Voting (E-Day)

For Election Day voting, a voter can only cast his/her ballot in his/her precinct. Therefore, each election judge receives a quantity of ballots for just his/her precinct. They arrive from the printer packaged by precinct and are distributed at Election Day pick-up. Voters cast ballots throughout the day until 7:00 PM. After the polls close, the election judges process paperwork and prepare to bring the voted ballots to Central Counting Station or to one of the Receiving Substations. As described in the *Problem Background* section, the location of the audit process and preparation of the Election Day ballots for counting is controversial. The question of whether this procedure should occur at the precinct level or at the Central Counting Station has unfortunately been answered for us. Due to community concerns, efficiency and speed have been reduced.

The Election Day ballot counting occurs election night after the polls close and the ballots are transported to the Central Counting Station. This stage of the process has the greatest impact on the timeliness of the final election return report.

6. **Elections and technology.** The technology of any voting system requires periodic upgrade and/or replacement. Change and system improvements are an accepted part of the conduct of elections. Community growth and technological advances play a role in determining when voting systems should be replaced and what type of system is best for the community. The Study Group recognizes that the Commissioners Court has not funded the County Clerk's budget requests for precinct ballot counters during the last two budget cycles. Technological improvements are paramount to maintaining or improving trust in the Travis County elections process. Furthermore, Travis County is a leader in the high tech industry. Residents of Austin and Travis County have an expectation for competent, basic technology in all areas of local government, including elections.

7. **Accessibility for all voters.** The 1999 Study Group recognizes the right of every citizen to cast a secret ballot. We believe efforts must be made to do as much as we can to address "independent voting" now. We also realize that future technology will offer better solutions and service to all voters, above and beyond our current optical scan system and the other systems currently certified for use in Texas.

8. **Other Texas counties facing similar issues.** The Study Group reviewed the election practices of other large, urban Texas Counties through both statistical analysis and direct, in-person presentations by Dallas County, El Paso County and Tarrant County Election Administrators. The Study Group found that many large urban counties have moved or are in the process of moving ahead technologically and away from a precinct voting and central count accumulation/report printing system, to a precinct based voting and counting system with central accumulation/report printing. This transition has met with a high degree of success and support from the voting public.

   In the table below, Tarrant County is shown calling into the Secretary of State at 12:18 AM. However, by 10:36 PM, 515 of 534 precincts, or 96% of the county, had been counted. Similarly, Dallas was 95% complete by 10:00 PM, although their final call did not go to the Secretary of State until 12:10 AM. For most races, 90 – 95% is adequate to predict the winner with some certainty.

Table 3. November 1998 Statistics for Top Ten Texas Counties

As shown in the table below, counties of similar size to Travis who have moved to a precinct ballot counting system were substantially complete much earlier than other counties.

Top Ten Texas Counties by Voter Count	Election System Type	Ballot Audit Type	1998 Number of Precincts	1998 Early Voters	1998 Election Day Voters	1998 TOTAL VOTERS	Approx. Time Substantially Completed	Time of Final Phone Call to S.O.S.
1. Harris	Punch	Precinct	936	106,791	429,652	536,443	11:30 PM	1:39 AM
A **punch card** voting system utilizes a paper ballot through which the voter punches a hole next to his/her choices. This system became popular in the 1970s. Few companies continue to manufacture these systems, and machines are difficult to keep maintained. Harris County is currently considering purchasing a new system. They are looking at both Direct Recording Electronic and optical scan systems.								
2. Dallas	OpScan	Precinct[1]	766	83,883	258,018	341,901	10:00 PM	12:10 AM
Optical scan also utilizes a paper ballot; however, instead of punching holes in the ballot, the voter darkens the circle or square next to his/her choices. The ballots are read by a scanning machine, and, in the system used in Dallas County, Precinct Ballot Counters are utilized. This allows the voter to complete the "intent of the voter" audit at the precinct, before his/her ballot is cast. Dallas County moved to this system in 1998 after using punch cards for more than 25 years. In previous elections, Dallas called in to the SOS after 1:00 AM. During one election in 1996, the call was placed after 11:00 the morning after the election. The Precinct Ballot Counters allow each precinct to modem in results to the central computer.								
3. Tarrant	OpScan	Precinct	534	63,956	192,910	256,866	10:30 PM	12:18 AM
Tarrant County also utilizes Precinct Ballot Counters. As with Dallas, this allowed Election Judges to call into the Central Counter Soon after the precincts closed.								
4. Bexar	OpScan 2 page ballot	Central[2]	610	81.908	145.182	227.090	11:00 PM	2:55 AM
Unlike Travis County, Bexar County does not conduct hand audits of the ballots. A lawsuit is pending against Bexar County due to the lack of a hand audit. Bexar County is also forming a study group similar to Travis County's.								
5. Travis Joint	OpScan	Central	227	54,608	120,130	174,738		
w/ City of Austin	2 ballots		201	43,765	89,034	132,799	12:00 PM	**2:56 AM**
6. El Paso	Punch	Central	155	33,385	58,664	92,049	10:30 PM	12:34 AM
El Paso is actively seeking funding for the purchase of a new election system. They are currently investigating the prospect of phasing in a Direct Recording Electronic (DRE) system throughout the county. (See further explanation of DREs below.)								
7. Hidalgo	Lever	Precinct	94	15,583	32,246	~88,000	10:00 PM	12:01 AM
Introduced in the 1950s, **lever machines** were the first mechanical voting tool. They do not utilize a paper ballot and the "intent of the voter" audit is performed by the voter before they leave the booth. As with many other counties, Hidalgo is looking to update their voting system and is seriously investigating Direct Recording Electronic (DRE) systems.								
8. Collin	Punch	Precinct	127	24,038	60,051	84,089	9:15 PM	10:58 PM
Collin County Election Judges perform precinct audits and straighten ballots throughout the day at the polling location.								
9. Denton	OpScan	Central	118	17,945	50,182	68,127	-----	4:19 AM
Denton County experienced problems with ballot counting equipment. No returns were released until 4:19 AM. They are also looking to update their system.								
10. Nueces	OpScan	Precinct	122	22,155	40,616	62,771	9:36 PM	9:36 PM
Nueces County uses Precinct Ballot Counters. Election Judges call in results for input into the main computer.								

Notes:

1. ***Precinct ballot auditing** can mean three things: 1) Election Judges are checking the ballots throughout the day to ensure that the machine will correctly count the ballot; 2) The precincts are using Precinct Ballot Counters (see explanation below). The three counties above using the precinct ballot audit are using either Precinct Ballot Counters or Direct Recording Electronic systems, which are explained below; or 3) For punch card systems, Election Judges are straightening and sorting ballots at the precinct, but not necessarily during the day.*
2. ***Central ballot auditing** means that once voting is closed, each Election Judge brings the ballot boxes to a Central Counting Station (or to a substation to be transferred by Sheriffs Deputies to the Central Counting Station). At Central Counting, election workers inspect every ballot to ensure that the scanning machine will correctly count the voter's intent.*

VI. AVAILABLE VOTING SYSTEMS

Systems Available in Texas. The Texas Secretary of State has certified several different types of voting systems for use in Texas. Only recently, the state legislature voted to allow different types of voting systems to be used for the different voting programs—EVBM, EVIP, and E-Day—and to allow voting results to be transferred electronically from the precinct to the central accumulation station. Following are the three voting system types reviewed by the Study Group.

- Optical Scan Central Count – The current Travis County voting system utilizes 12 optical scan machines, AIS Central Scanner Model 315. Also available are Elections System and Software (ES&S) 550 Vote Tabulators, which are the same type system, but count ballots faster and can be networked so that time is saved in transferring ballot counts from the machines to a computer for accumulation and report printing.

- Optical Scan Precinct Count / Modem Transfer – Utilized for Election Day voting in Dallas and Tarrant Counties, optical scan Precinct Ballot Counters (PBCs) allow votes to be counted electronically at the precinct. When a voter completes the optical scan ballot, he/she feeds the ballot into the PBC. If the PBC detects an overvote (a vote for more than one candidate in a particular race) or it reads a blank ballot—usually caused by using unreadable ink—it will display a message asking the voter to clarify his/her intentions: Was the overvote on purpose or did the voter only intend to vote for one candidate? Or, did the voter purposely not vote for anyone on the ballot, or did he/she just use a writing instrument unreadable by the machine? This allows the voter to determine his/her intentions; thus eliminating any need for an "intent of the voter" audit by election officials prior to the ballots being scanned.

  Because the PBC counts the ballots as they are submitted, at the end of the day, the election judge need only complete the paperwork and modem the precinct's results directly to a central computer for accumulation and report printing. The hand audit to verify write-ins would occur after the results are transferred to the central computer.

  The 1990 Travis County Elections Task Force researched PBCs and determined them to be unacceptable due to two primary concerns:
  1) Technology at that time only allowed one election to be counted per PBC. For example, Primary Elections would have to utilize two PBCs per precinct, which was not financially feasible. Current technology allows PBCs to handle more than one election at a time.
  2) In 1997, the Texas Legislature passed a law allowing modem transfer of election results. Prior to that time, Election Judges would still have had to drive the results diskette into a Central Counting Station or a Receiving Substation. At the time the 1990 Task Force investigated the issue, the PBCs would have cost more than the central counting optical scan system, while saving little time.

- Direct Recording Electronic (DRE) Voting System / Modem Transfer – Some DREs are a touch-screen voting system. Anyone who has used a touch-screen ATM machine or a wedding registry at a department store is familiar with this technology.

  The voter simply follows the on-screen directions and touches the screen to indicate his/her choices. This system is paperless (thus no ballot expenditure) and allows the voter to review his/her choices prior to submitting the vote. Because DREs do not allow overvotes, the "intent of the voter" audit is again solved by the voter. And like PBCs, the DRE systems allow direct

modem transfer of vote tabulations from the precinct to the central computer for accumulation and report printing.
DREs also represent the only systems meeting voting requirements for individuals with visual impairments or physical disabilities. Two DRE systems—Global's AccuVote and Shoup's Elex System—are currently certified for use in Texas by the Secretary of State as meeting voting requirements for the visually impaired. They utilize headphones so that the voter can cast a secret ballot. The Elections Systems and Software (ES&S) EZ Access kiosk voting systems—also a DRE system—is designed to allow secret ballot voting for all individuals, regardless of visual or physical limitations. This system is scheduled for certification in May of this year.

The DRE and PBC voting system types offer varied solutions at varying costs, whether with a single system type or a combination of two or more system types. An explanation of various options considered by the Study Group is listed below.

Possible Voting System Scenarios for Travis County

1. **Keep Current System / Change Procedures.** This solution moves the "Intent of the Voter" audit back to the precinct level yet does not address the ADA/independent voting issues or the early voting administration issues. This solution may require an increase in the number of clerks per precinct on Election Day so that audits are conducted separate from the voting area. Approximate cost of two additional clerks per each precinct: $38,136

2. **Update the Current System.** Trade-in the AIS Central Scanner Model 315s for Elections System and Software (ES&S) Central Scanner Model 550s. The entire system would remain central count based. This will allow for a small decrease in scanning time because of the faster speed of the new machines. In addition, the networking capability of the new scanners would cut a small amount of time from the process of getting the information from the scanners to the Election Reporting Software (ERS) computers. This update does not address the "intent of the voter" audit issues, the timely delivery of ballots from the polling places, or any of the ADA/independent voting concerns. Approximate cost: $540,000

3. **Enhance/Replace the Current System.**
   A. ***Precinct Ballot Counters for Election Day***: Purchase ~250 Precinct Ballot Counters to count ballots in the precinct and transfer results via modem to the central counting station. Early Voting would still be optical scan central count. Resolves the "intent of the voter" audit problem because it is done by the PBC machine and the voter, but does not address early voting inefficiencies or the ADA/independent voting issues. **Will save $3,000 – $6,000 per election**, depending on the size of the election, in operation and administration costs. Approximate cost: $1,885,750

   B. ***DRE's for only Early Voting In Person*:** Purchase ~150 DRE's for Early Voting In Person. Removes the paper ballot for early voting, **saving $38,000 - $57,000 per election** in ballot expenditures, and resolves the challenge of optical scan ballot administration. Also resolves the "intent of the voter" audit issue for early voting only. Some DREs are certified for visually impaired voters. Does not address the late election night returns issue.
   Approximate cost: $600,000 to $1,314,000

   C. ***DRE's for Election Day and Early Voting In Person*:** Purchase ~1,350 DRE's for Early Voting in Person and Election Day. All voting done on DRE machines and modemed into the central computer for accumulation and report printing. Resolves most of the *Problem*

Statement issues, including "intent of the voter" audit for both programs, late election night returns, and early voting administration issues. **Will save $89,000 - $140,000 per election** in operation, administration, and ballot costs, depending on the number and size of elections each year. Current technology addresses ADA/independent voter issues for the visually impaired only. Approximate cost: $4,000,000 to $8,000,000

D. ***ADA/Independent Voting Add-on Option***:

- Add ~250 DREs for Election Day for the visually impaired. Current ADA regulations require accessibility for persons with visual impairments. Some DRE systems have accessibility for the visually impaired as part of the basic system. Others utilize an add-on feature. Still others, fully accessible, regardless of the individual's visual or physical limitation, are a separate system from the standard DREs.
  Approximate cost (assuming the County had already implemented a full Election Day DRE system): $0 to $1,750,000
- Add one fully accessible system for use at main Early Voting location and at central location on Election Day. Approximate cost: $9,500
- Add ~15 fully accessible systems for use during Early Voting In Person.
  Approximate cost: $142,500
- Add ~250 fully accessible systems for use during Early Voting In Person and on Election Day. Approximate cost: $2,375,000

VII. CONCLUSION

The 1999 Travis County Election Study Group performed a comprehensive review of the policies, procedures, and equipment related to the administration of the Travis County election system. During that process, the Group determined that an essential part of an election system is the timely release of election returns. The Group also believes that the established community standard of providing completed or substantially completed election returns by 10:00 PM is reasonable and will promote public trust. While the current voting system has served Travis County well, it can no longer meet this standard of timely returns.

The following factors have strained the capacity of our voting system, including Travis County's ability to provide timely election results:

- present policy regarding the mandated "Intent of the Voter" audit,
- the time required for election judge ballot box delivery,
- the rapidly growing and changing community population and political environment,
- the positive trend towards joint elections, and
- additional requirements of pending ADA legislation and current lawsuits.

While each of the above factors contributes to the system's problem, the Study Group found that probably the largest obstacle to the release of timely return is the policy of performing ballot audits at the Central Counting Station. State regulations require election officials to examine every voted ballot *individually* to ensure that the scanning machine will count a voter's ballot choices accurately. When the current optical scan system was implemented, the voted ballots were audited in the precinct by the precinct pollworkers during Election Day voting. That preparation included conducting the mandated "Intent of the Voter" audit and sort as well as straightening and aligning the ballots for counting.

About five years ago, the precinct audit procedure came under fire by some members of the community concerned about the security of the voted ballots if the ballots are audited in the precinct. Although no incident of inappropriate handling of ballots at the precinct was ever substantiated, in 1996 the County Clerk reluctantly chose to audit the ballots at the end of the day and only at Central Counting Station. The ballots were not straightened, sorted or audited until they arrived at the Central Counting Station for processing. Due to the change, field resources are no longer available to perform this task, so resources have been added to the Central Counting Station. However, 75 to 100 people cannot do in two hours what previously close to 1,000 people had 12 hours to complete. This change in policy created severe constraints on Travis County's ability to quickly process the voted ballots at Central Counting.

In addition, the Study Group supports the right of all voters to a secret ballot. Travis County's current system does not comply with this standard. Pending federal legislation may require all voting systems to comply with the American with Disabilities Act (ADA) by December 31, 2000.

How Can We Solve These Challenges?
In the Study Group's review of current election procedures, *we found no changes that would resolve all issues identified in the Problem Statement*. Although returning to the precinct audit would significantly address the time issue, it is equally important that voters trust the process. The Study Group gives little support to the idea of returning the ballot audit back to the precinct and therefore recognizes that the most efficient approach is unavailable to Travis County. Therefore, the Study Group concludes that late returns are inevitable under the current system and no procedural changes will address all factors outlined above. We further conclude that an upgraded technology is paramount to ensure trust and confidence in our electoral system.

Is Election Technology Available That Will Improve Efficiency and Maintain Voter Trust?
The Study Group found that election system technology has progressed dramatically in the last ten years, since Travis County purchased the current Optical Scan System. Advancements in technology and changes in law in the last three years are among the factors in this evolution. Recent legislation allows for electronic transfer of election results from the precinct to the Central Counting Station. This change addresses the problem of late returns resulting from delay in election judges' deliveries of voted ballots for central processing. Election law now also allows more than one voting system to be used in a given election. Therefore, more solutions are available to address the issues of the Americans with Disabilities Act and any future statutory requirements.

The Study Group understands that an election industry standard calls for a substantial upgrade or total replacement of ballot counting technology about every ten years. Our current optical scan voting system was a replacement for the previous punch card voting system. Purchased for approximately $680,000, Travis County's optical scan ballot counting has served the voters of our communities well over the last decade, but our communities are expanding. Travis County's registered voter population has more than doubled over the last decade, with no signs of slowing down.

Likewise, technology has advanced and will continue to do so. While the election profession does not seek to be on the cutting edge of technology, the accuracy and efficiency brought by updated automation cannot be ignored. Counties such as Dallas, Tarrant, and El Paso have made the change employing Direct Record Electronic and/or Precinct Ballot Counting systems with exciting results—voters and election judges alike have embraced the technology. El Paso County is seriously investigating the prospect of phasing in an all-DRE system. Harris, Bexar, and Hidalgo counties are also investigating the prospect of updating their voting systems to include the latest technology.

Where Do We Go From Here?
The Study Group concludes that Travis County, similar to other urban Texas Counties, has reached the point in time to address a change in the way we cast our ballots, the way these ballots are counted, and the method by which returns are reported. We further conclude that, like the purchase of the current optical scan system, Travis County should pursue the solution that most addresses our problems efficiently, completely, and economically. Travis County is considered a leader in the world of high technology. The system by which Travis County voters cast their ballots should be more representative of our rising high tech industry.

VIII. RECOMMENDATION (Option #1)

After extensive consideration of the scenarios available to Travis County, the Study Group developed four options that could be viable for Travis County. As illustrated in *Comments from Study Group Members*, a majority of members chose to recommend the following. First and foremost, ***the 1999 Travis County Election Study Group concludes that the future of elections lies in Direct Recording Electronic (DRE) systems***. We also recognize that to purchase an entire DRE system to handle both Early Voting in Person and Election Day voting might not be financially feasible at this time. Furthermore, the Group believes that voters will feel more comfortable with the system if it is phased into use.

Therefore, the recommendation of the Study Group is:

> ***Purchase 150 Direct Record Electronic (DRE) systems for Early Voting and 250 Precinct Ballot Counters (PBCs) for Election Day with a rolling technology upgrade clause that allows for automatic update of the equipment and software. As the community becomes familiar with the DRE system, phase in DREs to the Election Day program, eventually replacing all PBCs with 1,200 DREs.****

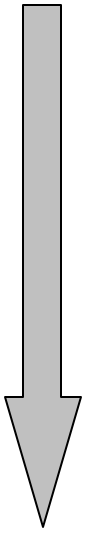
**Recommendation assumes the Early Voting By Mail program will be handled with optical scan paper ballots and counted on compatible optical scan ballot counting equipment.*

This recommendation addresses many of the issues detailed in the *Problem Statement*:

1. **ACCURACY.** The Direct Record Electronic (DRE) voting system addresses the "Intent of the Voter" issue by not allowing a voter to create an overvote in the first place. Using the Precinct Ballot Counter (PBC) at the polling place, the Election Day voter feeds the optical scan ballot directly into the optical scanner. The PBC will reject the ballot if it detects overvotes or stray marks that could be read as overvotes. The voter has the final "audit" of his/her own ballot before the ballot is counted. Therefore, the initial "Intent of the Voter" audit is handled in the precinct by the voter.
2. **TIMELINESS OF RESULTS.** Precinct election results can be electronically transferred from the precinct or substation directly to a central computer for accumulation and report printing.
3. **ACCESSIBILITY.** Some DRE systems have a component to address secret ballot voting by visually impaired voters and some are fully accessible. Fully accessible DREs are not included in the cost analysis (*see page 16 for information on cost options for adding ADA/independent voting DREs*). The PBCs do not address accessibility issues.
4. **GROWTH.** DREs and PBCs should provide adequate accommodation of a growing voter population.
5. **PAPER BALLOT.** The PBCs use the traditional optical scan paper ballot currently being used by Travis County. The DREs use no paper ballots; therefore the waste and expenditure, approximately $38,000 – $57,000 per election, that currently occurs as a result of printing early voting ballots will be eliminated.

Table 4. Central Counting Station vs. Precinct Ballot Counter: Time & Resource Savings

(Approximate times and resources. Because the CCS is staffed by teams of workers, many of these tasks occur concurrently.)

Central Counting Station (CCS)	Precinct Count with Central Computer Accumulation
1. Election Judge and clerks complete close-out of paperwork. (454 people, 30 – 45 min.)	**1.** Election Judge and clerks complete close-out of paperwork. (454 people, 30 min.)
2. Election Judge drives precinct paperwork, ballots, and key to Receiving Substation (RSS). (10 – 30 min.)	
3. RSS certifies receipt of voted ballots. (50 people, 2 hours)	
4. Sheriff's deputies secure ballot boxes and drive several ballot boxes to the Central Counting Station (CCS). (20 people, 2 hours)	
5. CCS election workers verify ballot box seals. (60 people, 3 hours)	
6. CCS election workers open ballot boxes. (60 people, 3 hours)	
7. CCS election workers audit the ballots, individually checking each ballot to ensure that the tabulating machine will accurately register the voter's mark. During this process workers also align ballots for tabulator. (60 people, 3 hours)	
8. Tracking sheet is completed to indicate everything that has happened with the ballots.	
9. Any ballots which are identified through the audit as being unreadable for the tabulator are "resolved"—handled so that the machine will be able to count each voter's intent accurately—by a Resolution Team by either remaking the ballot or applying labels. (24 people, 4 hours)	
10. Ballots are fed into a tabulator to be counted by a Tabulation Team. (24 people, 4 – 5 hours)	
11. Every so often, counts must be saved on a disk and delivered to the central computer. (30 people, 2 hours)	
12. The computer operator loads diskettes, accumulates the counts, and prints reports. (1 person, 2 hours)	**2. If a phone line is available at the precinct**, the Election Judge modems the results to the central computer for accumulation and report printing. (1 person at central computer, 20 – 30 minutes) **OR** **If a phone line is NOT available at the precinct**, the Election Judge drives to a Receiving Substation and modems the results from these to the central computer for accumulation and report printing. (10 people at 5 Receiving Substations to accept/certify diskettes and perform the modem transfer, 1 hour)
13. Results are posted at CCS as well as provided to the media and posted on Travis County's web site. (15 people, 1 hour)	**3.** Results are posted at the location of the central computer as well as provided to the media and posted on Travis County's web site.(10 people, 20 min.)
Time: 26 hrs, 40 min – 28 hrs, 15 min **People: 798 (**including election judges**)**	**Time: 2 hrs, 10 min – 2 hrs, 20 min** **People: 475 (**including election judges**)**

Approximate cost of Recommendation: A quantity of 150 DREs and 250 Precinct Ballot Counters is suggested for the initial purchase. The eventual replacement of the PBCs with 1200 DREs is suggested as the voters become accustomed to the DREs. Costs are based on retail price quotes. No trade-in or quantity discount figures are currently available. In addition, leasing or a payment plan over several years may be options.

$600,000	for 150 Early Voting DREs
$1,885,750	for 250 Election Day PBCs[+]
$2,485,750	**Total initial cost**
$5,000,000	1200 for Election Day DREs
$7,485,750	**Total cost of recommendation**

It is estimated that this recommendation will, depending on the size of each election, *save Travis County $40,000 - $64,000 per election in operating, administration, and ballot costs.* Once the DRE system is fully implemented for both Early Voting in Person and Election Day voting, savings will be approximately an ***additional*** $49,000 - $76,000 per election.

[+]*Because election equipment is delivered to the polling locations beginning 5 – 7 days prior to Election Day, the DREs from Early Voting would not be available for Election Day.*

IX. OTHER OPTIONS (#2, 3, 4)

The Study Group strongly believes that the above recommendation best addresses the issues identified in the *Problem Statement* and the *Problem Background*. However, recognizing that the Study Group Recommendation might not be acceptable to Commissioners Court, we want to outline other possible options to be considered. The considered options are listed in the order the Study Group ranked them. (See *Comments from Study Group Members* for a list of members and their choices.)

Option #2:*
Purchase 1,350 Direct Record Electronic (DRE) systems for both Early Voting and Election Day with a rolling technology upgrade clause that allows for automatic update of the equipment and software.

Option #3:
Purchase 150 Direct Record Electronic (DRE) systems for Early Voting and 250 Precinct Ballot Counters (PBCs) for Election Day, with a rolling technology upgrade to allow for automatic update of the equipment and software.

Option #4:
Purchase 250 Precinct Ballot Counters (PBCs) for Election Day, with a rolling technology upgrade to allow for automatic update of the equipment and software.

***** *All options assume the Early Voting By Mail program will be handled with optical scan paper ballots and counted on existing optical scan ballot counting equipment.*

Brief Explanation of Options

Option #2, purchasing 1,350 Direct Recording Electronic (DRE) systems for both Early Voting and Election Day with a rolling technology upgrade clause that allows for automatic upgrades, also addresses many of the issues detailed in the *Problem Statement*.

1. **ACCURACY.** The Direct Recording Electronic (DRE) voting system addresses the "Intent of the Voter" issue by not allowing a voter to create an overvote in the first place. The "Intent of the Voter" audit is handled in the precinct, by the voter.
2. **TIMELINESS OF RESULTS.** Precinct election results can be electronically transferred from the precinct or substation to the central counting station.
3. **ACCESSIBILITY.** Some DRE systems have a component to address secret ballot voting by visually impaired voters and some are fully accessible. Fully accessible DREs are not included in the cost analysis (*see page 16 for information on cost options for adding ADA/independent voting DREs*).
4. **GROWTH.** DREs should provide adequate accommodation of a growing voter population.
5. **PAPER BALLOT.** The DREs use no paper ballots saving approximately $38,000 – $57,000 per election in early voting ballot costs.

Approximate cost of Option #2: A quantity of 1,350 DREs is suggested for countywide Early Voting In Person and Election Day voting. Cost is dependent of vendor and type of DRE purchased.

Range of $5,500,000 to $9,000,000

Will save approximately $89,000 - $140,000 per election in operation, administration, and ballot costs, depending on the size of the election.

Option #3, (similar to the *Recommendation* with no replacement of Election Day PBCs with DREs), purchasing 150 Direct Record Electronic (DRE) systems for Early Voting and 250 Precinct Ballot Counters (PBCs) for Election Day with a rolling technology upgrade clause that allows for automatic upgrades, also addresses many of the issues detailed in the *Problem Statement.*

1. **ACCURACY.** The Direct Recording Electronic (DRE) voting system addresses the "Intent of the Voter" issue by not allowing a voter to create an overvote in the first place. Using the Precinct Ballot Counter (PBC) at the polling place, the Election Day voter feeds the optical scan ballot directly into the optical scanner. The PBC will reject the ballot if it detects overvotes or stray marks that could be read as overvotes. The voter has the final "audit" of his/her own ballot before the ballot is counted. Therefore, the initial "Intent of the Voter" audit is handled in the precinct, by the voter.
2. **TIMELINESS OF RESULTS.** Precinct election results can be electronically transferred from the precinct or substation to the central counting station.
3. **ACCESSIBILITY.** Some DRE systems have a component to address secret ballot voting by visually impaired voters and some are fully accessible. Fully accessible DREs are not included in the cost analysis. The PBCs do not address accessibility issues.
4. **GROWTH.** DREs and PBCs should provide adequate accommodation of a growing voter population.

5. **PAPER BALLOT.** The PBCs use the traditional optical scan paper ballot currently being use by Travis County. The DREs use no paper ballots.

Approximate cost of Option #3: A quantity of 150 DREs for Early Voting and 250 Precinct Ballot Counters for Election Day is suggested. Costs are based on retail price quotes. No quantity discount figures are currently available.

$600,000	for 150 Early Voting DREs
$1,885,750	for 250 Election Day PBCs
$2,485,750	**Total cost**

Will save $40,000 - $64,000 per election in operating, administration, and ballot costs, depending on the size of each election.

Option #4, purchasing 250 Precinct Ballot Counters (PBCs) for Election Day, with a rolling technology upgrade to allow for automatic update of the equipment and software, addresses some of the issues detailed in the *Problem Statement.*

1. **ACCURACY.** Using the Precinct Ballot Counter (PBC) at the polling place, the Election Day voter feeds the optical scan ballot directly into the optical scanner. The PBC will reject the ballot if it detects overvotes or stray marks that could be read as overvotes. The voter has the final "audit" of his/her own ballot before the ballot is counted. Therefore, the initial "Intent of the Voter" audit is handled in the precinct, by the voter.
2. **TIMELINESS OF RESULTS.** Precinct election results can be electronically transferred from the precinct or substation to the central counting station.
3. **ACCESSIBILTY.** The PBCs do not address accessibility issues.
4. **GROWTH.** PBCs should provide adequate accommodation of a growing voter population.
5. **PAPER BALLOT.** The PBCs use the traditional optical scan paper ballot currently being used by Travis County.

Approximate cost of Option #4: A quantity of 250 Precinct Ballot Counters for Election Day is suggested. Costs are based on retail price quotes. No quantity discount figures are currently available.

$1,885,750	for 250 Election Day PBCs
$1,885,750	**Total cost**

Will save approximately $3,000 - $6,000 in operation and administration costs per election**.**

Other Cost Considerations

- Don't Forget Ballot by Mail:
  The Early Voting By Mail program must utilize a voting system compatible with the Early Voting in Person and Election Day voting systems. Keeping the same system platform allows seamless production of election returns through one election reporting software system.
  1. If Travis County stays with the current vendor, two of the current optical scan machines could be utilized to process ballots received by mail. Also available is "Ballot on Request" software,

which would allow each ballot requested by a mail application to be printed individually. The software is $495 and ballot stock is $.10 per ballot. A pre-printed optical scan ballot is $.23, producing an up-front savings of $.13 per ballot. In addition, blank ballot stock would be bought in bulk and utilized over several elections, eliminating the current waste problem over the purchase of printed ballots for the by-mail program.

2. Other vendors have specific optical scan, paper ballot equipment that integrates with their vote counting system and reporting software to address ballot by mail requirements.

- Trade-in Existing Equipment:
  If a new voting system is purchased for Travis County, at least two vendors have expressed willingness to accept the County's current optical scan machines in trade as part of the purchase. Trade-in value is estimated at $10,000 per machine. In addition, Travis County would no longer be paying the extended warranty cost of $12,000 per year.

X. COMMENTS FROM STUDY GROUP MEMBERS

The following chart illustrates the ranking by Study Group members of each option presented in the report. Because members ranked preferences from 1 to 4, with 1 being first choice and 4 being last choice, the option below with the lowest score (Option #1) represents the Group's first choice and ***Recommendation****.*

Table 5. Study Group Member Preferences

	First Name	Last Name	Option 1	Option 2	Option 3	Option 4
1.	Betty	Brown*	–	–	–	–
2.	Nan	Clayton	1	4	2	3
3.	Carey	Dietert	2	1	3	4
4.	Rowland	Greenwade**	–	–	–	–
5.	Zoe	Griffith	1	2	3	4
6.	Greg	Hartman	3	4	1	2
7.	Len	Hause	1	4	2	3
8.	Katherine	Hinson	1	2	3	4
9.	Tom	Kokas	1	4	2	3
10.	Mike	Krzywonski	1	2	3	4
11.	Dolores	Lopez	1	4	2	3
12.	Annette	Lovoi	3	4	1	2
13.	Mac	McGuire***	–	–	–	–
14.	Jim	McNabb	1	2	3	4
15.	Melinda	Nickless	1	2	3	4
16.	Pat	O'Grady	2	3	1	4
17.	Karin	Richmond	1	2	3	4
18.	Patti	Shields	2	1	4	3
19.	Pat	Steele	1	2	3	4
20.	Don	Warren	3	4	1	2
21.	Gerard	Washington	2	3	1	4
		Totals	**28**	**50**	**41**	**61**

Option 1 - 150 DREs for EV, 250 PBCs, upgrade to all DREs

Option 2 - 1300 DREs for EV and ED

Option 3 - 150 DREs for EV and 250 PBCs for ED

Option 4 - 250 PBCs for ED

* *Although an active participant in the Study Group, the City of Austin missed the deadline for providing comments.*
** *See Mr. Greenwade's comments below.*
*** *See Mr. McGuire's comments in Appendix B.*

Other Comments:

Annette Lovoi, **Texas Appleseed**:
"It has been a great pleasure to serve on the 1999 Election Study Group. I found the composition of the group to be representative of the many disciplines with knowledge and opinions on the subject of elections policy and equipment.

"I believe that Travis County must address the issue of acquiring a partial or full new elections system now, in order to address the issue of timeliness of results. If we don't act now, we may face difficulties in future elections, including the important upcoming Presidential election. As our community is growing, we are going through a period of transition. It is incumbent upon us, as advisors to the County, to point to the need for new equipment as the underpinning of a quality election system that can carry our County into the future."

Patti Shields, Election Judge, Central Counting Station Presiding Judge:
"As a temporary election employee that has worked in nearly all areas of the election process—early voting clerk, precinct clerk, precinct assistant judge, precinct judge, poll watcher, worker in most of the areas at Central Counting Station (including Presiding Judge) and even a stint [as a temporary employee] in the office of Elections before and after the election—I have personally experienced the dynamics of conducting an election in Travis County. I can emphatically state that the County Clerk, all of her election staff and the majority of the temporary employees work as hard as humanly possible to bring in election results in a timely manner. It has become necessary to bring in more sophisticated technology to assist with the increasing demands of the election process.

"With my vote, I want to express my strong support for becoming current with the use [of] voting technology. To be prudent with our funds, I recommend phasing in the use of this technology—but we must start now."

Carey Dietert, Dell:
"We need to make the recommendation that solves the stated problem, regardless of cost. To my way of thinking, that means a fully computerized voting system that eliminates (for all practical purposes) paper ballots for early and Election Day voting. As I stated in the last meeting I was able to attend, we should challenge the Commissioners Court…i.e. do they REALLY want election returns in by 10pm? If they do, this is what it will cost….

"If not, the other options present some viability to improve, but not solve the current situation. To recommend a solution that doesn't solve the problem, simply in the interest of political expediency or based on some pre-conceived budget constraints, is, I believe, not effective and more confusing than enlightening. Rather, base the decision on sound reasoning, solid research, and valid cost estimates, and present it with conviction and confidence.

"It's imperative that we make the point that the other 3 [options] don't address the problems*. The words are in the document—I'd like to make sure that point is made in person."

**Editor's Note: The other three options do address the problems, but not as effectively as DREs.*

Zoe Griffith, Austin Independent School District:
"Since funding is a concern and since we still need to climb up a new learning curve, I recommend that we first focus on early voting and eliminate the paper ballot. I think this will go a long way in improving efficiency. I also believe it is a way to introduce our voters to a new system (or systems).

Voters should be made aware of new technology during Early Voting and encouraged to vote Early in order to become familiar with the technology."

Greg Hartman, MGT of America, Inc.:
"My first comment on the recommendations is that I still wish we had some language…that allows for consideration and negotiations surrounding a lease and/or lease/purchase financial agreement with the vendors. This technology is still evolving so rapidly, and is still at such an early stage in its development that I believe that is a financing option that we should be pursuing more aggressively. It does not surprise me that the vendors don't like that option—I would not expect them to offer it as an option, unless pressured to do so. I also believe that there are ways to make a lease financing option attractive to the county, even when considering revenue source and management issues.

"Nevertheless, I think the task force…did admirable work, and we have presented some very viable, well-thought out and important recommendations."

Roland Greenwade, Texas State Comptroller's Office:
May 3 – "First, the county needs to decide whether its future balloting system will be DRE paperless or a continuation of an enhanced paper ballot system. The vote of the committee last week, money being no object, was for DREs. If DREs are our future, why in [Options] 1 and 3 are we spending almost $2 million for PBCs which may only be used for a single two-year election cycle? Certainly, even though under RESULTS we state that 'results can be electronically transferred from the precinct or substation to the central counting station,' the key work is 'can' which really means 'may!' Testimony showed that is was not feasible to transfer this information by modem from the precincts because not every polling place had access to telephone lines. As such, PBCs do not assure us any improvement in reporting time. For $2 million, we will get an intent of the voter audit at the precinct by the voter, but no more speedily tabulated central returns.

"Further, there is an article in the NY Times today which reports that "a handful of companies are building systems to enable voters to cast ballots over the Internet. But since no state allows Internet voting the companies are focusing on building the trust of election officials in their products. While the article…indicates it may be 5 years before Internet voting is ready for adoption, I think we need to evaluate the future of Internet voting and what it might do to reduce costs."

May 13 – "Reluctantly, I cannot support any of the recommended options. In an ideal situation, we would go to all DREs. But this is currently too expensive. This does not mean that the paperless DRE is not the 'wave of the future.' In this case, I do not see that it is advisable to spend any money on PBCs to enhance our paper ballot capabilities.

"I think the committee did a lot of good work, but maybe the most important aspect of our deliberations will be educational—to let the Commissioners Court and community know what 'should' and eventually can be done.

"To this end, maybe the Court would support spending the $600,000* for early voting DREs as a way to begin to allow voters to become familiar with this technology. But…I cannot recommend any of [the options] at the current time."

**Editor's Note: Depending on the vendor, prices for DRE voting systems range from $600,000 - $1,315,000. In addition, the vast majority of Travis County polling locations do have accessibility to telephone lines to modem results to a central computer.*

Karin Richmond, Richmond & Associates:
"After reviewing the final draft, I come to one particular conclusion. The whole question of "What to do" strikes me as boiling down to Time vs. Money. If the Commissioners Court believe that the Travis County voting public wants accurate results before the 10 PM telecast, then the Court has to break down and invest a significant sum in acquiring the equipment to do so. (I urge all our public bodies to fashion a joint venture so the burden will not be so onerous on any one taxing jurisdiction.) Our current process and equipment simply cannot do the job. If timeliness is not a high priority, then stick with the current system for a while. But I fear even then, the final vote count will slowly wander into later and later results.

"When ramping up to technological change, we all cringe at the cost—but most often we are extremely pleased with the results. We are at a technological watershed, and I believe that keeping our current system is tantamount to slipping backwards. And Austin, along with Travis County, is a very savvy and technically literate community which deserves a likewise advanced—and hey, I'll say it—COOL voting system! Maybe a whiz bang system will finally get the people to actually VOTE!"

XI. Glossary

ADA – The Americans with Disabilities Act; one of the primary laws governing access for the physically disabled.

Central Counting Station (CCS) – Travis County's current ballot counting system revolves around twelve AIS Optical Scan tabulators located at a central site. Counting begins after the polls have closed on Election Day. All Election Judges bring their ballot boxes to either CCS or to one of the receiving substations. Once the ballots arrive at CCS, they are individually hand audited to ensure that the tabulators will correctly read each voter's intentions.

Direct Recording Electronic (DRE) Voting System – A paperless voting system which allows the voter—through a touch-screen or other electronic mechanism—to cast a vote which is immediately recorded onto electronic media. The DRE systems allow direct modem transfer of vote tabulations from the precinct to the central computer for accumulation and report printing. DREs also represent the only systems meeting voting requirements for individuals with visual impairments or physical disabilities.

E-Day – Election Day

Election Administrator/County Clerk – In Texas, elections have historically been conducted by the County Clerk, with the Tax Assessor/Collector managing voter registration. However, in some Texas counties, the Commissioners Court has moved election and voter registration duties away from elected officials and combined them into one, appointed position, the Elections Administrator. In these counties, the Elections Administrator answers directly to the Commissioners Court. In counties like Travis, the County Clerk is the final authority in all aspects of election administration except voter registration.

EVBM – Early Vote By Mail

EVIP – Early Vote in Person

Precinct Ballot Counters (PBC) – Votes are counted electronically at the precinct. When a voter completes the optical scan ballot, he/she feeds the ballot into the PBC. If the PBC detects an overvote (a vote for more than one candidate in a particular race) or it reads a blank ballot—usually caused by using unreadable ink—it will display a message asking the voter to clarify his/her intentions. This allows the voter to conduct the "intent of the voter audit" before the ballot is counted.

Because the PBC counts the ballots as they are submitted, at the end of the day, the election judge need only complete the paperwork and modem the precinct's results directly from the precinct or substation to a central computer for accumulation and report printing.

Receiving Substations (RSS) – To reduce the hardship on Election Judges whose precincts are not centrally located and to strive for a more efficient Central Counting Station, the County Clerk's office established substations throughout the County where Judges could bring their ballots. In turn, at intervals throughout the evening, Sheriff's Deputies take several ballot boxes at a time to the Central Counting Station to be counted.

SOS – Secretary of State's Office; the state agency which oversees election activities in Texas.

Texas Election Code (TEC) – The state law governing the conduct and implementation of elections by Texas counties.