electionline.org
Briefing

Case Study:
Election Partnerships

Federal mandates for accessible voting machines and statewide databases compelled many state election offices to make wholesale transformations to their election systems on an abbreviated schedule. Change has been challenging.

Once funding was secured, machines had to be tested, approved and purchased. Then poll workers and voters had to be trained to administer elections on them. Election departments had to employ new methods to tally results from multiple voting systems and absentee ballots.

And while voting upgrades were underway, scrutiny was at a historic high, with grassroots organizations, good government groups, political parties, the media and other stakeholders keeping a close eye on voting system performance.

Even experienced election officials sometimes lacked technical and engineering expertise. Those who made decisions to purchase voting machines sometimes could not judge those actions objectively. And sometimes localities had problems managing the election process and needed outside scrutiny or assistance.

The answer for some states and localities has been to look beyond their offices for assistance.

Since the passage of the Help America Vote Act of 2002, public/private partnerships have sprung up in Georgia, Ohio, Maryland, Connecticut and elsewhere. In most cases, academics with specialties in computer science,

statistics, law and other fields have formed relationships with election offices to better the voting processes. In some, professors and other educators have used improved teaching methods to improve poll worker training.

electionline.org examined partnerships between states and universities. Specifically, the 18th *electionline* Briefing details the nuts and bolts, implications and criticism of existing partnerships. The prospects for future partnerships between state and local election offices, universities and, citizens' groups are also expored.

The advantages are clear for election departments that have opted for partnerships. Ideally, a respected and nonpartisan institution can evaluate technology and processes in an environment that fosters objectivity and discovery. Decisions can be based on the advice of outside experts and grounded in research, increasing confidence in the changing processes.

And for the universities and other organizations involved in joint election projects with states, the payoff can be hands-on experience with real-world challenges. As one University of Connecticut researcher noted, the partnership gave the academics a sense of purpose.

"My research, it's fairly dry," said University of Connecticut computer scientist Alex Shvartsman. "And if there's any impact on society, it takes 20 years. [Elections are] something people care about right now and today."

The students who participate get additional training, and the university gets the prestige that comes with the partnerships.

But such relationships are not without critics. Some university researchers have been accused of being in league with state administrators or voting machine companies. Such criticism has been leveled at experts from Kennesaw State University who worked with the

Georgia Secretary of State's office to aid with the transition from punch-card voting to touch-screen voting machines manufactured by Diebold.

Increasingly, however, the partnerships involve an additional measure of analysis of election administration performance and often result in challenges from university researchers to election administrators. In Connecticut, a partnership resulted in the endorsement of a voting system, but not before security faults not identified by state or federal certification were revealed and repaired. Cleveland State University coordinated the audit of election results in one Ohio county and found problems that needed attention.

States and localities also are likely to maintain relationships established with outside experts once they are in place. Connecticut renewed its relationship with the University of Connecticut while Georgia has expanded and evolved its ties with an election research group at Kennesaw.

More partnerships or arrangements are on the rise. New Jersey will have its machines studied by the New Jersey Institute of Technology, while Texas' Secretary of State has a program in the planning stages with a coalition of four universities and a nonprofit group to evaluate voting machines.

Executive Summary

The mandates of the Help America Vote Act of 2002 required states to make significant changes in election administration in a relatively short period of time. In some instances, state officials and election administrators responsible for implementing polling-place changes found challenges when testing the voting equipment, establishing training programs, educating poll workers and analyzing successes and failures.

Partnerships with academic institutions have eased the transition. Through relationships with universities, states and localities report that they have been able to make more informed decisions about voting equipment, design more effective curriculum for poll workers and have their policies and security procedures measured by rigorous academic standards.

In return, the universities that participate — including both faculty and students — gain real-world experience in applying their sometimes highly theoretical research to the vitally important field of elections.

The case study examined five such partnerships and looked at the possibility of future arrangements around the country. In most cases, partnerships were formed out of choice — Georgia's secretary of state office and Kennesaw State University joined together to test the state's new voting system and verify software, as the state had no experience with touch-screen technology.

In other instances, the partnerships sprung out of difficult election experiences and litigation. Following a troubled primary in Cuyahoga County, Ohio, the Center for Election Integrity based at Cleveland State University was hired by county officials and served in an official capacity as election monitors in order to improve performance. An election audit released in April 2007 was the culmination of that effort.

Partnerships are not without critics. Some have questioned the independence of Kennesaw State and its ability to make decisions — one of which included certifying for use a Diebold-built touch-screen voting system that has been slammed by critics. Similar concerns have been raised by voting advocates in New Jersey, who challenged whether a state-funded

institution could make independent decisions about state-funded voting system purchases.

Other partnerships detailed in the case study include:

Connecticut state election officials and the University of Connecticut — The Voting Technology Research Center is funded $250,000 annually. Researchers were instrumental in the state's decision to purchase optical-scan voting machines as well as to establish security procedures. Ongoing efforts include refining post-election audits and continuing assessments of voting system software.

Boise State University and Ada County, Idaho — Students from the university served as poll workers in 2006, assisting older poll workers in the county administer the election on newly-purchased hybrid voting machines employing a touch-screen interface to mark paper optically-scan ballots. In all, 165 students worked the polls in November 2006. While no formal relationship was reported this year, a dozen students returned to service in 2007 and future efforts could be on the horizon for the 2008 Presidential primary and general election.

Baltimore County/City of Baltimore and the University of Baltimore — The University's Schaefer Center for Public Policy developed a poll-worker training program, drawing on professors using modern presentation tools to educate election judges during day-long courses before the primaries and during the two-hour refresher courses held before the general election.

While there are too few partnerships nationally to call such arrangements a trend, at least two more are on the way. Four universities and nonprofit organizations formed an alliance to mirror the Georgia-Kennesaw State University program. Functions of the partnership could include machine testing and certification and poll-worker training. New Jersey's attorney general contracted with the New Jersey Institute of Technology to test printers that will be used to produce voter-verified paper audit trails with electronic voting systems.

A Partner in a Time of Change:
Georgia and Kennesaw State University

Following the 2000 election, it appeared that Florida had cornered the market on election troubles, particularly with balloting problems using punch-card voting machines.

But to the north, a similar problem — albeit without the butterfly ballots, hanging chad, recount and lawsuits — plagued the vote. More than 94,000 Georgia voters failed to register a vote for president in November 2000, an under-vote rate of 4.6 percent statewide. In some counties, the state election division reported that as many as 18.8 percent of votes for president were under-votes.

The high error rate prompted action by then-Secretary of State Cathy Cox (D), who ordered her staff to analyze the vote.[2]

The result was a fundamental shift in the way votes would be cast in Georgia, as the state became among the first after the 2000 election to switch to the statewide use of a single, uniform, electronic, touch-screen or direct-recording electronic (DRE) voting system. The transition, hailed as a breakthrough by some and later criticized by those concerned about the security of e-voting, was facilitated through a partnership with the Center for Election Systems at Kennesaw State University.[3]

Just as Georgia made its final selection of Diebold to provide the uniform system in 2002, Brit Williams, Kennesaw professor emeritus of computer science, approached his colleague Merle King, associate professor for information systems, about the possibility of assisting the state with training as it made the transition to a new voting system. Williams had been involved with voting technology issues as a consultant on federal voting system standards.

King — who specialized in technology — agreed, though said he had "no idea what we were getting ourselves into."[4]

The arrangement with the state was little more than a handshake at the outset, but by July 2002, Kennesaw had a $500,000 per year formal arrangement with Georgia.[5]

From the beginning, Kennesaw's expertise in computer science and human interaction, as well as elections, provided the state with a resource for developing training on the use of voting systems and tabulators. In a state where paper had been used for elections for decades, the jump from punch cards to data cartridges and from ballot counters to election management systems required a major assist from Kennesaw whose responsibilities quickly expanded.

According to a 2003 presentation by Williams, Kennesaw researchers reviewed voting system compliance with Georgia's election code, developed a validation program to test voting systems in counties and verified that voting machines (and installed software) were identical to those tested and certified.[6]

By the end of 2003, the Center was responsible for auditing Diebold's operations in Georgia, including final assembly of DRE units in a state warehouse in West Atlanta and examination of the shipments made to each of the state's 159 counties.[7]

Evolving Needs, Evolving Duties

In recent years, as Georgia's needs have changed, so too has its partnership with Kennesaw.

King said evolution was always part of the arrangement.

"If a problem [with the voting system] was identified, we brainstormed a solution and came up with solutions."[8]
Those solutions grew to include:
- State acceptance testing of the Diebold voting machines after national certification — involving every one of the state's 19,000 units;
- Establishing a statewide call center via a toll-free help line for election officials needing assistance with their machines;
- Building and proof-reading ballots both for inclusion in the electronic machines as well as for printing and distribution to absentee and overseas Georgia voters.[9]

By 2005, Kennesaw began to focus on helping the state with the development and testing of its new electronic poll books, a device used to check in voters and activate appropriate ballot cards. Tasks included not just technical assistance, but programming and storage of the 6,300 "flash cards" used to store the statewide registration database used in the poll books — "our $4 million closet," King said.[10]

The Center's annual budget is now $723,000, but the benefit to the state is much greater, King said, given that he and many colleagues charge little or none of their time — in essence providing a subsidy from the university to the state.[11]

Oversight or Validation?

But the arrangement has its critics.

As suspicions grew over the accuracy and reliability of electronic voting, so too did the wariness over the relationship between a state university and a state agency.

In 2003, as voter-integrity organizations began to bring attention to security vulnerabilities in voting systems — and particularly in the Diebold DREs like those used in Georgia — the Center occasionally became embroiled in controversies as many called into question the election machine manufacturer's products and the wisdom of approving them for use in elections.[12]

In an article in *The Chronicle of Higher Education* detailing the arrangement between Kennesaw computer experts and state election officials, Warren Stewart of VoteTrustUSA said the university professors were "used to validate the policy and purchase decisions of the secretary of state of Georgia in a fairly consistent way."[13]

In 2006, the head of the Center, Raymond Cobb, assisted Cox in preventing the release of voting machine data from CD-ROMs to a group of DeKalb County voters

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who wanted to audit the primary elections. The discs contained ballot design and vote tallies. But Cobb's affidavit, along with Cox's statement, led a county judge to issue an order preventing the release of the data.[14]

Future Prospects

The Kennesaw Center, firmly entrenched as a partner in the oversight of elections since 2002, may see its role evolve in a more profound way in coming months.

While Georgia remains one of about a dozen states using DRE machines without voter-verified paper audit trails, legislation in the state or in Congress could compel significant changes to the system in the near future.[15]

A bill (H.B. 9) under debate during the 2007 legislative session would require that the state's DRE machines provide voter-verified paper audit trails. At press time, the bill had not advanced past a House committee.[16] Maryland, is, the only other state in the country using a statewide system of Diebold DRE voting machines, that produce a paper record of all votes, but not voter-verified paper audit trail. However, Gov. Martin O'Malley (D) signed legislation in May to scrap the state's $65 million machines in favor of a paper-based system.[17]

Even if the state legislature does not act, Congress might. A bill (H.R. 811) requiring all paperless machines to use permanent paper records for recounts and audits cleared a committee and was due for a floor vote in the U.S. House of Representatives in mid-2007. A similar bill was introduced in the Senate in May 2007.

Cuyahoga County and the Center for Election Integrity

After Ohio's troubled 2004 general election, state and local election officials faced a barrage of criticism from voter groups that voiced concern about a number of issues, including the handling of provisional ballots, long lines at the polls and poorly-managed recounts.

Candice Hoke, a Cleveland State University (CSU) law professor, witnessed some of the problems first-hand as an official observer at polling locations in the Cleveland area.

"I discovered that the precinct poll workers varied greatly in their focus and efficacy in processing voters, that many were quite dedicated, but that all had some gaping holes in their understanding of their tasks as required by law," she said. "Even more significantly, however, I was surprised to discover that the background electoral administrative system had failed the voters and the poll workers."[18]

She saw more than an opportunity to critique — she also saw an opening to help improve the state's election process.

"We needed to motivate and support election officials to seek the highest standards of performance, and to understand that they held a public trust of core value to our citizenry as well as our nation as a whole."[19]

Out of the experience came the idea for the Center for Election Integrity (CEI), a university-based research center combining expertise from both the legal and public administration fields and focusing solely on the running of elections.

Formed in 2005 and based at CSU, the Center is a partnership of the Cleveland-Marshall College of Law and the Maxine Goodman Levin College of Urban Affairs, both of which made in-kind contributions to offset initial start-up costs. The Center describes its mission as having three parts: first, helping Ohio become a leader in transparent and efficient elections by 2008; second, ensuring citizens trust the elections process; and third, conducting studies and making recommendations about election administration at all levels — local, state, national and international.[20]

In the two years since its inception, the Center's role has grown to include investigating, monitoring and working to improve elections, with the majority of its initial work centered on Cuyahoga County.

Some of the early experience with local election officials grew out of the Cuyahoga Election Review Panel (CERP), formed after more problems emerged during the county's May 2006 primary which saw the debut of touch-screen voting machines with voter-verified paper audit trails (VVPATs). Hoke was named one of the three panel members, and a detailed report and recommendations were released in July 2006.[21]

One month later, another study was issued involving the May 2006 primary as well. The Election Science Institute released its detailed account of the many problems the county encountered.

In August 2006, with the CERP report in hand and the Institute's report drawing significant media attention, the county awarded CEI a contract to become their public monitor through 2008. The county provided $55,000 to cover start-up costs. The Center was charged with monitoring the implementation of CERP's report recommendations and reported to both the County Commissioners and the Board of Elections.[22]

The role evolved as the project wore on, according to Hoke, as the Center found morale problems and disagreements at the Cuyahoga County Board of Elections. CEI "concentrated on two significant areas of election risk: technical issues relating to accuracy, reliability and security and the conduct of polling place activities."[23]

The Center issued two reports following the November 2006 election, drawing on its public monitoring experiences. First, in January 2007, a memo was sent to the board of elections and county commissioners concerning potential legal issues observed during the election. CEI indentified six areas of possible non-compliance — erroneous voter registration deletions; poll-worker management and polling-place accessibility; legally mandated "seals" for ballot

security; inconsistencies between numbers of voters signing precinct registry and ballots cast; legal eligibility of certain employees for their job assignments; and election tabulation and related technical and security issues.[24]

The second report, detailing the election audit, was issued in April 2007. The Center coordinated the audit — which included representatives from both political parties — and offered methodological guidance and statistical analysis of the county's unofficial election results.

While stating the November election was an improvement over the May primary, Hoke said problems remained including continued issues with damaged or destroyed VVPATs.[25]

The audit report was released soon after Ohio Secretary of State Jennifer Brunner (D) asked for and eventually received the resignation of the four-member bipartisan Cuyahoga County board of elections in mid-March 2007. By early May of this year, four new members were appointed to the board which is now in the process of discussing the future role of the Center as public monitor.

Beyond its continued public monitor function, CEI also hopes in the future to partner with Brunner's office on implementing best practices in areas of election technology and security. One idea includes a pilot program that

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—Candice Hoke, Cleveland State University

would create temporary performance standards involving the accuracy, reliability and security of the state's elections.

Other potential projects include the establishment of academic programs within CSU's public administration program. Four counties have expressed interest in taking such courses about federal and Ohio election law specifically targeted at election officials.

It is this challenging role that Hoke sees as fundamental to the Center's mission — continuing education for election officials and creating a program for advanced coursework and degrees.

"For a number of years it has seemed that state and federal agencies had all but abandoned the tasks of providing to local election officials prompt, effective training, consultation, and guidance for problem-solving. But some Secretaries of State (including Ohio's) seem to be moving forward to redress this omission."[26]

Connecticut's Voting Machine Partnership

Connecticut's nickname, "the land of steady habits," was never more applicable than in voting. For over 50 years, voters had cast ballots on mechanical voting machines, seeking privacy behind a curtain and completing their ballot with the pull of a red lever.[27]

But time, technology and federal law caught up to the old way of doing things in the Nutmeg State, and by 2006, a voting system upgrade could no longer be avoided.

When the U.S. Election Assistance Commission (EAC) informed state officials in September 2005 that the ancient and familiar voting system did not comply with the Help America Vote Act of 2002 (HAVA) because it produced no paper record of votes, keeping them was no longer an option. The machines lacked the ability to meet Section 301 (a), which mandates that machines "produce a permanent paper record with a manual audit capacity." Lever machines, therefore, had "significant barriers which make compliance with [the section] difficult and unlikely," the EAC wrote.[28]

The state had to upgrade voting systems, despite opposition from voters, local election officials and newspaper editorial pages. Local officials complained of costs and potential confusion among older voters and heralded the familiarity and trustworthiness of the lever system.[29] Some voters testing higher-tech optical scanners at polling places in 2006 were suspicious of computerized vote counters, saying

they could be susceptible to manipulation or fraud.[30]

The press sounded the alarm, with the state's largest newspaper, *The Hartford Courant*, urging the state to "take a step back" and request an extension from the EAC and the U.S. Department of Justice, the agency in charge of enforcing HAVA, to find "the best, most reliable technology."[31]

Caution, however, collided with the federal government's timetable. Still, Connecticut's leaders were deliberate in putting together a commission of computer experts, lawmakers and others to determine how to develop a request for proposals (RFP) to find the state's next voting system.

During the RFP process, state officials realized outside help was needed. Mike Kozik, managing attorney for the secretary of state's office, said the staff on hand "lacked the real technical expertise to do an analysis of the various voting machines."

"We wanted to have someone, frankly, who we could talk to. Someone who had the expertise to take a hard look at the performance of the machines," he said.[32]

Enter Alex Shvartsman, a University of Connecticut computer science professor who served on the state's committee, but decided to opt out of the selection process when he knew his services would be better used in the evaluation process.

A few colleagues at the university expressed interest as well and with a

$250,000 one-year grant from the state, the Voting Technology and Research Center was born.

"There are four faculty members involved in it. One of us is very much interested in voting systems; another in encryption and security. Another is interested in systems aspects and I have my fingers in each of the areas," Shvartsman said.[33]

In October 2006, the Center released a 17-page report in which researchers simultaneously endorsed the state's decision to purchase optical-scan machines manufactured by Diebold and raised security concerns about the voting system.

Shvartsman and his colleagues recommended a strict chain-of-custody for the machines, including the use of tamper-proof seals to make sure none of the critical components, particularly the memory cards which contain electronic records of the vote, could be removed. They also urged the state to disable internal modems by disconnecting them and suggested post-election hand counts of vote totals to make sure electronic counters in the machines worked accurately. The recommendations were implemented by the secretary of state's office in time for a November 2006 pilot project.[34]

After the November 2006 election, the Center also helped design and write the state's first-ever post-election audit.[35]

With both the voting-system selection and audit standards completed by the latter half of 2006,

"For some other states, maybe there's fear. But I think it's misguided. It's much easier to say 'we were diligent. We examined these things. They were faulty, and we found out.' That's the position state governments should be taking."

—Alex Shvartsman, University of Connecticut

the state and Center opted to continue the relationship in 2007 and beyond. While 25 localities in the state used the optical-scan systems in the November 2006 vote, the entire state will use the new voting system in time for the 2008 presidential primaries and general election.

Shvartsman said the partnership with the state and grassroots organizations, including TrueVote Connecticut, an organization that also participated in the machine selection process, is unique nationally. The Center has unrestricted access to machines, a few of which are on hand in a university lab with "research assistants playing with them on a daily basis."

For the state and the Center, both sides pointed to mutual benefits. The selection of voting machines by state officials is legitimized by experts. Voter confidence might increase by using machines that have undergone not only federal and state certification procedures, but rigorous testing by computer scientists. Faculty at the University of Connecticut gain not only a tool for study, but a chance to do vitally important work in a field that can often be "fairly dry."

"It's a technical challenge," Shvartsman said. "My research, it's fairly dry. And if there's any impact on society, it takes 20 years. It's rewarding to do something like this — something that people care about right now and today. The graduate students also get training. For some other states, maybe there's fear. But I think it's misguided. It's much easier to say 'we were diligent. We examined these things. They were faulty, and we found out.' That's the position state governments should be taking."[36]

Boise State University's student poll worker program

After the U.S. Election Assistance Commission (EAC) announced that they were accepting grant applications for their college poll worker program in May 2006, the Ada County clerk's office began working with Boise State University to apply.

However, the short turnaround time allowed between the announcement of the competition and the deadline for applications — less than three weeks — proved to be a challenge.[37]

While the attempt at getting a federal grant failed, Dave Navarro county clerk county clerk together with Boise State decided they should work anyway.[38]

The partnership allowed college students to help older poll workers and voters use the ES&S-made AutoMARK machines, Ada County elections specialist Phil McGrane said. The voting system uses a touch-screen interface to produce optically-scanned paper ballots.[39]

Getting the students up to speed the new voting machines was faster and easier than other poll worker training. The students were "totally different from your 74-year-old poll worker who has no interest in using a computer," McGrane said.[40]

"[Ada County] figured correctly that the students would be less traumatized by the technology," said Stephanie Witt, director of the Boise State Public Policy Center. "It's really straight forward. It's like turning on a printer so the students had no problem with it at all."[41]

However, training the college poll workers was not without problems.

"The ramp-up was too quick," Witt said, adding that work on the program didn't begin until they learned the attempt to get grant funding from the EAC failed.

There were also problems getting the word out to the students and organizing trainings with Ada County officials so the students would be certified as poll workers.[42]

Despite some of the challenges, Witt said that students took their responsibility to work the polls seriously. "We had very few students who didn't show up," she said.[43]

Witt said that many of the 165 students who worked at the polls on Election Day were recruited through on-campus organizations and clubs such as the Political Science Association and the Volunteer Services Board.[44]

Many students turned over their earnings from the day's work — $125 per poll worker, according to McCrane — to their clubs, turning the experience into a fundraiser. Moreover, McCrane said that Boise State offered to match the students' contributions to the clubs for volunteering as poll workers.

"For them, that adds up to a lot," McCrane said.[45]

On Election Day, student poll workers wore t-shirts identifying their university affiliation. "We bought them t-shirts in Boise State blue . . . the shirts turned out to be the biggest unrecognized hit ever," Witt said, explaining that the shirts garnered a lot of media attention for the program.[46]

McCrane said that about a dozen students were returning in 2007 to help Ada County run elections again and students will run three precincts themselves. Plus more changes may be on the horizon, adding to the need for new blood at the polls. "We're looking at a new voting system so the more youth we can get involved, the better," McCrane said.[47]

"I was real proud of the project, I'm glad we did it," Witt said, adding that Boise State would work with Ada County again if asked.[48] McCrane agreed. "I think we would like to do it again," he said. "It's already proven to be valuable . . . if they've done it once in college, they'll be familiar enough that they'd be willing to do it again later in life."[49]

Baltimore, University of Baltimore Work to Improve Election Judge Training

Seeking to mimic employee training at large corporations or state agencies, the University of Baltimore, in conjunction with the Baltimore County Board of Elections, created a program designed to make election judges more effective on Election Day. Professional instructors — professors from the university — took charge of classrooms, with modern presentation tools. Hands-on activities were favored instead of the typically dry, two-hour annual training or refresher course.

The university's Schaefer Center for Public Policy developed the training program about Maryland election procedures and high-tech equipment beginning in 2006, in time for the mid-term vote.

While county officials used the training programs in advance of the 2006 primary, held in September, it was expanded to include nearly 3,000 election judges in the city of Baltimore as well, after the Maryland state elections division ordered the city to fix a host of problems that plagued the vote.[50]

Those who participated credited county election administrators, who realized the shortcomings in staff and money that it would take to train large numbers of poll workers properly.

"I give Jackie McDaniel [Baltimore County Director of Elections] a lot of credit for making

this happen," said John Willis, senior research associate at the Schaefer Center. "She went to her commission and basically told them that her office, with the number of staff and budget they have, that they simply could not get the election judges trained."[51]

The training program included a review of the state election judge manual, a PowerPoint presentation tailored to the county's needs and requirements, hands-on activities and demonstrations of the voting units and electronic poll books and preparation and distribution of other materials related to providing

voter assistance and the operation of polling places.

Willis said one of the keys to success for the program in Baltimore County was a sharp focus.

"It doesn't matter whether it's Disney or the Motor Vehicle Administration, professional training programs work and if you treat the training of election judges like a professional training program, you are going to have success," Willis said.[52]

The classroom size for the training sessions ranged from 10 to 35 people. Each session was conducted by professors who

"It doesn't matter whether it's Disney or the Motor Vehicle Administration, professional training programs work and if you treat the training of election judges like a professional training program, you are going to have success."

—John Willis, Schaefer Center for Public Policy

themselves had been trained by Willis and Diebold, the state's vendor, on the ins and outs of the voting system. Each professor was aided by one student assistant in the classroom.

Willis said the biggest problem with the training was scheduling to fit the needs of both instructors and election judges. To rectify the problem, the Center is looking into Web-based scheduling.

In the months leading up to the September primary, the Schaefer Center trained more than 2,600 election judges for the county. The 163 training sessions took place at the University of Baltimore, Baltimore County Community College and Morgan State University.[53]

After the primary, the center also provided mandatory chief judge refresher training for the county's 436 chief judges and conducted training sessions for an additional 500 new election judges for the general election.[54]

The center also trained about 2,900 election judges in Baltimore City for the November general election. The judges were trained in a span of about 22 days.[55]

Because of the condensed timeframe for training, the classroom size in Baltimore City was a bit larger, and Willis said an added element to the training in the city was to call each judge just prior to the election and remind them about their upcoming assignments.

In addition to well-trained election judges, Willis said another asset of the program is that several of the professors who conducted training sessions ended up volunteering as election judges.

He added that another benefit of the partnership between the University of Baltimore and the local election officials is a change in attitudes.

"Essentially, we revitalized the workforce," Willis said. "No one had really paid too much attention to [election judges] before, they were sort of a necessary evil; but when you approach it the way Jackie and I designed it, the election judges feel more a part of the process. It's more substantive."[56]

He noted that there is an "unquenchable thirst for knowledge" among election judges and that they really do want to do their jobs well and programs such as this help them accomplish that.

Through a clause in the Baltimore County agreement, other jurisdictions in Maryland can contract with the Schaefer Center to provide similar training for their election judges.

Willis said that a program similar to the one created by the University of Baltimore could be replicated at just about any institution of higher learning, especially a community college.

"Community colleges are great resources because many of them will develop programs for you," Willis said. "It wouldn't be difficult at all for a local community college to treat election judge training as another workforce development program."[57]

Besides its work with Baltimore County and City, the Schaefer Center also received a grant from the U.S. Election Assistance Commission (EAC) as part of its Help America Vote College Program. UAB is one of only four universities to be awarded the grant in both 2004 and 2006.
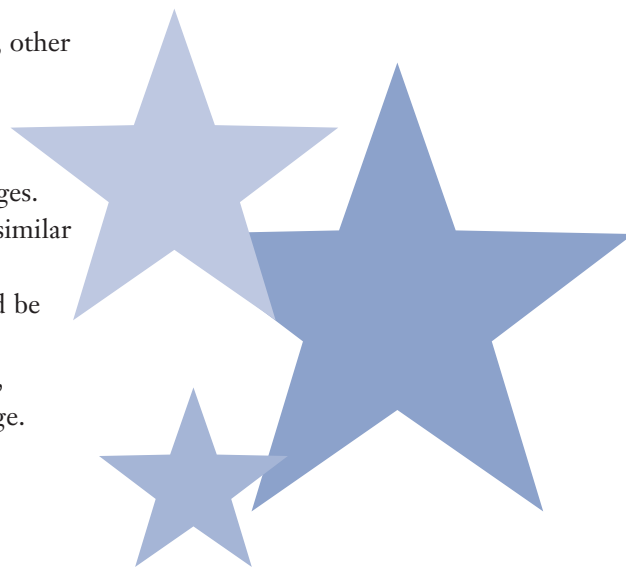
Future Partnerships in Texas and New Jersey

Inspired by the partnership between Kennesaw State University and Georgia election officials, four universities and a nonprofit organization in San Antonio formed an alliance to assist Texas election officials.[58]

"The Secretary of State's office came to me and said we need a Kennesaw State," Andy Pennington, Center for Cyber-Security Policy director at Our Lady of the Lake University – San Antonio said. "The alliance of schools was put together to mirror all the functions that exist at Kennesaw so whatever they can do, we can do."[59]

Those functions would include assisting in machine testing and certification and poll worker training as well as other functions.

The Texas Election Support Alliance (TESA) includes Our Lady of the Lake Center for Cyber-Security Policy, University of Texas – San Antonio (UTSA) Center for Infrastructure Assurance and Security, St. Mary's University Center on Terrorism Law and Alamo Community College District Advance Technology Center, as well as the Southwest Research Institute, an independent, nonprofit applied research and development organization. Each part of the alliance brings something different to the table, making TESA more valuable than the sum of its parts, Pennington said.[60]

Under Texas election code, TESA must be completely independent of state influence — a criticism of Kennesaw State.

"Down the road it would be nice if we could create the center and Texas election code would be changed," Pennington said, but the change would have to come from a legislator. "We are working with our legislators to try to create this effort … but right now the Secretary of State's office has tied hands," he added.[61]

To maintain its independence, TESA is applying for grants and looking for small projects in election security to undertake in the meantime. "We're going to be competing as an alliance using our joint capabilities," Pennington said. Also, Texas A&M University is joining the alliance to assist with TESA's management and relations with the Secretary of State's office.[62]

In New Jersey, the Attorney General's office has contracted with the New Jersey Institute of Technology (NJIT) to test voting machine printers that will be used to create voter-verified paper audit trails. The move came after voting rights activists, represented by the Rutgers Constitutional Litigation Clinic, charged that the state and voting machine vendors have been dragging their feet in meeting the January 2008 deadline for voting machine paper trails.[63]

The agreement with NJIT will increase public confidence in elections and "ensure a paper trail which is accurate, reliable and can be audited," according to attorney general Stuart Rabner. Vendors will pay for the testing — $37,500 per system[64] — and provide the source code for both the electronic voting machines and paper printout systems.[65] However, the agreement requires the vendors to provide the state with the source code, not NJIT. The source code will also be placed in escrow should the need arise for further testing.[66]

Mitchell Darer, Center for Information Age Technology director at NJIT said that about two dozen students and faculty members will conduct tests on the printers and see if they hold up after 1,200 votes are cast. One party to the lawsuit activists filed, Irene Goldman from the Coalition for Peace Action questioned how independent an NJIT review can be considering that it is a state school.[67] Darer said that the tests will conclude in July.[68]

Snapshot of the States:

The following provides a brief overview of the partnerships between universities and election offices profiled in this report.

Connecticut
Partnership: Voting Technology and Research Center — a partnership between the University of Connecticut and the Connecticut Secretary of State.
Year created: 2005
Scope/Recent projects: Statewide voting machine testing approval, auditing procedures, software testing. In October 2006 the Center released a security assessment of the state's Diebold optical scan voting technology. In November 2006, the Center helped design the post-election audit and write the audit report.
Funding: $250,000 (one year with renewal anticipated)

Georgia
Partnership: The Center for Election Systems — a partnership between Kennesaw State University and the Georgia secretary of state's office.
Year created: 2002
Scope/Recent projects: Auditing Diebold's operations in Georgia, including final assembly of DRE units in a state warehouse in West Atlanta and examination of the shipments made to each of the state's 159 counties. Helped the state with development and testing of its new electronic poll books.
Funding: $500,000 per year initially, now $723,000 annually

Idaho
Partnership: Boise State University and Ada County clerk's office.
Year created: 2006
Scope/ Recent projects: Recruited college poll workers for the 2006 general election.
Funding: $20,000 (Ada County budget)

Maryland
Partnership: The Schaefer Center for Public Policy at the University of Baltimore and the Baltimore County Board of Elections.
Year created: 2006
Scope/ Recent projects: Developed a training curriculum designed to instruct election judges on voting equipment and systems used in the 2006 election.
Funding: Not available

Ohio
Partnership: The Center for Election Integrity — a partnership between Cleveland State University, the Cuyahoga County elections office and Cuyahoga County commissioners.
Year created: 2005
Scope/Recent projects: Designated as a public monitor for Cuyahoga County, charged with implementing recommendations of a July 2006 report on the county's voting process. The Center is in the process of developing continuing education for election officials and the creation of a program for advanced coursework and degrees.
Funding: $55,000 from Cuyahoga County for the start-up funding of the Public Monitor project. Initial costs in 2005 were from in-kind contributions of the Law School and the College of Urban Affairs.

Methodology/Endnotes

NOTE: flag art omitted for legibility of changes, art will print

Research was compiled through the use of primary and secondary sources including interviews with non-governmental organizations and state and local election officials as well as news accounts.

All sources are cited below in the endnotes.

The opinions expressed by election officials, lawmakers and other interested parties in this document do not reflect the views of nonpartisan, non-advocacy *electionline.org* or The Pew Charitable Trusts.

All questions concerning research should be directed to Sean Greene, project manager, research at *sgreene@electionline.org*.

1   "Cox, The Honorable Cathy" Press Release: "2000 Election Data Shows Undervote Rates Consistent Among All Voting Equipment," Dec. 28, 2000 (available online at www.sos.state.ga.us/pressrel/pr001228.htm) (last visited May 16, 2007)
2   Telephone interview, Merle King, May 16, 2007.
3   http://elections.kennesaw.edu.
4   *Op. cit.* King.
5   *Op. cit.* King.
6   Williams, Britt. Presentation to the California Elections Summit, remarks delivered Nov. 29, 2005.
7   *Op. cit.* King.
8   *Op. cit.* King.
9   *Op. cit.* King.
10   *Op. cit.* King.
11   *Op. cit.* King.
12   In a *Wired Magazine* article from 2003, Britt Williams from Kennesaw State defended Diebold against charges from a former Diebold warehouse employee that the company might have tampered with voting machines by installing uncertified software after logic and accuracy testing. "We have no reason to believe that Diebold did anything in that warehouse that we're unaware of." Zetter, Kim. "Did electronic vote firm patch the Georgia election?" *Wired Magazine*, November 2003.
13   Foster, Andrea L. "Georgia's Unusual 'Electoral College,'" *The Chronicle of Higher Education*, Jan. 19, 2007.
14   *Ibid.*
15   Information on rules regarding voter-verified paper audit trails was published by VerifiedVoting.org and was valid as of May 18, 2007. For more information, visit *verifiedvoting.org*.
16   Bearden, Rep. Timothy, R-Villa Rica. House Bill 9 to amend Chapter 2 of Title 21 of the Official Code of Georgia Annotated, January 2007.
17   Kumar, Ruma. "O'Malley OKs Buying New Voting System," *The Baltimore Sun*, May 18, 2007.
18   E-mail correspondence with Candice Hoke, May 8, 2007.
19   *Ibid.*
20   *The Center for Election Integrity* Web site, mission statement, *http://urban.csuohio.edu/cei/mission.shtml*, (last visited May 10, 2007).
21   "Cuyahoga Election Review Panel Final Report," Cuyahoga County of Ohio, July 20, 2006.
22   "Center for Election Integrity is Public Monitor," *On Campus*, Cleveland State University, Nov. 1 2006.
23   *Op. cit.* Hoke.
24   "Monitor Report: Possible Legal Noncompliance in the November 2006 Election," Center for Election Integrity, Jan. 8, 2007.
25   Seligson, Dan. "Independent audit finds problems in Cuyahoga's 2006 election," *electionline Weekly*, April 19, 2007.
26   E-mail correspondence with Candice Hoke, May 22, 2007.
27   Bysiewicz, The Honorable Susan. Press release: "State Receives $30 Million for Voting Upgrades," Aug. 26, 2004.
28   "EAC Advisory 2005–005: Lever Machine Voting and Section 301(a)," U.S. Election Assistance Commission, published Sept. 8, 2005.
29   "Evaluating voting-machine options," Unsigned editorial, *Greenwich Time*, Feb. 10, 2003.
30   Seligson, Dan. Election Day Blog: Connecticut, as published on *electionline.org*, Nov. 7, 2006.

31   "Extend HAVA Deadline," Unsigned editorial, *The Hartford Courant*, Dec. 13, 2005.
32   Telephone interview with Michael Kozik, Office of the Secretary of State of Connecticut, May 10, 2007.
33   Telephone interview with Alexander A. Shvartsman, May 11, 2007.
34   Shvartsman, Alexander A., *et. al.* "Report: Security Assessment of the Diebold Optical Scan Voting Terminal," University of Connecticut Voting Technology Research Center, *University of Connecticut Department of Computer Science and Engineering*, Oct. 31, 2006.
35   Bysiewicz, The Honorable Susan. Press release: "Audit Report Shows Optical Scan Machines Performed Very Well in 2006 Elections," Dec. 7, 2006.
36   *Op. cit.* Shvartsman, May 11, 2007.
37   "EAC Announces College Poll Worker Grants," Press Release, U.S. Election Assistance Commission, May 25, 2006.
38   Telephone interview with Philip McGrane, elections specialist, Ada County, Idaho, May 15, 2007.
39   "About Us," AutoMARK Technical Systems, www.automarkts.com. (Last visited May 22, 2007).
40   *Ibid.*
41   Telephone interview with Stephanie Witt, director, Boise State Public Policy Center, May 14, 2007.
42   *Ibid.*
43   *Ibid.*
44   *Ibid.*
45   *Op. cit.* McGrane.
46   *Op. cit.* Witt, May 14, 2007.
47   Telephone interview, May 15, 2007.
48   Telephone interview, May 14, 2007.
49   Telephone interview, May 15, 2007.
50   Harris, Melissa. "Solution to Voting Problems Ordered By Maryland Elections Chief," *The Baltimore Sun*, Sept. 17, 2006.
51   Telephone interview with John Willis, May 21, 2007.
52   *Ibid.*
53   Press Release. "Tireless Schaefer Center trains 6,000 election judges," Nov. 7, 2006.
54   *Ibid.*
55   *Ibid.*
56   *Op. cit.* Willis.
57   *Op. cit.* Willis.
58   Telephone interview with Andy Pennington, May 22, 2007.
59   *Ibid.*
60   *Ibid.*
61   *Ibid.*
62   *Ibid.*
63   Coughlin, Kevin. "State asks NJIT to test voting machines," *The Star Ledger*, May 18, 2007.
64   Gold, Jeffrey. "NJIT to test systems of voting machines," Associated Press as published in the *Houston Chronicle*, May 18, 2007.
65   *Op. cit.* Coughlin.
66   Coughlin, Kevin. "Voting activists win concession: State agrees to test machines," *The Star Ledger*, May 19, 2007.
67   *Ibid.*
68   Volpe, Gregory J. "NJIT to test paper record system," *Courier Post*, May 19, 2007.

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Briefing

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