

White Paper
Education
Auburn, Alabama, USA

Technology as a Tool for System-wide Transformation

The 21st Century Learning
Initiative at Auburn City Schools

Part 1. Preparing for Change: Introduction, Policy, Leadership, and Funding

Contents

- Introduction 3**
 - System-Wide Success with Technology 3
 - Process Excellence 4
- Policy: Education for a Changing World 5**
 - Helping Children Succeed 5
 - Bridging Diversity 7
 - Broader Issues: Communities, Funding, Assessment 7
 - Keeping Kids Safe, Maintaining Appropriate Behavior 9
- Leadership for Systemic Change 10**
 - Goal Setting 10
 - In-Depth Planning 12
 - Teachers as Stakeholders 12
 - Leave No Parent Behind 12
 - Community Outreach 13
- Funding without Surprises 14**
 - Funding Sources 14
 - Detailed Budget Planning 15
 - Doing What You Can 15
 - Learn More 16

Introduction

“The powerful thing about Auburn City Schools is that they’re looking at holistic, system-wide change. They’re engaging the home and the community. Their framework isn’t: We have to teach technology skills. It’s: We have to prepare our students for the world of tomorrow. They’re creating a whole new frame of mind about what it means to teach and to learn.”

Frances K. Kochan, Ph.D.
Dean, College of Education
Auburn University

The world is changing. Technology is a vital tool for creating 21st Century learners who can thrive in that world. Schools must empower teachers to use technology effectively and do everything they can to ensure that students have equal access.

These bedrock principles have led one of the nation’s outstanding school systems—Auburn City Schools (ACS) in Auburn, Alabama—to get even better. ACS is using technology in a broad and deep transformation that is changing the way it prepares students for the 21st Century.

System-Wide Success with Technology

Auburn is the largest city in eastern Alabama and one of the state’s fastest-growing metropolitan areas, thanks in part to the strength of its schools. ACS is recognized throughout the state and nation for high student achievement, superb teachers, and rapid adoption of educational best practices. All schools for grades 1–12 have a media center, art teacher, music teacher, and one or more full-time counselors, and the high school offers a rigorous International Baccalaureate Program. Students consistently score above state and national averages in all areas of the Stanford Achievement Test for Grades 1–10. Ninety-eight percent of teachers are highly qualified, and all schools met No Child Left Behind (NCLB) requirements in 2007.¹

Auburn City Schools is midway through a two-year pilot of one-to-one mobile computing—the 21st Century Learning Initiative. The junior high and high schools are wirelessly networked, and over 1,000 ninth- and tenth-graders have a personal laptop computer. Teachers at both

schools have spent hundreds of hours in individual, departmental, and large-group professional development. Already, the impact is pervasive: students are engaged, discipline problems are down, teachers are energized, and parents are appreciative.

But Auburn’s 21st Century Learning Initiative is simply the logical next step in a school system where kindergartners use the Internet for project-based learning, fourth graders create PowerPoint* presentations incorporating images from digital microscopes, and teachers may podcast their lesson plans or make themselves available for an evening chat session.

At Auburn City Schools, all teachers undergo extensive, ongoing professional development on how best to incorporate technology into their teaching. Every classroom for grades K–9 has several computers, Internet access and an interactive whiteboard. Every school has a full-time, certified teacher dedicated to providing instructional technology coaching for teachers. Even the school lunch program is automated.

Process Excellence

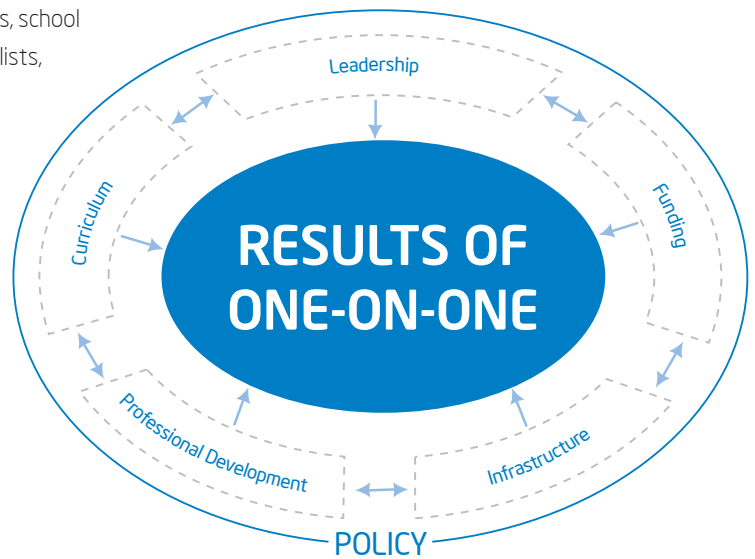
Auburn City Schools is noteworthy not only for what it is accomplishing, but for how. Teachers and administrators spent a year preparing for the one-to-one mobile computing initiative: learning from other school districts, mapping out 10-year budget implications, assessing staff readiness, conducting professional development, choosing technologies, and reaching out to parents and the community. ACS demonstrates best practices that can be valuable to any district seeking to create 21st Century learners.

To capture the Auburn City Schools story, an Intel communications team interviewed more than two dozen students, teachers, school media and technology specialists, administrators, school board members, vendors, and university faculty. Our report follows the framework of Blueprint Solutions for K-12 One-to-One Computing Initiatives, which identifies seven essential components of successful one-to-one

computing: policy, leadership, funding, infrastructure, professional development, curriculum, and results.² The report is published in three parts:

- Part 1. Preparing for Change: Introduction, Policy, Leadership and Funding
- Part 2. Enacting Change: Infrastructure, Professional Development and Curriculum
- Part 3. Evaluating Change: Results and Looking Forward

Watch for parts 2 and 3 to appear soon on www.k12blueprint.com.



Elements of Auburn's 21st Century Learning Environment

- Professional development
- Digital content
- One-to-one laptop computers
- Wireless networks
- Interactive whiteboards
- Digital microscopes
- Digital cameras
- Digital video equipment
- Software tools
- Online resources

Policy: Education for a Changing World



“One of the goals of No Child Left Behind is to narrow the achievement gap. With the laptop initiative, we are helping to narrow that gap.”

J. Terry Jenkins
Superintendent
Auburn City Schools

Policy is the foundation that enables effective program planning to take place. Auburn’s technology programs grew out of Alabama’s state-wide policy of promoting educational excellence, federal policies such as No Child Left Behind, and district-specific policies developed in recognition of technology’s importance in achieving excellence.

Alabama requires four years each of English, math, social studies, and science, and average student achievement has risen every year since the 4x4 curriculum was introduced in 1996. The state has the highest graduation requirements in the U.S., according to its Department of Education, and is one of 21 states that require standardized high school exit exams.

Helping Children Succeed

Auburn’s technology vision and policies start with a commitment to equip students with technology skills. “Children must be prepared for a tech-savvy world,” says Laura Cooper, President of the ACS School Board. “Technology is vitally important to prepare our students for work or college, and it needs to be integrated into everything we do.”

But the vision goes well beyond basic technology literacy. “The unskilled labor market is disappearing,”

says ACS Superintendent J. Terry Jenkins, a 38-year education veteran. “You can’t quit school and make a living wage working in the mill like you could when I was a student—that industry is gone. With globalization, our competition is coming from nations thousands of miles away where people are working as hard as we are, or harder, to help their children succeed. We’ve got to teach children to think critically and embrace the concepts they need to work in a technology-based world, whether or not they’re going to be a professional.”

About Auburn City Schools

- Located in Auburn, Alabama, a metropolitan area of 52,000
- Nine schools, including Auburn High (Grades 10–12), Auburn Junior High (8–9), J.F. Drake Middle School (6–7), five elementary schools, and the Auburn Early Education Center
- 5,669 students, 656 teachers, and staff
- 25 percent of students receive free or reduced-price lunch
- Per-pupil expenditure of approximately USD 9000 per student each year
- More than 70 percent of teachers and administrators hold advanced degrees, and 11 percent have doctorates
- 97 percent of high school students graduate, and 80 percent of graduates attend post-secondary school
- Auburn High named one of America’s top high schools by *Newsweek* magazine



Recognizing these issues, district policies promote learners who are:

- Multilingual
- Multiculturally and cross-culturally competent
- Technologically fluent
- Academic lifelong learners
- Economically engaged
- Artistically expressive
- Democratic citizens

This policy extends across all grades and throughout the curriculum. "Alabama has a K-12 program for teaching technology skills, but that's very different from transforming the way a student learns and a teacher teaches," says Joyce Morgan, who, as associate superintendent, oversees curriculum and professional development. "We have a K-12 vision of integrating technology into project-based,

student-centered learning across the curriculum. Technology is just a tool, but in the hands of a motivated and capable teacher, it's a powerful tool that supports inquiry-based science, hands-on math, the study of persistent issues in history, and other approaches that can promote higher-order thinking and prepare students to succeed in the 21st Century."

To support a policy of integrating technology across the curriculum, ACS leaders wanted computers available in the classroom rather than limited to a once-a-week lab experience. They also wanted to shift from professional development based on using specific applications, to a more holistic approach. While labs would still be used for specialized and expensive software, the focus would be more on using in-room technologies to incorporate technology resources wherever they could enhance teaching and learning.

Bridging Diversity

Diversity and NCLB requirements also influence ACS technology policies. Auburn is a college town, home to Auburn University's 24,000 students and 10,000 faculty and staff. The city is also becoming a magnet for technology companies and other business growth. Yet one-third of ACS students come from economically disadvantaged households, and 36 languages are spoken in homes of ACS high schoolers. Some Auburn children are sending text messages at age 4, but others have no computer access except what the school and public library provide.

ACS is deeply committed to the belief that economic problems at home don't have to mean educational problems at school. That commitment makes it imperative to bridge the digital divide. "With the disparities that we have in our community, the need to level the playing field is a big issue, and it pushed us toward the laptop initiative," says Cooper. "We don't want children disenfranchised because they don't have technology at home. By ninth grade, when students start accumulating Carnegie units, a computer is, or should be, a daily tool."

At the other end of the diversity spectrum, educators say they risk losing tech-savvy



students if they don't incorporate technology into their learning. "This Millennial generation is exposed to far more technology than any of us ever have been," says Kent J. Smith, Ph.D., a former Auburn School Board member and now Vice President for Student Affairs at Ohio University. "If we don't meet students where they are in terms of technology, they're going to be less engaged and not learn as much. This is becoming an issue at earlier and earlier ages, as well as for colleges."

Broader Issues: Communities, Funding, Assessment

School systems operate within a context of community values as well as state and federal legislation and regulation, all of which have implications for technology policy. For example, the school district and Auburn City Council are exploring the feasibility of creating a wireless community. "If children's homes are not wired to the Web, that can create a barrier," Cooper says. "We would love to see wireless community initiatives come to fruition at the state or local levels. A wireless community initiative would morph us into further leveling the playing field and would make our area even more attractive for business and residential growth."

Funding is another issue that must be addressed at the state and federal levels. "At the end of the day, it all boils down to money," says Dr. Smith. "State and national leaders have to look at per-pupil ratios and spending to support technology, and enable more school systems to do what Auburn is doing."

Alabama is among the states that establish technology funding levels on a per-teacher basis. That's the wrong perspective, according to Dennis Veronese, Auburn's Chief Financial Officer (CFO). "We've got to get out of the mentality that we're providing a computer for the teacher," Veronese says. "Technology needs to be about the students. Technology is pervasive in the workplace, and it needs to be pervasive in education. We have to recognize that need and



address it through federal and state policy if we're going to reach all students, move our country ahead, and really compete in the global economy."

Beyond hardware and software, funding policies should address not only technology acquisition, but also professional development and curriculum. "Policymakers need to ask if we're funding the right professional development," says John Saye, Ph.D., Professor of Secondary Social Science Education at Auburn University. "We need to fund efforts to develop innovative curriculum resources in all content areas, and we need to help teachers develop competence in using technology effectively."

Standardized testing is a related issue. "Testing drives everything," Dr. Saye says. "If we're using technology to help students develop higher-order thinking skills, but we're only asking basic skills questions to determine how schools are working, it makes it more difficult to invest in technology.

We need to make sure we're asking schools to be accountable for the things that are important to us as a society."

Best Practices

- Policies driven by 21st Century vision
- Policies support equal technology access for all students
- Behavior and safety policies formulated up front
- Collaboration with organizations such as Auburn City Council to consider creation of a wireless community
- Textbook fund available for software and online resources

Alabama allows districts to use their “textbook” funds to purchase software, a policy move that many other states are still considering. “It’s great to have that flexibility,” says ACS Director of Technology Debbie Rice. Rice would like to see textbook companies put more energy into making content available for online use. “Online resources are a standard part of our conversations with textbook companies,” says Rice. “We’ll gladly skip the ‘free’ incentives, which are not cost-effective for us to use unless they’re standard configurations that we can support. We’d like to see more licensing of materials for online content.”

Keeping Kids Safe, Maintaining Appropriate Behavior

Effective policy for systemic technology transformation must also address practical matters. Working collaboratively, Auburn has developed district-wide policies and procedures governing acceptable use. A technology committee at each school establishes and promotes school-wide policies.

Students and parents sign an Acceptable Use and Internet Safety Policy that spells out

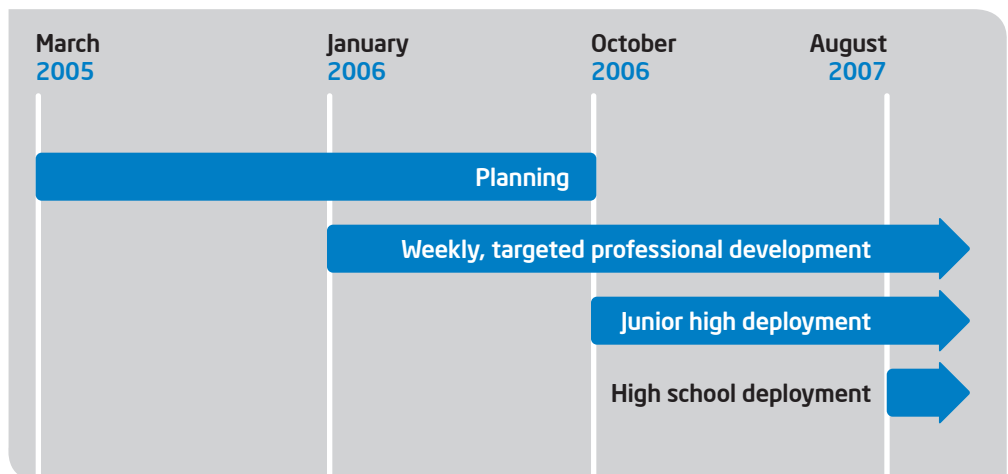
expectations and consequences. A chapter in the student code of conduct describes acceptable uses and behaviors relating to the laptops. Among other restrictions, students are forbidden to play games or access instant messages, chat rooms, forums, e-mail or message boards during the day. Social sites such as MySpace* and FaceBook* are blocked on the laptops, but since students may use other computers to access such sites at home or at friends’ houses, Auburn educates students and parents on appropriate conduct.

Blogs and wikis are under discussion. Teachers see strong educational value, but concerns about liability issues have forestalled their use.

Decisions about which Web sites to block are education-driven and made by school-level committees.

To preserve educational flexibility and minimize the weight students must carry, the district has obtained licenses allowing digital versions of most textbooks to be loaded onto the laptops. In many cases, teachers maintain a set of textbooks for classroom use and encourage students to keep their own texts at home for reference.

ACS Twenty-First Century Learning Initiative



Leadership for Systemic Change



“We approached this like we would the first swim of the year, when the lake is cold and you’re not sure what’s down there. We didn’t jump in head first. We eased in. People tell me I looked like a deer in the headlights when I found out the laptop initiative would start at our school, but now I’m the biggest cheerleader, and it’s because it has been so beneficial for the kids.”

Jason Wright
Principal
Auburn Junior High

Once policy has been formulated, leadership creates an environment in which technology can become a tool for transformation. This includes sharing the vision, collaborating with stakeholders, and developing detailed implementation plans.

At Auburn, individuals at every level are empowered to lead. Dr. Jenkins has earned Superintendent of the Year honors in Alabama and Georgia, along with eSchool News’ Tech Savvy Superintendent National Superintendent of the Year award for 2007. But his leadership is matched by that of teachers, principals, school board members, and central office staff whose leadership in their respective spheres of influence has been instrumental in the district’s success with technology.

Goal Setting

As with any major initiative, it’s important to establish objectives, beneficiaries, and intended goals/objectives. ACS prepared for its 21st Century Learning Initiative—the laptop deployment—by establishing a focus and mission:

- **Focus:** Improve achievement for all students, bridge the digital divide, and enhance instruction.
- **Mission:** Prepare through an anytime, anywhere learning environment, 21st Century students and educators to be lifelong learners and contributing members of an ever-evolving technological global society.

“For us, it is not about technology—it’s about tools to help students learn better,” says Jason Wright, Principal of Auburn Junior High. “If you don’t use the technology to improve instruction, it’s just a weight in a student’s backpack. We’ve tried to focus our vision and resources on using technology for the students’ best interest, not as a flag to wave for its own sake.”

With that firm grounding, ACS established three goals for its 21st Century Learning Initiative:

- Have teachers change and improve the delivery of instruction to realize the benefits of a one-to-one computing environment.
- Increase student achievement, engagement, and ability to learn to meet the demands of the world they are entering.
- Create and support equitable opportunities for student learning through the use of technology as an extension of the classroom.

For each goal, the district settled on a handful of objectives, and spelled out activities and inputs that would help achieve the objective and realize the outcome, as well as data and measurements that would be used to assess their success. Table 1 shows representative objectives, data, and measurements.

Table 1. Preparing to Measure Success

Goals	Objectives	Representative Measurements and/or Data
Adapt instruction to realize technology benefits	Infuse curriculum, instructional methods, content, projects, and lessons with technology throughout daily classroom instruction	<ul style="list-style-type: none"> ▪ Increase in digital content ▪ Increase in teacher-reported change in curriculum, instructional methods, etc. ▪ Increase in observed changes in curriculum, methods, etc.
	Learning environment supports above objective	<ul style="list-style-type: none"> ▪ Be in top quartile among peers for levels of hardware, software, peripherals, services and availability
	Staff has skills and knowledge to support above objective	<ul style="list-style-type: none"> ▪ 95 percent of teachers will progress from their initial state on the Apple Classrooms of Tomorrow (ACOT) scale to the Innovation stage and show progress from each stage to the next
Increase student achievement, engagement and ability to learn	Find inherent, unique advantages of one-to-one environment to increase achievement, engagement and ability to learn	<ul style="list-style-type: none"> ▪ Increase in scores on non-curricular tests and assessments of annual yearly progress ▪ Increase in graduation rates ▪ Increase in attendance ▪ Decrease in discipline issues
	Use an appropriate mix of educational strategies	<ul style="list-style-type: none"> ▪ Increase in demonstrated and documented learning that results in credit being granted to the student ▪ Increase in number or depth of alternative assignments
	Use technology to determine student achievement, engagement and learning ability levels and respond appropriately	<ul style="list-style-type: none"> ▪ Each student has an individualized education plan ▪ Formative assessment results ▪ Summative assessment results
	Motivate students to seek learning opportunities to use technology as extension of classroom	<ul style="list-style-type: none"> ▪ Increase in time spent on learning outside the classroom
Create and support equitable opportunities for student learning through use of technology as extension of classroom	Students will know how to properly use technology as extension of classroom	<ul style="list-style-type: none"> ▪ Increase in students demonstrating competence in using technology as an extension of classroom
	Achieve one-to-one student computing ratio beyond classroom for grades 9–12	<ul style="list-style-type: none"> ▪ Number of computers and students
	Ensure all 9–12 students acquire Internet from home	<ul style="list-style-type: none"> ▪ Parent survey



Mandie Matheny
Math Teacher
Auburn Junior High

In-Depth Planning

Although ACS teachers already used technology extensively in their teaching, preparations for the 21st Century learning initiative took the district's use of educational technologies to a whole new level. The district prepared accordingly. It undertook comprehensive, detailed planning that included site visits, a 10-year budget, and in-depth professional development.

ACS actively sought different viewpoints, welcoming technology enthusiasts and skeptics alike to its planning committee. Among the topics the group tackled:

- Accommodations for special education
- Budget
- Communications to students, parents and community
- Discipline
- Fees
- Filtering systems
- Insurance
- Physical structure of classrooms
- Possibilities for a wireless community
- Procurement processes
- Professional development opportunities
- Staffing needs
- Technology specifications
- Textbook impact
- Timeline for deployment

Site visits were especially valuable. "They were priceless," says Mandie Matheny, an AJH math teacher who visited schools in Texas and Virginia. "To talk to real teachers who are using technology in the classroom every day, to hear the problems and resistance they had to overcome, and to see where they are today—it builds your excitement and helps you see what you need to do to as you move forward."

Teachers as Stakeholders

Site visits also showed the importance of leadership in building consensus. "From the

districts that are experiencing success, we heard over and over how important it is to carefully and methodically bring all stakeholder groups on board and to do the professional development," Wright says. "You can't just mandate this, either to teachers or the community."

Teachers were seen as key stakeholders and were involved in virtually all aspects of planning. "Teachers have to own the technology initiative if it's going to be successful," says Cathy Long, Ed.D., Principal of Auburn High School. "You don't just decide and announce. We had teachers on site visits and on the investigation/planning committees."

District leaders also focused on their vision of what technology could do for teaching and learning—and their belief that would be good for kids. "For most of us, teaching isn't a job, it's a mission," says Mac Matthews, who teaches history to ninth graders at Auburn Junior High. "As teachers began to see that technology could help them be better teachers, they really started to buy in."

Not all teachers were enthusiastic, Dr. Long recalls. "That's where leadership is crucial," she says. "Leaders have to establish direction and make our commitment clear. We have to identify and address concerns of teachers and give them the support they need to become successful. Ultimately, we have to be clear that this is what our kids need. If we don't get on board, kids are going to move on without us. We're going to end up scratching our heads and wondering what happened—how did we lose our kids?"

Leave No Parent Behind

ACS has an open door policy with parents, so in building support with them, it started from a strong foundation of trust and respect. "We want students and parents involved in everything we decide—from choosing textbooks, to designing our athletic programs, to modifying the student handbook or the grading system," says Laura Cooper.

“It’s hard to change the culture of education. Everyone has been to school. Everyone thinks school should be like it was for them. There’s a lot of resistance.”

Frances K. Kochan, Ph.D.
Dean, College of Education
Auburn University



To ensure parents were fully informed, the district held information sessions to describe the initiative, and provide opportunities for parents to get their questions answered and understand their responsibilities. “We held meetings at different times and offered one-on-one sessions, as well,” Cooper says. “Our approach is: Leave no parent behind, so we were very flexible in accommodating parents’ work schedules.”

Parents were required to attend at least one information session before students could receive their laptops, and 97 percent of ninth-grader parents attended the sessions. “We only had to go out and find 3 percent,” says Jason Wright.

Student safety at ACS is seen as a shared concern and shared responsibility. Auburn has conducted ongoing sessions with parents to educate them on their role in monitoring student usage at home, as well as tools that can help them do so.

Community Outreach

The district also worked hard to educate the community on the importance of technology in the classroom. “This community is very supportive of education, but there are folks, particularly my age and older, who are convinced kids can just go to a computer lab or use computers at the library,” says Dr. Jenkins.

Reaching out to skeptics, ACS leaders gave talks to community groups about the thinking behind

their technology strategy, and Dr. Jenkins used his monthly radio program to discuss it. In one particularly effective move, the district invited the Rotary Club to hold one of its regular meetings at an elementary school and to arrive an hour early for student-led tours of the building.

“We had the students explain the technology, and allowed people to see firsthand how it is used throughout the curriculum,” Dr. Jenkins recalls.

“Some of them hadn’t been in a classroom for 20 years or more, and they were positively elated. We also had a presentation from our severe special needs students, and there wasn’t a dry eye in the house. When you can bring people into the schools to see students engaged and involved in learning, it has more of an impact than any speech I could ever give.”

Best Practices

- Clear goals and measures
- Comprehensive planning
- Focus on what’s best for kids
- Teacher involvement at all stages of preparation
- Community outreach
- Show, not tell
- Leave no parent behind
- Site visits

Funding without Surprises

“No one wants budget surprises. If you do your planning, there are fewer surprises. We did a 10-year budget. We also visited other districts and asked what pitfalls they encountered.”

Dennis Veronese
Chief Financial Officer
Auburn City Schools

Every school system faces monetary limitations, making it crucial to establish priorities and explore all available resources for financing broad-based technology initiatives. Moreover, such initiatives affect multiple budget categories. Tablets, interactive whiteboards, and additional networking equipment generally fall under capital budgets, but budgets for professional development, curriculum development, personnel, technology support, and textbooks are also affected. These are not one-time expenses—equipment must be maintained and supported, and activities such as professional development are ongoing. These factors make careful budgeting an important aspect of system-wide technology transformation.

Funding Sources

ACS pays for educational technology through a combination of general, state, and federal funds. The district’s general fund technology budget is approximately USD 1.1 million. The annual budget for the laptop initiative is another 1 to 1.2 million—about 1.85 percent of the general fund. Stretching its dollars, the district follows a “Borrow first, buy if you have to, and create as a last resort” policy for acquiring curriculum, content, and other instructional materials.

Alabama’s state support for technology is limited to approximately USD 325 per “teaching unit” annually, giving Auburn just USD 119,000 for technology last year from that source. The district’s pervasive use of technology would not have been possible without strong local support. Excluding federal and capital funding, nearly 48 percent of the district’s budget comes from local funding sources, making ACS one of Alabama’s top 10 school systems in terms of local support. All ACS schools have active PTA programs that raise funds for targeted purchases, and the district generally matches those funds.

Federal funds used for technology at Auburn include those available through the Enhancing Education through Technology Program (Title II Part D of NCLB), which are dedicated to professional development, and Federal

Communication Commission E-rate funds, which support network and Internet connectivity.

District resources are augmented by grants from companies and institutions. In addition to district-wide grants, individual schools and teachers research and apply for grants to expand their technology capabilities. A district-wide endowment program, the Foundation for Auburn’s Continuing Enrichment in Schools (FACES), funds enrichment grants to schools and teachers. Auburn Early Education Center (AEEC), received grants as a result of winning the 2005 School of Distinction Award offered by Intel and Scholastic Magazine. Three ACS elementary schools are part of the Alabama Best Practices Center’s 21st Century Learning Project; the Center is part of Alabama’s A+ Education Foundation, a nonprofit and nonpartisan organization funded by a grant from Microsoft’s Partners in Learning program to promote digital inclusion and scholastic achievement. In many cases, the district matches funds and equipment received through grants.

Families of ninth- and tenth-graders pay a USD 50 fee per student for maintenance and refurbishing. Informal payment arrangements are made to cover the fee if it is an undue burden. Some families pay the fee in USD 5 monthly increments; for others, the district covers the fee.

Detailed Budget Planning

Auburn's chief financial officer was involved with planning for the laptop initiative from the outset. "Our CFO has been an integral part of all our conversations," recalls Joyce Morgan. "By being so closely involved, he understands the costs and is not surprised by them. He understands the educational benefits, so he can support the request and find the resources."

To avoid financial surprises, the team prepared a detailed, 10-year budget that helped drive several key decisions. "Our original thought was that we would implement the initiative simultaneously in grades 9–12, but the dollars simply weren't there," Veronese says. "We determined to start with our ninth-graders for the first year, and expand to ninth- and tenth-graders the second year. We also originally thought we would lease the equipment, but there's a lot of maintenance required before you turn it back in. Since this is a pilot program, we also felt purchasing the laptops would give us more flexibility in utilizing them in the event the pilot wasn't continued."

The district worked with Gateway, its laptop vendor, to develop support arrangements that would help hold costs down. A comprehensive warranty and accidental damage protection were included in the cost of the laptops, and ACS is reimbursed for warranty issues that district IT employees handle.

Careful budgeting has paid off. "Not much has occurred that we weren't prepared for," Veronese says. "Some of our facilities needed electrical upgrades, and we planned for that. We realized that if we had the tablets for four years, we'd be replacing the batteries halfway through, so we planned for that. We planned for hardware, software, infrastructure, assessment,

professional development, on-site tech support—all those things. It really helped to talk with other districts and hear their successes and pitfalls."

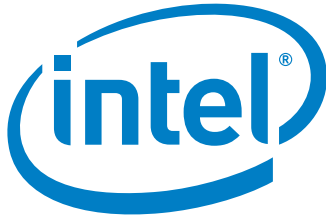
Veronese did have one surprise, although it was a good one. "We realized the budget impact over 10 years would be relatively flat," he says. "Intel's technology curve means that over time, technology gets more and more powerful, but the price doesn't necessarily increase. As a result, we think we can sustain the program on an annual budget of USD 1 to 1.2 million, U.S. plus whatever we need to accommodate student growth."

Doing What You Can

In speaking with districts that have limited funds for technology, Veronese recommends developing a comprehensive plan, establishing priorities, and implementing as much as is feasible. "If you don't have a plan and a budget, you're never going to do it," he says. "You can't just say, 'We can't afford it.' You have to put proposals together and see how you want to use technology to impact student achievement and what it would take to get there. Put the plan in place, see what it takes, and start working toward it. Do the research, develop the plan, envision the goal, show the need, and start working toward it. It's too important not to."

Best Practices

- CFO involved from the start
- Detailed, 10-year budget
- Learning from other districts
- Riding the technology curve
- Develop a plan and implement what you can



Learn More

How did Auburn teachers prepare for the 21st Century Learning Initiative? How are teaching and learning being transformed? Watch for parts 2 and 3 of Technology as a Tool for District-Wide Transformation: The 21st Century Learning Initiative at Auburn City Schools, coming soon on www.k12blueprint.com.

For more information, please see:

Auburn City Schools: www.auburnschools.org

K12 Computing Blueprint: www.k12blueprint.com

Gateway in Education: www.gateway.com/education

Intel Schools of Distinction:
www.intel.com/education/schoolsofdistinction/index.htm