



Technology Services

innovate • empower • together

THREE YEAR TECHNOLOGY PLAN

ONE TEAM WORKING TOWARD ONE GOAL OF STUDENT SUCCESS.

The Technology Services Division supports the Superintendent's vision that technology is leveraged to enhance instruction in Cobb County schools and to make the workload on teachers lighter as we more efficiently support and organize classroom resources to focus on student success.

Technology Services commits to a focused plan that will synergize current systems, giving teachers, leaders, and students personalized learning space, immediate access to resources needed for teaching, leading, and learning.

We strive to prepare every student graduating from a Cobb County school for college and/or a career; as well as prepare for participation and contributions to their community.

INNOVATION & CHANGE

- Visionary Leadership
- Digital Age Learning Culture
- Excellence in Professional Practices
- Systemic Improvement
- Digital Citizenship

DISTRICT PRIORITIES

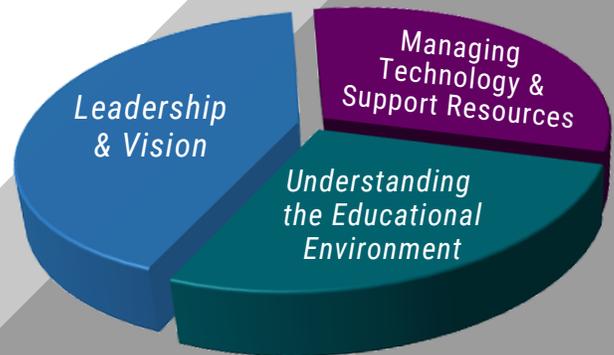
Technology supports all work throughout the district. The three priorities outlined in the District Strategic Plan drives the work of the Technology Division.

- Making Cobb the BEST place to Teach, Lead, and Learn
- Simplifying and Strengthening the Foundation for Teaching and Learning to prepare for Innovation
- Using Data to make Decisions

OUR VISION

Together as ONE TEAM, we innovate to support Cobb County School District's priorities and empower stakeholders to promote student success.

PRIMARY AREAS OF RESPONSIBILITY



<http://www.cosn.org/>



MARC SMITH
CHIEF TECHNOLOGY &
OPERATIONS OFFICER

THOUGHTFUL AND INNOVATIVE USE OF TECHNOLOGY

is a key tool for our district as
we stay focused on providing
the very best instruction
to every student every day.

DIRECTORS

FIELD SERVICES
BRAD EVANS

INFORMATION SYSTEMS
RYAN PYNES

INFRASTRUCTURE SERVICES
JASON WHEELER

INSTRUCTIONAL TECHNOLOGY
STARLA TOWNSEND

NETWORK SERVICES
HERB AGUE

PROJECT MANAGEMENT
CATHERINE HARDY

INNOVATION.

Innovation is more than just providing more computing devices for teachers and students to use for accessing information. Innovation occurs when a district goes beyond reacting to or simply using technology as a trivial add-on and moves into new areas where collaboration, communication, problem- solving, critical thinking, and creativity are central to teaching and learning activities.

To be effective, Cobb Technology Services must innovate and “leap into the future” in all areas of technology so that Cobb students are better prepared for our digital and globalized world.



**ONE TEAM. ONE GOAL.
STUDENT SUCCESS.**

THREE YEAR TECHNOLOGY PLAN

KEY AREAS

Thoughtful and innovative use of technology is a key tool for our District as we stay focused on providing the best instruction to every student every day.

As we move technology forward for Cobb, Technology Services will focus on several key areas:

DATA CENTER AND SERVERS

Cobb Technology Services will continue to upgrade our data center network and servers so that students and staff can access resources when and where they need them.

INSTRUCTIONAL TECHNOLOGY

Cobb Technology Services (utilizing the Technology Training and Integration team) will continue to implement ongoing, relevant, innovative and collaborative professional learning that is job-embedded, continual, sustainable, and focused on student learning.

STUDENT COMPUTING

Cobb will ensure that every student has access to a computing device when they need it ensuring access to information, increased collaboration, and multiple forms of student learning. Anytime, anywhere learning for all students harnesses growing evidence about how people learn and how to deeply engage people in learning.

STAFF COMPUTING

Cobb will provide all staff with the technology needed for planning, instruction, data use and innovation.

NETWORK SWITCHES & WIRELESS INFRASTRUCTURE

Cobb Technology Services will continue to maintain/upgrade our Local Area Network (LAN) including our wired and wireless infrastructure so teachers and students will have network access to the latest and most timely education materials and information available online.

STUDENT INFORMATION SYSTEMS

Cobb Technology Services will continue to improve student data systems to help students and staff tailor learning based on students' needs.

CUSTOMER SERVICE

Cobb Technology Services will provide students, staff, and teachers with high-quality technology support that emphasizes immediate and timely resolution.

BUSINESS SYSTEMS

Cobb Technology Services will provide central support staff with applications to ensure efficiency and productivity.

PROJECT MANAGEMENT

Cobb Technology Services will continue to implement technology initiatives with a focus on planning, budgeting, communications and execution in a continued effort to support teachers, staff and students.

THREE YEAR TECHNOLOGY PLAN

FIELD SERVICES

DIRECTOR – BRAD EVANS

GOALS

- **Improve efficiencies through technology support resources to better equip administrators, teachers, and students in achieving their business and instructional objectives**
- **Provide top-tier technical support for all Cobb employees**
- **Improve and/or increase first call resolution by utilizing remote tools, workflow and ticketing system resources**
- **Create an improved line of communication to our end users**

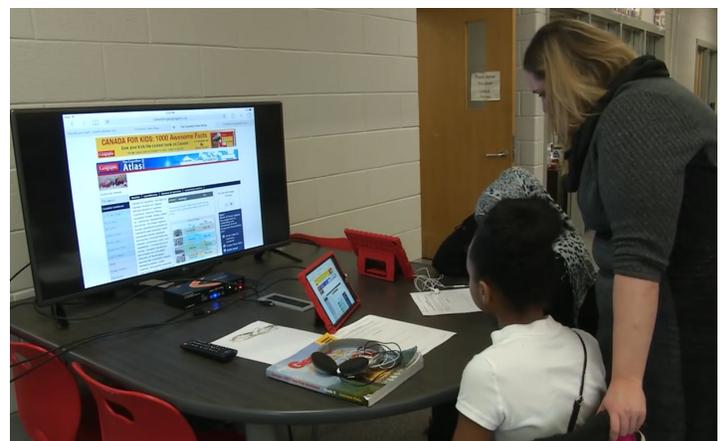
"Create an improved line of communication to our end users"



"Our school field technicians provide the foundation for Field Services and deliver direct technology support for all district administrators, teachers, support staff and students."

CURRENT STATUS

The Field Services department consists of 3 separate but interconnected areas working collaboratively to support all of the District priorities. The school field technicians provide the foundation for Field Services and deliver direct technology support for all district administrators, teachers, support staff and students. These technicians are separated into 3 geographic areas of the district: North, South, and Central and each team has 16 technicians reporting to a Team Lead. There are also 2 technicians assigned to support the district administrative sites.



MOVING FORWARD

The role and responsibility of the Field Services team has dramatically increased over the past few years due to the growth of over 160,000 school-based computing devices and peripherals in the district.

These devices include: student, teacher and administrator laptops, classroom, lab and administrator desktops, iPads, assessment/testing devices, printers, interactive boards, document cameras, etc. As well, the district goal of delivering instructional assessments for students via technology devices has put a greatly increased demand on the entire Field Services team.

The field technicians typically support 2-3 sites each so it is becoming increasingly difficult to be available to our customers as much as is needed and also to be able to deliver the highest quality support and communication that is expected from our department.

"Field Services supports over 160,000 school based computing devices and peripherals in the District."



The Field Services Department plans to develop, implement and support the following goals:

- Improve communication and collaboration between Technology Services Department to ensure we are all working to meet district goals (Field Services, Instructional Technology, Infrastructure, Information Systems, Enterprise Services and Project Mangement)
- Utilize district leadership meetings to convey the role of Field Services to specific school teams (principal, media specialist, testing coordinator) in order to educate on the departmental day-to-day responsibilities
- Increase Field Technician support across all schools to assist district in meeting overall administrative and instructional goals
- Develop Field Technician capabilities to deliver an introductory level of instructional support to assist the TTIS team in their responsibilities
- Reduce technology down-time for Cobb employees by utilizing current or future technology tools and resources (i.e. – laptop repair, imaging, software license tracking, ticket requests, etc.)
- Increase the Field Services cross-team training and communication opportunities to enhance the direction of the “One Team” concept.

INFORMATION SYSTEMS

DIRECTOR – RYAN PYNES

The Information Systems Department supports and builds the various technology solutions that serve educators, students, parents, district/school administrators, and other central office staff.

Information Systems has responsibility over systems that are focused in four primary areas: Student, Finance, HR/Payroll, and Content Management (District and school public websites). Through a combination of purchased 3rd party software and internally custom-developed applications, Information Systems ensures that information in all areas is accurately collected, stored securely, efficiently organized, and presented back to decision makers in an easy-to-understand format.

In addition to the online transactional systems, Information Systems also builds and maintains the District's primary Data Warehouse. It merges data from all disparate systems into one database environment to allow meaningful connections between all district data. It also facilitates rapid retrieval of the data so it can be presented back to users in a timely manner and in a useable form.



VISION

"We will provide enriched data to every District stakeholder who supports teaching and learning in and out of the classroom."

GOALS

- **Design and build Cobb's 4th-generation data warehouse that will facilitate many of the other new initiatives**
- **Develop and implement a comprehensive student dashboard that monitors progress towards on-time graduation, and alerts for earlier intervention**
- **Develop a self-serve querying system that allows users to define, construct, and consume data queries and reports**
- **Expand on integration of data from the new CTLS modules into our existing IS systems**
- **Migrate the intranet only CCSD Portal to be available from "anywhere connected"**
- **Create new APIs to feed data from disparate sources into the Munis ERP system**
- **Increase online data delivery resources for parents and students to provide information anytime/anywhere, and reduce unnecessary paper and in-person procedures**

CURRENT STATUS

The Information Systems staff has a wide range of expertise in the areas of systems analysis, application development, database administration and development, content management, project coordination, quality assurance, and business writing. Collectively, the staff has a wide range in professional backgrounds and many years of experience in various Technology fields to enable mentoring and collaboration, strengthening the department overall. Ongoing training from various internal and external resources ensures that each team member maintains their skills and acquires new ones in the ever-changing world of technology.

Challenges to the Information Systems Department primarily revolve around the large and diverse group of users that it supports. That diversity includes the various stakeholder roles, technical proficiencies, device accessibility demands, and data access clearances. Additionally, the determination to either “buy or build” requires a carefully considered balance between the systems that our vendor partners can provide, versus the in-house solutions IS can develop that are specifically customized for the District’s needs.

“...what if the currently available information could be combined with historical tendencies to show a trend or even a prediction...”

Lastly, the District’s stated priority of “using data to make decisions”, as well as the ever-increasing demand that the stakeholders have for device agnostic, immediate, and more predictive information, is a challenge for Information Systems as the caretakers of that data. It is crucial that Information Systems continues to innovate in the areas of system acquisition, custom application development, and improving business intelligence tools in order to provide its stakeholders with the information they need.

MOVING FORWARD

4th Generation Data Warehouse -The design and creation of the District’s 4th generation data warehouse will be the backbone for many of the initiatives described in the remainder of this plan. This in-house developed database ecosystem not only capitalizes on the technical strength of the IS staff in a cost-effective way, but also facilitates the storing of the District’s disparate data into one environment where it can be organized and aggregated for efficient querying.

Student Systems - The most significant and impactful project in this area will be the comprehensive online student dashboard and early warning system. This in-house custom developed module, currently named GradScope, will provide administrators and educators with information based on key indicators that are known to affect a student’s likelihood to graduate on time. This data will be available at summary

MOVING FORWARD

levels (school, grade, class) with the ability to drill down to each individual student. It will include alerting features to provide early warning markers when certain key performance indicators predict that a student's on-time graduation is in jeopardy. This business intelligence initiative will also include a self-serve querying system for users to construct their own ad hoc queries to supplement the suite of existing dashboards, reports, and queries.

With the creation of the CTLS learning management system over the past 3 years, it is vital that it is completely integrated with the rest of our Student Information System components. The process of continually feeding SIS data to CTLS has been accomplished. Now, we are in the process of integrating assessment scores, assignment grades, and other future CTLS features into the SIS systems to prevent educators from having to enter data more than once.

The CCSD Portal has been the landing place for most of the District's custom-developed applications. Over the next few years, several improvements will be made to the Portal. A major architectural migration will be completed to future-proof the environment, and to allow for implementation of improved encryption & security measures. It will also coincide and integrate with the District's movement to multi-factor and cloud-based authentication. Lastly, the Portal will be updated so that staff can access it through Cobb devices from wherever they are connected, instead of as an intranet-only resource like it is currently.

Now that enrolling adults can register their students and keep their data updated through the Online Registration System, we are able to expand those capabilities to integrate other processes that are currently handled through paper or in-person processes. Through CTLS Parent and ParentVUE, we will expand on the delivery of valuable student information to our stakeholders, and increase the online avenues to receive information back from them.

Business Systems (HR Payroll & Finance) – With the District's purchase of the Munis API Toolkit, this will allow easier and more accurate integration of disparate data processes into the Munis system. The internal Information Systems staff has the necessary technical expertise to develop these APIs without further cost to the District, and the business knowledge of existing processes in order to make this initiative a successful one.

Content Management Systems - The district website offers an excellent opportunity to connect with our communities and stakeholders. Communicating goals, improving transparency, and helping stakeholders find the information they need. The district recently implemented a new Content Management System to provide a standard framework for all public-facing district and school websites. The new websites are device agnostic and completely ADA Compliant. The new CMS also offers an improved user experience and greatly improves the effort needed for webmasters to keep content updated. Information Systems will continue to partner with the Communications Department to monitor and validate all website content, to support and provide training to webmaster staff, and to provide timely information to all district stakeholders.

INFRASTRUCTURE SERVICES

DIRECTOR - JASON WHEELER

GOALS

- **Provide the fastest, most reliable wired & wireless network infrastructure utilizing over 13,000 edge switches & 9,000 wireless access points**
- **Support state of the art audio & visual equipment including district wide interactive flat panels and IPTV, over 8,000 21st century classrooms, support hybrid learning for all Schools**
- **Telecommunication, support and maintain district wide VoIP/Intercom initiative**
- **Maintain a dependable & accessible network infrastructure in support of teaching & learning**

CURRENT STATUS

Cobb County School District Infrastructure Services consists of four teams, each with the purpose of building the foundation for future technology infrastructure. Specific functions of each team are as follows:

Engineering:

- Maintain and support 13,000 classroom switches using script automation and standardization
- Support 140,000 wired interfaces
- Configure, monitor, and troubleshoot 9,000 wireless access points

- Configure and maintain 12,600 VOIP phones
- Configure and maintain paging, and intercom at all schools and administrative sites
- Configure and support VOIP bell schedules at all schools
- Maintain and configure 112 Cisco Core switches
- Work with WAN provider to ensure dual 10 Gig connectivity links per 121 sites to CCSD data centers
- Maintain 115 voice gateways at 2 data centers and 112 schools

Fiber/AV Teams:

- 13,000 POE classroom switches
- 9,000 wireless in the district
- Support/Maintain intercoms at all schools and district level administrative sites.
- Maintain district wide IP Camera/surveillance infrastructure cabling and switches
- Installation and maintenance of network and VoIP equipment
- Installation of all MDF components such as network enclosures, splice trays, wire management, and ladder rack cable support
- Design, installation, and maintenance of the fiber optic data cabling infrastructure in existing, newly constructed, and renovated facilities
- Maintain a computerized database of network drawings for all sites reflecting all fiber optic cabling, MDF configurations, network edge switches, and wireless access point location

CURRENT STATUS

Technology Depot:

- UPS battery maintenance and support
- Technology surplus with EQ transfer
- Work with Property Control using Munis to maintain district technology inventory
- Store technology overall inventory
- Inventory control and distribution for 1 to 1 student laptops to cover over 100,000 students in the district

Telecommunications:

- Support and Maintain 12,600 cisco phones
- Support and maintain all centrex lines for Fax, Elevators, Fire, and Security
- Manage voicemails and automated menus for the district VoIP solution
- Liaison for AT&T service and repairs

MOVING FORWARD

In order to move forward in creating a technologically efficient and effective community for our faculty, staff and students, the focus of the Infrastructure Department will be to:

- Work expeditiously to resolve any infrastructure hardware, cabling, or AV problems that may occur in order to minimize the impact on teaching and learning in the district
- Assess all current Cobb County School District infrastructure for forward-looking solutions in order to assure the district remains a leader in innovation and technology
- Ensure all current systems are up to date and are able to meet the challenges of evolving technological advances in the educational field



"The goal of infrastructure services is to provide express lanes for student success. Moving education forward without limits."

INSTRUCTIONAL TECHNOLOGY

DIRECTOR – STARLA TOWNSEND

The CCSD Instructional Technology Department focuses on innovation and student engagement to facilitate authentic, performance-based learning. Our team of twenty-seven Technology Training Integration Specialists (TTIS) collaborates routinely with educators throughout the district to support effective technology integration, engaging instructional design, and innovative learning experiences.

Professional learning occurs at the school and district levels by means of face-to-face, job-embedded, blended, and online models. We believe it is important to align our professional learning activities with research-based instructional strategies which are proven to increase student achievement as well as place students as creators, collaborators, and critical thinkers.



Cobb students engaged in a Digital Age Classroom.

GOALS

- Support CTLs professional learning communities to sustain the growth and knowledge necessary to design and employ forward-thinking instruction.
- Expand performance-based learning to foster students' critical thinking, collaboration, and innovation skills.
- Leverage digital tools for school communities to empower, engage, connect, assess, and support student learning.

VISION

"Innovative use of technology is essential to cultivating tomorrows leaders. Our Technology Training Integration Specialists provide professional learning, coaching and hands-on support to all district staff to ensure our students are prepared for the limitless possibilities awaiting them".

THREE YEAR TECHNOLOGY PLAN

MOVING FORWARD



We are preparing tomorrow's future-ready students.

The CCSD Instructional Technology Department is committed to increasing student achievement through innovative technology application. This means our InTech team will continue to collaborate with all educators throughout the district to identify best practices that engage and empower students. Our team will continue to lead the charge of furthering educational technology collaboration and advancement by increasing local and global participation in professional learning communities, all in support of innovative teaching and learning that leads to student success.



Cobb InTech supports distance learning in high schools.

Creativity is where we start to think differently, and innovation is where creativity comes to life" - George Couros



NETWORK SERVICES

DIRECTOR – HERB AGUE

GOALS

- Provide students with a safe education experience when using the internet and other digital resources
- Provide students the ability to bring their own technology to access the District's technology resources
- Design, test and implement new District wide technologies
- Prevent or minimize any technology outage which affects staff, students, and the community

CURRENT STATUS

Internet:

The District utilizes two internet service providers to provide the necessary digital online resource access. By having two separate internet service providers, the District is able to ensure maximum up-time by using special network equipment that can provide real-time fail-over and redundancy for continued availability.

Directory Services:

The District utilizes an enterprise level directory service to store user credentials for authentication. This directory has automated processes to ensure that users have access to district network resources as quickly as possible.

"Keeping our students, staff, community and world safely connected to each other, all the time."



CIPA Internet Filters:

The District utilizes an enterprise level, CIPA compliant, internet security filtering solution which not only provides a category based URL verification process, but also; intrusion prevention and detection, application inspection as well as, on-wire antivirus and malicious code scanning capabilities.

Storage Area Network:

The District utilizes a storage area network (SAN) which provides high availability storage to server operating systems and applications. It is also used to store archive data prior to transitioning it to an alternate storage media.

Disaster Recovery:

The District maintains a disaster recovery plan to ensure that all critical data is backed up so that it can be restored if necessary. The district uses various backup and restore technologies to fulfill the needs of the plan.

Servers:

The District utilizes server virtualization technology, when applicable, to improve system resource up-time, high availability application delivery, and to decrease power consumption and environmental controls in its data center.

Data Center Core Infrastructure:

The District utilizes carrier grade network infrastructure routing, switching, load balancing, and security components to ensure 99.999% of data center service availability. Using carrier grade equipment, the District is able to process multi-gigabytes of traffic concurrently throughout the data center infrastructure.

Bring Your Own Device:

The District provides a robust, reliable and secure wireless network for students and teachers to have access to network resources while also providing guests access to internet resources.

MOVING FORWARD

Moving forward, Network Services plans to maintain and upgrade existing technologies to enhance student achievement through easier access to technology. A major challenge is the constraints of compliance while allowing full access to necessary educational resources. As a result, the technologies that are chosen for compliance must have the ability to perform both of these functions, compliance and usability.

Internet:

The District will continue to utilize two internet service providers to provide the necessary digital online resource access. By continuing to have two separate internet service providers, the District will be able to ensure maximum up-time by using special network equipment that can provide real-time fail-over and redundancy for a continued availability.

Cloud Services:

The District will review providing all staff and students with access to online cloud service platforms which will store data securely and comply with all applicable information privacy laws. These cloud services will be accessible to all staff and students while on and off the production network.

Disaster Recovery:

The District maintains a disaster recovery plan to ensure that all critical data is backed up so that it can be restored if necessary. The District uses various backup and restore technologies to fulfill the needs of the plan.

MOVING FORWARD

CIPA Internet Filters:

The District will continue to utilize an enterprise level, CIPA compliant, internet security filtering solution which not only provides a category based URL verification process, but also; intrusion prevention and detection, application inspection as well as, on-wire antivirus and malicious code scanning capabilities. The District intends on providing grade-level specific access in order to provide greater access to certain grade levels while maintaining CIPA compliance for all grade levels.

Directory Services:

The District will continue to utilize an enterprise level directory service to store user credentials for authentication. This directory contains automated processes to ensure that users have access to district network resources as quickly as possible. The District may choose to research and implement a single sign-on type solution that will make integrated systems more easily accessible while maintaining secure access to those systems through the continuation of the District network password policy.

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PROJECT MANAGEMENT

DIRECTOR - CATHERINE HARDY

The Project Management Department is responsible for the planning, initiation, execution, monitoring and completing of CCSD approved technology initiatives. This involves collaboration within Technology Services between Field Services, Information Systems, Infrastructure Services, Instructional Technology and Network Services as well as many other CCSD departments; such as Communications, Financial Services, Maintenance, Procurement Services, etc.

The Project Management team adjusts to the forever changing tech environment while resolving strategic issues, building and leading teams within the district and making decisions on key initiatives that impact learning.

The team is fiscally responsible for creating, optimizing and maintaining a balanced budget that is essential for creating a better, stronger environment today and for the future. The budget development process is followed to include communication within executive management, establishing targets, revisions of budget model, review and approval.

VISION

"We will support an adaptable approach to Project Management, recognizing that all projects are different and require flexibility to meet the District needs and goals."

GOALS

- **Continue to grow dependable relationships with each school to further develop a better understanding of school needs and instructional goals to result in success for each project.**
- **Transparency - provide information that is relevant and accurate**
- **Streamlining business processes to improve quality service to teachers**
- **Involve all relative stakeholders to have input when creating project goals; teachers, administrators, central office employees and the general educational community**
- **Plan for ongoing monitoring and assessments to ensure technology is being used effectively and how to bridge the gaps**



MOVING FORWARD

Moving forward, the Project Management team will continue to adapt to the rapidly changing technology environment to ensure modernized tools are readily available to teachers so that students are prepared to succeed.

Through the process of forecasting with the analysis of both historical and current project data and predicted future needs of the District, approved Technology initiatives have been mapped out to maintain sustainability.

Initiatives will utilize the project management methodologies and create elements to include scope, budget, schedule, communication channels and support plans.

INITIATIVES

Centralized Video System:

Enhance the district's coaxial network.

Data Center Disaster Recovery/Business Continuity:

Provide capability to recover from a disaster within the main data center.

Data Center Equipment Replacement:

Replace data center equipment.

District Network

Enhancement/Maintenance:

Maintain the district network.

District Phone System Enhancement:

Replace and maintain the district's telephone and network equipment.

District Servers Replacement:

Replace school servers.

Network Access Control:

Provide network security.

Obsolete Computing Device Replacement - District:

Replacement of computing devices for students, teachers and staff. To include computer labs, classroom student devices, etc.

Obsolete Computing Device Replacement - Teachers and Staff:

Replacement of computing devices for teachers.

Obsolete Interactive Classroom Devices Enhancement/Replacement:

Replace and maintain interactive devices in classroom.

Obsolete Print/Copy/Duplication Solution - Replacement/Maintenance:

Replace and maintain interactive duplication equipment.

Student Information Systems Enhancement:

Replace and maintain student information and recording systems.