

FREDERICK COUNTY PUBLIC SCHOOLS

5 YEAR STRATEGIC TECHNOLOGY PLAN

2012 - 2016

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EXECUTIVE SUMMARY



Over the past 5 years Frederick County Public Schools (FCPS) has made tremendous progress bringing technology into teaching and learning, and improving business operations even as funding has remained stagnant or decreased. The main priority for the use of technology is to positively impact instruction, thereby contributing to the overall success of our students. In addition, it is important to take into consideration how technology planning supports the objectives and goals of the *2010 National Education Technology Plan*, the *MSDE Technology Plan for the New Millennium*, and the *2011 Maryland Instructional Technology Advisory Council (MITAC) Report—Investing in Instructional Technology: Accelerating Educational Reform in Maryland*. The last of these reports is the most recent and sets three goals in support of student learning, educator proficiency, and equitable access. These are:



Goal 1: Prepare students for college and career readiness through access to online learning, educational technologies, and high-quality digital content, driving student achievement.

Goal 2: Create a fully technology-proficient PreK-12 educator workforce.

Goal 3: Provide equitable access to current and emerging technologies for all students and educators and expanding opportunities for parents, families, and the community.

The third goal presented by the MITAC is very relevant to Frederick County Public Schools. Recent feedback from instructional staff and the community shows a consistent view that technology inequities exist between the newly constructed schools and many of the older institutions. It is also very important to understand that technology changes and evolves very rapidly. A generation or life cycle in technology could be anything from 1 to 5 years. As an example look back at cell phones from 5 years ago versus the “hand-sized computer” that has become the norm today. Luckily, information being presented by the computing industry shows that hardware is reaching a point where it is keeping up or exceeding the needs of the software and operating systems being developed now and for the foreseeable future. This provides for a potentially longer life cycle which translates into potential cost savings. It must be noted that technology in and of itself is not the solution, but proper implementation and integration of technology in the classroom can provide benefits to students and teachers.

This Strategic Technology Plan prepares a deliberate direction for the district's continued use, implementation, modernization, and application of the wealth of technologies that are available to today's modern school districts. The plan focuses on cost effective initiatives that optimize the investment of all stakeholders.

A carefully developed approach—balancing modernization and upgrade needs with sustainment and operational considerations—was used to create the recommendations contained in this plan. Maintaining such a balance represents a challenge for any ambitious school district. Through skilled implementation by FCPS staff, the district's strategic goals should be met and exceeded in the most cost effective manner possible. Research has shown the potential for quality improvement in educational processes through skillful provision and application of educational technologies. Some areas of focus include:

- Instruction will benefit through the continuing deployment of interactive white boards for our district schools.
- Expanding our wireless infrastructure and enhancing our mobile assets will also allow us to prepare for the expansion of on-line testing.
- Instructional and system software will increasingly be centrally maintained for consistent support and optimal reliability.
- Staff professional development will be supported by the on-going use of our Instructional Technology Teacher Specialists.
- Infrastructure sustainment and upgrade on a measured pace will enable the system to recognize the fast-changing nature of information technologies.

This document will provide an overview of the various projects planned with a short description, timeline, and cost to bring them to fruition. The goal being to provide technology needed in support of FCPS students, staff, and community.

INTRODUCTION

This plan was prepared through the Technology Services Division in conjunction with information gathered from stakeholders, including curriculum specialists, school-based and central office administration, and teachers. The FCPS Strategic Technology Plan encompasses the broad areas of technologies used for instruction and administration of district operations. The FCPS Board of Education provides the vision, leadership, and goals for these and other district activities, with particular focus on accountability to the community.

The identification of strategic priorities for systemic implementation required a focus on the goals of FCPS within the context of a rapidly advancing technology landscape. To that end the following considerations were addressed:

- Use technology resources that are ubiquitous in curriculum and instruction
- Ensure alignment to the State of Maryland Technology Plan and the U.S. National Education Technology Plan
- Explore both new technologies and new uses of existing technologies along with a plan for refurbishment/replacement to maintain at a minimum the current level of technology resources throughout the district
- Focus on objectives for all FCPS departments and areas that utilize technology
- Identify both the issues and opportunities in the evolving vision for assessment
- Develop a business case for the use of technology including ways to improve productivity, reduce operating costs, prioritize implementation timeline, and fund technology purchases and refurbishment

Numerous existing research studies address the integration of technology in education. While some of these efforts have delivered impressive results, others show mediocre returns, and still others are of questionable value. Nevertheless, the general consensus related to the value of technology in education is positive, particularly when supported with the proper teacher professional development and support environment.

FCPS plans to update equipment when it becomes old, outdated, or obsolete. There is a critical and essential need to protect and maintain the investment made by previous technology procurements. A systemic modernization/replacement cycle will be fundamental to the technology plan.

Technology industry studies illustrate that labor costs increase when technology equipment is kept in service past the end of its useful life. All technology items need to be updated to sustain the improvements in technology capabilities that have been achieved through their use. This modernization plan is established on a one-to-one replacement basis to establish a baseline financial requirement. Any baseline adjustments will be made to address increased tailoring of requirements and to accommodate other changes based on actual experience.

Finally, this plan is intended to be an evolving document. As initiatives are completed and new ideas are created, it will be updated to include adjustments to its strategies as newer technologies emerge or results are achieved.

STRATEGIC GOALS, TIMELINE, AND COSTS

This section organizes the technology improvement plan into strategies and timelines with potential funding costs.

Key to terms used in this section:

- | | |
|-------------|--|
| Research - | Investigate or research and report to Technology Services Division |
| Develop - | Planning, design, or development effort needed to make plans for possible implementation in a future year |
| Pilot - | Implement the concept in a single space or on one campus to evaluate concept viability on a limited basis. |
| Implement - | Rollout the concept district-wide; put plans into action. |
| Sustain - | Support and maintain a plan concept implemented in a prior year; continue the current action as part of normal business. |

INSTRUCTIONAL TECHNOLOGY

This section includes all technology items used in the learning spaces except for desktop and laptop computers which are addressed in the Technology Support section later in this document. Items range from interactive white boards and student response systems to technology carts which include document cameras and data projectors. In addition to the items above staffing in support of instructional technology will be addressed here.

1.1 TECHNOLOGY CARTS

Assure that components of technology carts or equivalent that are currently implemented in classrooms are maintained.

1.1.1 Replacement of projector bulbs – Bulbs typically have a 3 year life. Currently funded out of school budgets, but can be a significant cost if all of the projectors were purchased at the same time.

FY13	FY14	FY15	FY16	FY17
Research/Develop	Pilot/Implement	Sustain	Sustain	Sustain
\$0	\$10,000	\$50,000	\$60,000	\$60,000

1.1.2 Replacement of projectors – Life cycle on projectors is at least 5 years, but research has shown that at some point the bulb replacement cost exceeds a significant portion on the cost of a new projector.

FY13	FY14	FY15	FY16	FY17
Research/Develop	Implement	Sustain	Sustain	Sustain
\$0	\$50,000	\$100,000	\$100,000	\$100,000

1.1.3 Procurement of additional carts – This is an as needed option since close to 100% of classrooms have these in place.

FY13	FY14	FY15	FY16	FY17
Sustain	Sustain	Sustain	Sustain	Sustain
\$32,000	\$32,000	\$32,000	\$32,000	\$32,000

1.2 INTERACTIVE WHITE BOARDS

Although fairly current these will also reach a point where they will require replacement. The boards have a 5 year warranty and for the boards that have integrated projectors, the projectors have a 3 year warranty (including bulbs).

The integrated models have only been in use since 2009 so any bulbs are currently replaced as part of the warranty.

The numbers of units in schools are unbalanced. New schools have units in almost every classroom while older schools struggle to have at least one per team of teachers. In addition to developing a refreshment cycle consideration needs to be given to providing equitable access to this technology. Slates do provide a similar capability at a lower cost; however, the two technologies do not compare in terms of student engagement, access, and content delivery. Ideally, they would be used in conjunction with each other. Both technologies have pros and cons in their use in the classroom, so making a unilateral decision to only procure the lower priced unit would be short sighted.

1.2.1 Provide equitable access to interactive whiteboard technology				
FY13	FY14	FY15	FY16	FY17
Research/Develop	Implement	Sustain	Sustain	Sustain
\$0	\$500,000	\$500,000	\$500,000	\$500,000

1.3 STAFFING

The promise of technology in education is significant. Technology offers the potential of individualized instruction for every student as students become actively engaged in and responsible for their own learning. However, no one can argue that the most important influence in student learning and achievement is still the quality of the teacher. Studies have shown that students of teachers with more hours of professional development related to technology outperform the students of teachers with less hours of professional development.

Therefore, the true challenge of effectively integrating technology in education is human rather than technological. While technology advances hold the promise of improved learning instruction, technology-focused professional development for teachers is critical if technology is truly to be used to promote learning for all students.

1.3.1 Increase staffing – Increase from the current 7 Teacher Specialists for Instructional Technology to 10 providing a more sustainable support ratio of specialist to schools.				
FY13	FY14	FY15	FY16	FY17
Implement	Sustain	Sustain	Sustain	Sustain
\$66,080	\$66,080	\$132,160	\$132,160	\$198,240
1 addl staff		1 addl staff		1 addl staff

INFRASTRUCTURE

Refreshment is a significant portion of any strategic technology plan. FCPS plans to replace selected servers, data switches, and associated equipment each year. In addition, it is anticipated that funding will be needed each year for infrastructure expansion to support school construction that may occur during the planning period. The plan is for FCPS to replace servers, data switches, etc. on, generally, a five-year period. It is anticipated that these devices in the future will be less costly for similarly equipped models; however, it is anticipated that processing speeds, user expectations and storage needs will increase as time goes on.

2.1 INFRASTRUCTURE REFRESHMENT/EXPANSION

2.1.1 Replacement of network switches – This would be done at a rate of approximately 20% a year

FY13	FY14	FY15	FY16	FY17
Sustain	Sustain	Sustain	Sustain	Sustain
\$200,000	\$200,000	\$200,000	\$200,000	\$200,000

2.1.2 Expansion of Storage - FCPS needs to continue to increase its capacity to store electronic information in a secure centralized environment to support data warehouse activities and curriculum enhancements.

FY13	FY14	FY15	FY16	FY17
Sustain	Sustain	Sustain	Sustain	Sustain
\$50,000	\$100,000	\$100,000	\$100,000	\$100,000

2.1.3 Expansion of Remote Access – As additional capabilities are made available on existing systems such as the student information system and data warehouse more licenses are required for the increased number of users wanting to access.

FY13	FY14	FY15	FY16	FY17
Implement	Sustain	Sustain	Sustain	Sustain
\$70,000	\$35,000	\$0	\$0	\$0

2.1.4 Replacement of servers – Continued increase in data processing needs in conjunction with servers reaching end of life will require upgrading and/or adding servers to support the school system.

FY13	FY14	FY15	FY16	FY17
Sustain	Sustain	Sustain	Sustain	Sustain
\$150,000	\$100,000	\$75,000	\$75,000	\$100,000

2.2 TELEPHONE AND COMMUNICATIONS

With over 7000 phones the FCPS communications system is integral to the daily business of the school system. Phones and voicemail allow teachers, administrators and staff to communicate effectively with each other, parents and the community.

2.2.1 Replacement of school based telephone switches – The main PBX switch that provides this function has been recently upgraded, but many of the school-based switches are reaching end-of-life. As part of the technology plan these are noted as a cost spread out over 4 years. Last year is lower as it covers continued maintenance needs.

FY13	FY14	FY15	FY16	FY17
Implement	Sustain	Sustain	Sustain	Sustain
\$224,000	\$224,000	\$224,000	\$224,000	\$24,000

2.3 WIRELESS

Wireless has been referenced as one of the “inequities” between schools in talks with administrators and teachers. It needs to be made clear that wireless in and of itself is only a starting point and alone does not initially provide any benefits. Funding for equipment that can utilize this infrastructure is an additional outlay of funds.

With the onset of online assessments coming in 2014-2015 wireless could provide a ready infrastructure to quickly expand, with the required computer devices, access to the assessments for schools where adding additional permanent computer labs is not feasible.

2.3.1 Installation of building-wide wireless – An increase in installation over a four year period would be needed to get the system to a fully wireless environment. This timeframe although longer than needed would not provide as heavy an impact on funding as a shorter timeframe would. (Note: contingent on item 2.4.1 in section 2.4 Staffing)

FY13	FY14	FY15	FY16	FY17
Implement	Sustain	Sustain	Sustain	Completed
\$1,287,000	\$1,287,000	\$1,287,000	\$1,187,000	\$0
2 – HS	2 – HS	2 – HS	2 - HS	
3 – MS	3 – MS	3 – MS	3 – MS	
9 - ES	9 - ES	9 - ES	8 - ES	
1 – Other	1 – Other	1 – Other		

2.3.2 Maintenance of building-wide wireless – Initial installation includes warranty and maintenance for 3 years. The cost will increase in the first 5 years to a steady state by the eighth year.

FY13	FY14	FY15	FY16	FY17
Sustain	Sustain	Sustain	Sustain	Sustain
\$24,000	\$45,000	\$95,000	\$240,000	\$400,000

2.4 STAFFING

As seen by the discussion so far in this report the need for infrastructure is both an expectation by staff and integral to the technologies used in the school system. For these reasons an increase in staffing for infrastructure is recommended. Three areas in order of priority are wireless, data center, and telephony.

2.4.1 Wireless Administrator – With the continued expansion of wireless there needs to be a position whose sole purpose is the administration and development of wireless in the FCPS school system. This would provide standardization across all systems and allow for deeper research into how to best use and maintain the investment into wireless.

FY13	FY14	FY15	FY16	FY17
Implement	Sustain	Sustain	Sustain	Sustain
\$88,400	\$88,400	\$88,400	\$88,400	\$88,400

2.4.2 Data Center Administrator – As applications and systems continue to grow and centralize there will be a need at some point in the 5 year plan for an additional data center administrator. Besides supporting a wide variety of services this staff member would be used to investigate potentially moving applications and services to a cloud computing environment which could offer cost savings to the system.

FY13	FY14	FY15	FY16	FY17
Research	Implement	Sustain	Sustain	Sustain
\$0	\$94,200	\$94,200	\$94,200	\$94,200

2.4.3 Telephony Administrator – Work on development, implementation and maintenance of a unified communications system. This would include the migration from the current legacy PBX. Potential recurring cost savings would be seen.

FY13	FY14	FY15	FY16	FY17
Research	Implement	Sustain	Sustain	Sustain
\$0	\$84,500	\$84,500	\$84,500	\$84,500

ENTERPRISE SYSTEMS

Core business processes that must occur centrally operate on central systems managed by the Enterprise Systems Department. These include the Student Information System, HR system, Fiscal Services, Purchasing, Transportation, Food Services, Library, and others. Additionally this department oversees the data warehouse system and provides support for programming and reporting in a variety of areas.

3.1 DOCUMENT MANAGEMENT

FCPS has had discussion for the past 4 years relating to developing a document management solution for the school system. This would integrate with a number of the enterprise systems already in place and would allow connections between scanned and archived documents that are managed through an enterprise management system. An example would be the ability for HR to scan in a driver’s license which is placed into the document management system, but then linked to Peoplesoft so when a question would arise about that piece of information a scan of the original would be available. This is not a small undertaking and FCPS would look to the county government and/or Frederick Community College for partnering. This could provide cost savings and would allow FCPS to choose the best solution for its needs.

3.1.1 Document Management System – Procurement of a systemic document management system providing for easy access to a wide variety of documents that currently exist in a variety of locations and forms. The first year would have initial startup costs and the remaining years are for recurring maintenance costs. (Note: Will require staff as defined in 3.4.1 of the 3.4 Staffing section.

FY13	FY14	FY15	FY16	FY17
Research/Develop	Implement	Sustain	Sustain	Sustain
\$0	\$250,000	\$50,000	\$50,000	\$50,000

3.2 E-COMMERCE

Currently the gathering of all types of fees is done in a variety of ways. Some are obtained through turn-key software systems (Café Prepay). Others such as athletic fees are also done online through the use of an in-house developed web site. Still others like activity fees, yearbooks fees, etc. are gathered by hand at schools or in classrooms, leaving the potential for lost funds or fraud.

3.2.1 E-Commerce System – Implement a web-based turn-key solution that would be able to handle a vast majority of fees and provide for a one stop place for parents to “shop” and minimize the number of checks, cash, and credit card transactions needed for these school fees. This is envisioned to be part of a larger parent portal offering ecommerce, grades, student information, event calendars and more.

FY13	FY14	FY15	FY16	FY17
Research	Develop/Pilot	Implement	Sustain	Sustain
\$0	\$20,000	\$50,000	\$50,000	\$50,000

3.3 ONLINE CONFERENCE SCHEDULING

Feedback from staff has recently been asking for the investigation into an online conference scheduling system. Other counties in Maryland have used these with great success.

3.3.1 Online Conference Scheduler – Allows parents and staff to schedule parent-teacher conferences online. Minimizes problems with overlap and provides potentially a fairer way for everyone to have a conference.

FY13	FY14	FY15	FY16	FY17
Research	Develop/Pilot	Implement	Sustain	Sustain
\$0	\$8,000	\$25,000	\$25,000	\$25,000

3.4 STAFFING

In any technology department redundancy is important as well as cross training to spread out the expertise. The positions below support more efficient operations for FCPS enterprise systems.

3.4.1 Document Management Administrator – Positions in this area would implement and maintain the document management system. They would also be responsible for integrating it with existing systems such as Peoplesoft and the student information system.

FY13	FY14	FY15	FY16	FY17
Research	Implement	Sustain	Sustain	Sustain
\$0	\$78,000	\$78,000	\$156,000	\$156,000
	1 staff		1 addl staff	

3.4.2 System Integrator – Along with having knowledge of data warehouses this position would be responsible for putting together all of the disparate pieces and creating cohesive front-end portals that allow the customer to readily have access to the data they need.

FY13	FY14	FY15	FY16	FY17
Research	Implement	Sustain	Sustain	Sustain
\$0	\$104,000	\$104,000	\$104,000	\$104,000

TECHNOLOGY SUPPORT

The Technology Support department, as noted in the overview document, handles the helpdesk, provides technical support for administrative and school-based staff, and oversees the computer replacement cycle. Additionally this department evaluates new hardware for placement on the approved purchase list for the system.

4.1 COMPUTER REPLACEMENT

For the first time in FY12 the Board has created a line item for technology replacement. Although \$500,000 is not sufficient for replacing a large number of computers it does allow the system to add memory and other parts to older machines to extend their life. Based on the asset management system the current breakdown of computers by age is:

Computers	Percentage
0-2 years	27%
3-4 years	16%
5-6 years	19%
7 years	17%
8 years	21%

There are over 3700 computers (laptops and desktops) that are at the 8 year mark. The costs offered in the chart below are based on costs for both laptops and desktops. It assumes a one-to-one replacement of like types. There could be slight cost variations if more laptops replace existing desktop computers. FY13 is the first year for replacing laptops. The numbers put forth in the cost chart were calculated to try to bring the replacement cycle into a 6 year cycle.

4.1.1 Computer Replacements – This is a breakdown of costs for replacing the oldest computers and laptops each year. The costs were calculated based on a mix of devices and run on a recommended 6 year cycle. Below the costs is the count of machines for the three major areas of Instructional (IS), Front Office (FO), and Central Office (CO).

FY13	FY14	FY15	FY16	FY17
Sustain	Sustain	Sustain	Sustain	Sustain
\$2,750,550	\$2,225,150	\$2,332,550	\$1,014,300	\$2,059,150
IS – 3583	IS – 2802	IS – 2680	IS – 1492	IS - 2552
FO – 133	FO – 151	FO – 223	FO – 64	FO - 126
CO – 75	CO – 79	CO – 221	CO – 40	CO - 64

4.1.2 Laptops for Teachers – When originally envisioned technology carts were to include a laptop for easy integration to the other equipment on the cart. Due to funding limitations this was never completed. The estimated costs are to proceed with that completion of the project. These are to provide a laptop where none exists or to replace a desktop with a laptop for a teacher. Note that the maximum effectiveness will be once a wireless infrastructure is completed. Assumption is made that less than 20% of teaching staff has a laptop.

FY13	FY14	FY15	FY16	FY17
Research/Develop	Implement	Sustain	Sustain	Sustain
\$0	\$750,000	\$750,000	\$750,000	\$750,000

4.1.3 Laptop Battery replacement – A new area which is being explored is laptop battery replacement. It has been found that the older the laptop battery the less time it will hold its charge. As the battery life gets shorter the unit becomes unusable without being plugged in. This is unacceptable or challenging at best when a classroom has limited power outlets and many laptops to be powered. Currently replacement is done out of school budgets on an as needed basis. Costs are estimates only

FY13	FY14	FY15	FY16	FY17
Research/Develop	Implement	Sustain	Sustain	Sustain
\$0	\$50,000	\$75,000	\$100,000	\$125,000

4.2 STAFFING

The technology Support Department has not increased staff over the last 5 years. In fact, positions have been eliminated even though the number of schools and staff to support has increased. Below are recommendations to support ever increasing needs of the schools.

4.2.1 Technology Support Specialist (TS2) – This position provides direct support to the instructional staff in schools. Currently 9 staff members exist, which is approximately 1 per 9 schools. With increased use of technology and to provide more timely support it is recommended to expand this number.

FY13	FY14	FY15	FY16	FY17
Sustain	Sustain	Sustain	Sustain	Sustain
\$53,300	\$53,300	\$53,300	\$106,600	\$106,600
1 addl staff			1 addl staff	

4.2.2 General Technician (GenTech) – This position provides second level support to more challenging issues for instructional staff and provides direct support to front office administrators. They also assist in evaluation of equipment and determine processes for repairs of equipment.

FY13	FY14	FY15	FY16	FY17
Sustain	Sustain	Sustain	Sustain	Sustain
\$73,450	\$73,450	\$146,900	\$220,350	\$220,350
1 addl staff		1 addl staff	1 addl staff	

4.2.3 Help Desk Technician – Addition of a help desk technician to provide redundancy and ensure faster response to user calls and resolution of problems for the customer.

FY13	FY14	FY15	FY16	FY17
	Sustain	Sustain	Sustain	Sustain
\$0	\$55,120	\$55,120	\$55,120	\$55,120
	1 addl staff			

NEW TECHNOLOGIES AND PROJECTS

This section is a brief overview of new technologies and projects that are on the horizon. These need to be on the radar screen as they could potentially impact FCPS in a number of ways.

5.1 ONLINE STATE ASSESSMENTS

With the implementation of the national core curriculum standards there is a plan to move the assessments that go with this change to online only by 2015. This may have a great impact on schools with minimal computer technology available. The question will generally be are there enough computers to get all the testing done in the window available. Other schools systems in the state of Maryland are struggling with this and the Maryland K-12 Chief Information Officers (CIO) council has made this a priority item on topics to discuss. The hope is that a list of possible solutions will be developed.

Currently FCPS would have to either create additional computer labs (not likely with the limited space available in many schools) or move to a wireless solution. The state has approved state assessments over wireless with some form of portable computing devices. The second solution has promise, but other factors need to be resolved including costs for more laptops, storage of the laptops, assuring they stay charged throughout a test sequence and keeping the software up-to-date.

5.1.1 Online Assessments – Determine and implement a technology solution to support online assessments by 2015.				
FY13	FY14	FY15	FY16	FY17
Research/Develop	Pilot	Implement	Sustain	Sustain
\$0	~\$100,000	~\$1,500,000	~\$1,500,000	~\$500,000

5.2 TABLETS



Tablets the current “hot topic” when exploring new devices. Technology Services is looking closely at the industry and how K-12 is using tablets in the classroom. It is our belief that the market has not matured sufficiently yet to make a determination in how they will best fit into the curriculum. Currently only first generation systems are available with the next generation due out in late 2011 or early 2012. Additionally, tablets based on the upcoming Windows 8 will be showing up for testing in the spring/summer of 2012. It should be noted that FCPS has a substantial investment in applications based on Windows. This is a plan that

should be taken slowly and thoughtfully before making a decision. The division is working through a step process on this. These steps include:

1. Evaluate current models of various manufacturers and see if they can work in our wireless and security environment.
2. Form a focus group of administrators, teachers, curriculum specialists, and others to determine the needs these devices would support and issues that could arise from using them.
3. Research and evaluate management systems to allow oversight of these devices and assurances of proper placement of approved applications and resources on them.
4. Develop a field test with stakeholders.
5. Review the results of the field test and determine next steps for possible implementation in the system.

It is our belief that taking these steps will help in assuring that FCPS obtains the right device for the needs of the district.

5.2.1 Tablets – Research and evaluate the viability of tablets in the FCPS system. It should be noted that sufficient infrastructure will be critical for successful implementation.				
FY13	FY14	FY15	FY16	FY17
Research/Develop	Pilot	Implement	Sustain	Sustain
\$0	~\$150,000	~\$750,000	~\$750,000	~\$750,000

5.3 BYOD (BRING YOUR OWN DEVICE)

This may be a new term for some, but it is getting a lot of attention with tight budgets and limited options to expand technology. Bring your own device or technology is literally that. Any type of device that can connect to the school’s network is fair game if the network supports it. This has the potential to be big, but it has its pitfalls. The wide variety of devices could be challenging to support or allow onto the system’s networks. Proper security and access would still need to be in place. Such laws as the Child Internet Protection Act (CIPA) still hold for devices on the school’s network.



A bigger set of issues is not technology related. It is policy, liability, equity, and professional development for teachers. Based on recent articles the general view is that technology, if the infrastructure can be made ready, is the least of the issues. The other four (liability, equity, policy, and PD) are more critical.

5.3.1 BYOD implementation – BYOD (Bring Your Own Device) implementation will require additional technology to manage and support which allows for ubiquitous use by students and staff.				
FY13	FY14	FY15	FY16	FY17
Research	Develop	Pilot	Implement	Sustain
\$0	\$50,000	\$100,000	\$200,000	\$100,000

5.4 E-TEXTBOOKS

This section can relate to the previous tablet section, but is not dependent on it. E-textbooks are not just having the book on a Kindle, but in any electronic form. The book could be web-based, on a laptop, a desktop computer, a tablet, or an e-reader. As stated in the BYOD section, policy, liability, equity for students, and professional development for staff are key points to be addressed before implementing this type of solution.

5.4.1 E-Textbooks – Technology Services will work in conjunction with curriculum and media services to formulate a plan to implement E-Textbooks at FCPS.				
FY13	FY14	FY15	FY16	FY17
Research	Develop/Pilot	Implement	Sustain	Sustain
\$0	~\$100,000	~\$250,000	~\$750,000	~\$1,200,000

CONCLUSION

FCPS has made great strides in providing technology capabilities to the students, teachers, administrative staff and classrooms. This is inclusive of instructional technology, enterprise systems, infrastructure and technology support. Tremendous progress is evident throughout the district, and significant efforts are continuing to advance and improve the existing capabilities. The Division has made every effort at providing quality service and resources to the customer. Further expansion will be dependent on a sufficient funding stream and prioritization of projects. The goal is to put the right technology tools into the hands of instructional staff and students to support 21st century learning in a cost effective and productive manner.

Summary of Strategic Technology Plan Cost Estimates						
Project	Description	FY13	FY14	FY15	FY16	FY17
1.1.1	Replace bulbs	\$0	\$10,000	\$50,000	\$60,000	\$60,000
1.1.2	Replace projectors	\$0	\$50,000	\$100,000	\$100,000	\$100,000
1.1.3	Additional carts	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000
1.2.1	Whiteboard equity	\$0	\$500,000	\$500,000	\$500,000	\$500,000
1.3.1	<i>Instructional Teacher Specialist - Staff</i>	\$66,080	\$66,080	\$132,160	\$132,160	\$198,240
2.1.1	Network switches	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
2.1.2	Data storage	\$50,000	\$100,000	\$100,000	\$100,000	\$100,000
2.1.3	Remote access	\$70,000	\$35,000	\$0	\$0	\$0
2.1.4	Replace servers	\$150,000	\$100,000	\$75,000	\$75,000	\$100,000
2.2.1	Replace Telephone switches	\$224,000	\$224,000	\$224,000	\$224,000	\$24,000
2.3.1	Building wireless	\$1,287,000	\$1,287,000	\$1,287,000	\$1,187,000	\$0
2.3.2	Wireless maintenance	\$24,000	\$45,000	\$95,000	\$240,000	\$400,000
2.4.1	<i>Wireless Admin - Staff</i>	\$88,400	\$88,400	\$88,400	\$88,400	\$88,400
2.4.2	<i>Data Center Admin - Staff</i>	\$0	\$94,200	\$94,200	\$94,200	\$94,200
2.4.3	<i>Telephone Admin - Staff</i>	\$0	\$84,500	\$84,500	\$84,500	\$84,500
3.1.1	Document Mgmt	\$0	\$250,000	\$50,000	\$50,000	\$50,000
3.2.1	E-Commerce	\$0	\$20,000	\$50,000	\$50,000	\$50,000
3.3.1	Online Conference	\$0	\$8,000	\$25,000	\$25,000	\$25,000
3.4.1	<i>Doc. Mgmt. - Staff</i>	\$0	\$78,000	\$78,000	\$156,000	\$156,000
3.4.2	<i>System Integrator - Staff</i>	\$0	\$104,000	\$104,000	\$104,000	\$104,000
4.1.1	Computer Replacement	\$2,750,550	\$2,225,150	\$2,332,550	\$1,014,300	\$2,059,150
4.1.2	Teacher laptops	\$0	\$750,000	\$750,000	\$750,000	\$750,000
4.1.3	Laptop batteries	\$0	\$50,000	\$75,000	\$100,000	\$125,000
4.2.1	<i>TS2 - Staff</i>	\$53,300	\$53,300	\$53,300	\$106,600	\$106,600
4.2.2	<i>GenTech - Staff</i>	\$73,450	\$73,450	\$146,900	\$220,350	\$220,350
4.2.3	<i>Help Desk - Staff</i>	\$0	\$55,120	\$55,120	\$55,120	\$55,120
5.1.1	Online assessments	\$0	~\$100,000	~\$1,500,000	~\$1,500,000	~\$500,000
5.2.1	Tablets	\$0	~\$150,000	~\$750,000	~\$750,000	~\$750,000
5.3.1	BYOD	\$0	\$50,000	\$100,000	\$200,000	\$100,000
5.4.1	E-Textbooks	\$0	~\$100,000	~\$250,000	~\$750,000	~\$1,200,000
	Total Costs	\$5,068,780	\$6,983,200	\$9,382,130	\$8,948,630	\$8,232,560