


ED COMMITTEE #2  
September 28, 2015  
**Update**

**MEMORANDUM**

September 24, 2015

TO: Education Committee

FROM: Essie McGuire, Senior Legislative Analyst 

SUBJECT: **Update – MCPS Technology Plan**

Today the Education Committee is scheduled to receive an update on the Technology Plan of the Montgomery County Public Schools (MCPS). Sherwin Collette, Chief Technology Officer, MCPS, will brief the Committee and discuss the school system's current technology initiatives.

The Board of Education received an update on the Technology Plan on September 21, and the information provided for the Board is attached on circles 1-6. The 2014-2016 Strategic Technology Plan was initially received by the Board in May 2013. MCPS identifies the five key expected outcomes as follows:

1. Creation of complete wireless campuses across schools;
2. Completion of the full featured *myMCPS* learning community to include staff members, students, parents/guardians, vendors, and online courses;
3. Integration of self-service portals and automated paper processes;
4. Beginning transition to digital text; and
5. Establishment of partnerships to ensure that all families have access to the MCPS digital community.

The update information attached and for discussion today updates progress in these areas. Council staff highlights below some elements for the Committee's reference during this discussion.

**Chromebooks**

A key element of the strategic plan is the rollout of Chromebooks for student and staff use in the classroom. This began in the 2014-2015 school year with implementation in Grades 3, 5, 6, and high school social studies classes. The Board and the Education Committee have heard directly from students, teachers, and parents the benefits of using the Chromebooks for class instruction and the innovative learning initiatives that the devices support.

This school year was originally planned to be the second of three rollout years for the Chromebook initiative. The Board reduced funding for the initiative as part of the significant overall budget reductions that were required in the FY16 Operating Budget. In order to maintain continuity with the initiative, MCPS reprioritized already approved funds in the Technology Modernization project. On circle 2, MCPS describes that the revised plan for this school year is to implement Chromebooks in Grade 4 and in approximately 150 middle school classrooms. Circle 2 also describes the reprioritized expenditures from the Technology Modernization program that will not be implemented this year. The Committee may want to further understand the impact of this revised implementation on both the Chromebook initiative and on the Technology Modernization cycle.

### **Shifts in Instruction**

Effective use of the new devices requires changes in lessons and instruction. The update discusses several features of this new direction on circles 3-4, including examples of how students can better access information and in turn develop projects in a wide range of integrated and interactive formats.

An important feature is the ability to more flexibly reach students in various circumstances. Circle 4 discusses the implementation of “hybrid courses” that combine face-to-face class time and virtual classroom time. MCPS identifies this as a possible model to enhance summer school, credit recovery, and other interim instruction. The Committee may want to hear more detail on the status of this effort.

One of the five key outcomes of the strategic plan relates to transition to digital text. It may be helpful to hear more from MCPS on this transition and what other steps or technology elements are involved.

### **Professional Development**

The Board and the Committee have focused on the need for professional development to help teachers effectively integrate the new technology in their classroom. Circle 4 outlines several recent professional development efforts ranging from online resources, large conference opportunities, school based training, and job-embedded support.

### ***Technology Modernization Special Appropriation***

A special appropriation to the FY16 Capital Budget of the Montgomery County Public Schools (MCPS), \$2,000,000 for the Technology Modernization project is on the Council’s agenda for introduction on September 29. The source of funds is Current Revenue.

The Board of Education requested the appropriation on September 8 (Board action memorandum on circles 7-8). This appropriation is necessary because the County Council programmed an additional \$2 million in the MCPS Technology Modernization program to provide general support for technology in the MCPS budget, given that the Board of Education would need to make reductions to its operating budget to meet available resources. The Council programmed these funds as part of its budget action in

May, but did not appropriate the funds pending Board of Education consideration and request of the appropriation.

The Council is tentatively scheduled to hold a public hearing and take action on the appropriation on October 20. **Council staff recommends approval of the special appropriation. It is a technical action that is needed to complete the Council's intent for the FY16 funding for this project.**

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## DISCUSSION

Office of the Superintendent of Schools  
MONTGOMERY COUNTY PUBLIC SCHOOLS  
Rockville, Maryland

September 21, 2015

### MEMORANDUM

To: Members of the Board of Education

From: Larry A. Bowers, Interim Superintendent of Schools

Subject: Strategic Technology Plan Update

#### **Executive Summary**

The Montgomery County Public Schools (MCPS) 2014–2016 Strategic Technology Plan was presented to the Board of Education on May 30, 2013. Once fully implemented, the plan will provide greater access to the school system's expanding digital curriculum and will enable our instructional staff to create 21st century learning spaces in all of our schools. Today's presentation and discussion provides an update on the ongoing work to operationalize this plan.

Since the plan was first shared, school staff has been working to integrate mobile and cloud-based technologies together with technology-enriched instructional and curricular resources that engage students in more explorative and interactive learning experiences. Moreover, the integration of these technologies is facilitating easier ways to assess students' understanding and provide them timely feedback. The shifts in the instructional programs are beginning to support the district's efforts to strengthen our mathematics and literacy programs across all school levels. This is evident in the manner in which the changes in the instructional programs and district's curriculum are supporting students in developing the skills that enable them to work in teams, solve complex problems, interpret information, communicate effectively, connect learning across disciplines, think critically, and apply knowledge to real-life situations. Sustaining budgetary support and providing a secure, digitally enabled learning community are critical challenges that we must continue to address to ensure the long-term success in creating the 21<sup>st</sup> century learning environments in which our students can be inspired.

#### **Background**

The innovative use of technology remains a significant strategy in our ongoing improvement initiatives. The broader context within which the plan was developed acknowledges that the

interactive and mobile technologies our students use outside of the classroom present excellent opportunities to redesign our learning environments. The MCPS 2014–2016 Strategic Technology Plan outlines multiyear strategies and actions to transform learning environments through the innovative integration of technology. The plan envisions MCPS as a school system in which technology-enriched learning communities inspire intellectual curiosity and prepare students with the knowledge and skills to excel in college and chosen careers. This plan centers on a single goal that provides an overarching focus of all efforts and articulates five strategies that are aligned with the Board's core values to realize the plan's goal. The plan was developed in collaboration with a broad cross section of staff members, parents/guardians, students, and higher education and business representatives.

### **The Rollout Plan**

Earlier laptop and interactive technology initiatives have demonstrated that mobile learning environments strengthen teachers' efforts to provide differentiated learning and flexible formative and performance-based assessments. In addition, advances in mobile, social, information, and cloud technologies are facilitating new opportunities for how we teach and learn. As a result, the purchase of Chromebooks and the deployment of the cloud-based Google Apps for Education was a strategic budget enhancement that was approved in the Fiscal Year (FY) 2015 Operating Budget as well as the Technology Modernization (Tech Mod) project in the FY 2015–2020 Capital Improvements Program. This initiative was not only a key step in operationalizing the Strategic Technology Plan, it also aligned with the district's ongoing conversion to a digital curriculum. The school system's expanding digital Common Core State Standards (CCSS) curriculum and our computing infrastructure are enabling timely access to content and instructional activities that require students to think critically, solve complex problems, work collaboratively, and communicate effectively.

Through this initiative, we were able to expand access to this new digital learning infrastructure to staff members and students directly in the classroom from anywhere and at any time. Specifically, the initiative enabled us to purchase Chromebooks in FY 2015 for Grades 3, 5, 6, and social studies classes in high schools. The original plan for the 2015–2016 school year was to purchase Chromebooks for Grades 2, 4, 7, and for another subject in high schools in FY 2016. However, as a result of reductions in the FY 2016 Operating Budget, the scope of the rollout for FY 2016 needed to be restructured. As a result of the \$3 million operating budget reduction in technology, the only opportunity to purchase and rollout Chromebooks for the 2015–2016 school year was to restructure some of the expenditures within the Tech Mod project in the FY 2016 Capital Budget.

By reprioritizing expenditures within the approved FY 2016 Capital Budget that funds the Tech Mod project, we were able to move forward with a reduced rollout of Chromebooks to Grade 4 and approximately 150 middle school classrooms. The trade-off in reprioritizing Tech Mod expenditures means that none of the existing computers were replaced in schools that were scheduled for this past summer's Tech Mod services. Despite this reduced scope for the Tech Mod project, staff

was able to replace the printers in designated schools as scheduled and assess, clean, and update the existing computers, and reimage or add a new image to ensure these computers were in optimal working condition for the start of school.

### **Shifts in Instruction**

These interactive technologies are facilitating equitable classroom practices, encouraging student-driven learning rather than teacher-directed instruction, and increasing student conversation and collaborative feedback. Teachers have shared that their students are able to fully engage in these interactive learning environments in ways they could not previously. This is due, in part, to the different modalities in which information can be presented (video, pictures, text, audio), as well as the assistive technology resources available to all students including read-to, Google Translate, dictionaries, highlighter, magnifying glass, and speech to text. Content that was not accessible for many students before now is able to be adapted and presented in new ways that can be customized to individual student needs. Furthermore, students now are able to use these technologies to demonstrate their learning and understanding of content in ways they could not before. Students have created Ted Talk videos, podcasts, blogs, information websites, demonstration videos, screencasts with voice-over explanations, and presentations that integrate video, sound, pictures, and text.

Grade level teams and cohorts of teachers are focused specifically on improving the teaching and learning of literacy and mathematics. These technologies provide anywhere, anytime access to learning resources that foster student growth in reading and understanding in mathematics. With the integration of e-books, reading comprehension and phonics apps, virtual manipulatives, fluency apps, CCSS-aligned interactive tasks, and interactive applets and simulations, students are able to experience core reading and mathematics concepts in new ways. Students are able to use these technologies to access information, organize it, collaborate with others about it, and express their understanding through multiple venues. These technologies are facilitating new ways of learning for students.

### **Hybrid Courses**

As part of the action items to be completed by 2016, as outlined in the Strategic Technology Plan, we have begun the process of creating, implementing, and studying the use of hybrid courses as one model for earning course credit during summer school, as part of the credit recovery options, and to support interim instructional services for students who are unable to attend school regularly. In the hybrid model, students attend face-to-face classes for part of the week and work in a virtual classroom space for the other part.

The hybrid course model currently is being developed to support credit recovery efforts in high schools during the school year and also to support students in need of interim instructional services. Hybrid courses that are grounded in the MCPS curriculum indicators include core learning tasks, readings, and assessments and can be used as an anchor for available staff members to guide

instruction in unfamiliar content for students needing to retake courses. We are hopeful that this balance of face-to-face and virtual instruction meets students' needs in new ways.

### **Professional Development**

The successful implementation of technology in the classroom requires a comprehensive, differentiated, and sustained plan for professional development and support. To that end, staff across several central services offices has collaborated on designing and implementing a variety of professional learning experiences. These offerings have focused on high-quality instructional practices that effectively integrate digital and mobile technologies into the teaching and learning programs. The variety of sessions integrating technology at the Secondary Literacy Conference, facilitated by central services and school staff, underscore this ongoing collaboration across offices and departments.

Among this past summer's offerings was the first *Innovate, Integrate, Collaborate* teacher conference, with more than 500 teachers attending. Key areas of focus included how to use technology to support small group instruction, promote effective reading strategies, and enhance not only procedural fluency, but also deeper thinking of key mathematics concepts.

A similar conference experience drawing more than 300 attendees was provided for supporting services staff. These staff sessions were tailored to specific operational excellence and productivity efforts, including creating shared office folders, collaborating on key documents, building surveys to collect and analyze data, and hosting interactive web-conference sessions using Google Hangouts.

Last school year, a wide range of professional learning opportunities was developed and provided for staff members, which included orientation sessions, before and after-school workshops, Appy Hours, Continuing Professional Development credit-bearing courses, and open lab drop-in sessions. Every day, instructional technology specialists worked in their assigned schools to provide job-embedded modeling, coaching, and support with collaborative planning. During job-embedded professional development, instructional technology specialists joined teachers in their collaborative planning sessions and helped teachers create whole group, small group, and individual learning experiences that effectively integrate these technologies. A series of just-in-time, self-service courses and materials also have been developed and are housed in the district's *myMCPS* portal and also are accessible through a series of Google sites.

### **Challenges**

Sustaining appropriate funding for the Tech Mod Project is essential to transforming our learning environments for teaching and learning in the digital age, and remains an ongoing challenge given the current fiscal outlook. Another area of continued planning and focus centers on the ongoing efforts to enhance our security and data protection safeguards. As we expand the use of cloud-based, mobile, and collaborative technologies to transform our classrooms, we continue

to engage our service providers in making certain that they remain committed to ensuring compliance with evolving data privacy and confidentiality laws and best practices. The Board supported the Student Data Privacy Act of 2015, which was enacted by the Maryland General Assembly. This state law establishes limitations on vendor use of student data and outlines necessary safeguards for protecting student data and privacy. Moreover, we continue our work (in partnership with other Maryland school systems and legal counsel) to monitor best practices nationwide in an effort to enhance data privacy protections beyond the requirements set forth in Maryland law, incorporating principles and safeguards (where applicable) that have been adopted by other states and incorporated into guidance issued by the United States Department of Education and the National School Boards Association. We are encouraged that an increasing number of our vendors have signed onto the K-12 Privacy Pledge that was developed through the partnership of the Future of Privacy Forum and the Software & Information Industry Association, among other entities, and that has been endorsed by President Obama.

Because of the evolving nature of technology and the current efforts across the nation, we recognize that this is an ongoing effort. As our efforts progress, we will be reviewing all of our technology contracts to ensure that they include student privacy protections, and we remain committed to providing high-quality educational experiences that keep our staff and students safe and our data protected. We have plans to expand on the overall awareness education of staff, students, and the community regarding these issues. This will build on past efforts that have included formal work groups such as the MCPS Cybercivility Task Force, school-based parent information sessions, responses to individual inquiries, collaborating with principals, and conversations with students. It is important to note that in our implementation of the Google platform, the current safeguards do not permit advertising or data mining; prohibit the use of cameras on Chromebooks for non-instructional purposes; enables the safety mode on YouTube; retains MCPS ownership and terms of retention of all account data; and limits email communication to only MCPS account holders. Students are further limited to only sending and receiving emails from their school-level colleagues and staff.

## **Conclusion**

Five key overarching outcomes are expected as a result of implementing the 2014–2016 Strategic Technology Plan. These include the creation of complete wireless campuses across our schools; the completion of the full-featured *myMCPS* virtual learning community to include staff members, students, parents/guardians, vendors, and online courses; the integration of self-service portals and automated paper processes; the beginning transition to digital text; and the establishment of partnerships to ensure that all families have access to the MCPS digital community. The actions outlined in the plan represent specific work that the Office of the Chief Technology Officer will facilitate in partnership with other offices, schools, and service partners to create detailed action plans and funding requirements.

We know that when technology is used effectively in learning, it supports students' engagement with complex, authentic lesson activities in reflective and collaborative learning environments.



We are committed to providing our teachers with the professional learning opportunities that will enable them to use these mobile and collaborative technologies to differentiate and scaffold learning opportunities that meet the needs of all our students. Sustaining appropriate funding for the Tech Mod project is essential to continue to transform our learning environments for teaching and learning in the digital age. Additionally, the ongoing necessity to secure our digital learning community and protect our data, while concurrently supporting personally owned devices and substantial growth in network usage, remain significant challenges that we will continue to address in our implementation efforts.

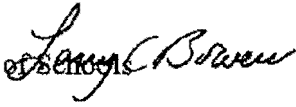
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Office of the Superintendent of Schools  
MONTGOMERY COUNTY PUBLIC SCHOOLS  
Rockville, Maryland

September 8, 2015

MEMORANDUM

To: Members of the Board of Education

From: Larry A. Bowers, Interim Superintendent of Schools 

Subject: Fiscal Year 2016 Supplemental Appropriation Request for Technology Modernization

On May 21, 2015, during the review of the Montgomery County Public Schools (MCPS) Fiscal Year (FY) 2016 Capital Budget and Amendments to the FY 2015–2020 Capital Improvements Program (CIP), the County Council programmed an additional \$2 million in FY 2016 for the Technology Modernization (Tech Mod) Project. The Council's action included the requirement that MCPS request a supplemental appropriation to have the \$2 million appropriated.

As part of the Board's final approval of the FY 2016 Operating Budget, it became evident that the County Council's approval of an additional \$2 million in FY 2016 to the Tech Mod Project would allow MCPS to shift the same expenditure amount from the Operating Budget to the Tech Mod Project in the CIP. As a result, a total of 16.0 information technology system specialist positions will be reallocated from the Operating Budget to the Capital Budget. In doing this, the district reduces a portion of the school-based reductions that were included in the County Council's final action on the MCPS FY 2016 Operating Budget by \$2 million. The Board, therefore, was able to restore 11.9 English for Speakers of Other Languages (ESOL) teacher positions, 9.0 special education teacher positions, 7.825 special education paraeducators positions, 1.0 ESOL parent community coordinator position, and 1.0 ESOL transition counselor position in the FY 2016 Operating Budget.

It is recommended that the Board requests a supplemental appropriation in the amount of \$2 million to spend the funds programmed by the County Council in the Tech Mod Project. Therefore, I recommend that the Board approves the following resolution.

WHEREAS. When the County Council approved the Technology Modernization Project in the Fiscal Year 2016 Capital Budget and Amendments to the Fiscal Year 2015–2020 Capital Improvements Program, an additional \$2 million was programmed in Fiscal Year 2016 with the requirement that the Board of Education requests a supplemental appropriation to expend these funds; and

WHEREAS. Expenditures totaling \$2 million were moved from the Fiscal Year 2016 Operating Budget to the Technology Modernization Project to reduce a portion of the school-based reductions that were included the County Council's final action on the Montgomery County Public Schools Fiscal Year 2016 Operating Budget and to facilitate the restoration of 11.9 English for Speakers of Other Languages (ESOL) teacher positions, 9.0 special education teacher positions, 7.825 special education paraeducators positions, 1.0 ESOL parent community coordinator position, and 1.0 ESOL transition counselor position; now therefore be it

Resolved. That the Board of Education requests a Fiscal Year 2016 supplemental appropriation in the Fiscal Year 2016 Capital Budget and the Amendments to the Fiscal Year 2015–2020 Capital Improvements Program in the amount of \$2 million to expend the funds programmed by the County Council and to support the full funding of the 16.0 information technology system specialist positions; and be it further

Resolved. That this request be forwarded to the county executive and the County Council for action.

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