

Gateway School District Technology Plan

In support of the Gateway School District vision to ensure that graduates exceed College and Career Readiness Standards, we are committed to altering our most recent approaches to curriculum, instruction, and assessment to include a more creative and innovative approach to teaching and learning. These alterations are necessary in support of a twenty-first century approach that incorporates an interdisciplinary strategy that capitalizes on natural connections among science, technology, engineering, the arts, and mathematics. To reach our vision, Gateway School District teaching resources and learning tools must be enhanced accordingly.

A three-year itemized budget has been developed and prioritized based on the condition and capacity of current resources to include anticipated replacement needs, building-to-building and classroom-to-classroom equity, and curricular impact in terms of current needs and the support required to scaffold the district's new vision.

Age, Condition, and Capacity

This three-year plan takes into consideration the upgrade of various computer labs throughout the district and the upgrade of multi-unit laptop carts. Priority has been determined as follows based on unit age for these larger purchases:

- a. Upgrade labs and carts at Gateway HS that were originally purchased with Classrooms for the Future funding about eight (8) years ago. Science, Math, and Business computers would be replaced in Year 1, and English computers would be replaced in Year 2.
- b. Replace four (4) laptop carts at GMS originally purchased five (5) years ago.
- c. Upgrade the oldest lab at Gateway MS and Tech Ed labs purchased about four (4) years ago during Year 2.
- d. Replace K-4 computer labs purchased about three (3) years ago during Year 2 of the new plan.

Equity

In terms of equity, standard classroom configurations were determined. A related and supporting focus has centered around efficiency. Coordinated sharing has been incorporated to maximize student access and usage. From building-level vision meetings, staff feedback has included a request for flexibility in terms of Apple MAC versus PC options based on curriculum. Administration intends to support staff preference in this regard, although this adjustment will result in a deviation from our current configuration of maintaining Apple MAC products predominantly at the elementary level and PC models at the secondary level. Administration will retain the right to intervene with regard to platform selection when/if selected products are not compatible with related resources and/or not consistent with future district initiatives, such as an eventual exclusive purchase of electronic textbooks and/or the ability to author electronic textbooks at the local teacher level. (Current technology for such initiatives is more Apple iPad/MAC "friendly" at this point in time; however, "creating" currently is more conducive to laptop use as opposed to iPad use.)

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It should be noted additionally that the Gateway Art and Music Departments find that the Apple products better support their K-12 curriculum. Another exception includes the recommendation to use the World Languages Department as one of the first departments to pilot Apple TV products at Gateway HS in consideration of an eventual conversion to Apple TV at Moss Side MS and Gateway HS as Promethean Boards become older and need replaced. (The Apple TV system provides a more cost-effective approach to classroom display and interactive learning.) It is also advised that Gateway invest in higher capacity workstations to support more technical curriculum (e.g., CAD, music/video production, etc.) and more mid-range models to support learning in less sophisticated curricula as that associated with elementary education.

A preliminary review of the impact of the sizable investment in iPads over the last two years, makes it apparent that actual usage must be further explored before subsequent purchases of iPads for certain departments is recommended, namely Special Education. However, when equity is considered, it is clear that Moss Side MS Library needs to be equipped with iPads, as it received none during the initial purchase. Hence, this purchase is recommended for Year 1 to create a digital literacy area in the Moss Side MS Library to support classroom projects and a revised library curriculum.

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Proposed Spending

Year 1 (2013-2014)				
	K-4	5-6	7-8	9-12
Curriculum	<ul style="list-style-type: none"> • <u>1st Grade</u>: All 1st grade classes will be equipped with FM systems that amplify sound. • All classrooms will be equipped with Apple TV, Projectors, & all teacher laptops (Apple or PC at teachers' discretion) will be replaced. iPads will be purchased & shared as follows: 1st & 2nd grades 3rd & 4th grades • Laptop carts will be purchased & shared among 3rd & 4th grades. (These laptops will eventually replace aging desktop units currently used in classrooms for SRI, Reading Counts, etc.) • <u>Kindergarten & ESL</u> classrooms will share iPads already assigned to building libraries. • <u>Centers</u>: All kindergarten classrooms will be 	<ul style="list-style-type: none"> • <u>Health/PE</u>: Purchase a laptop cart, 60 in LCD flat screen display, an iPad, & Blu-ray player to support group exercise. • Reassign Promethean Boards currently located at GMS. • Replace all teacher laptops. • <u>Media</u>: Purchase 30 iPads for MSMS Library to support new library media center curriculum. • <u>ESL</u> classrooms will share iPads already assigned to the building library. • <u>Gifted & Special Ed</u>: Add 3 laptops per classroom at MSMS to facilitate centers approach & differentiated interventions. • <u>Gifted & Special Ed</u>: Verify usage of 	<ul style="list-style-type: none"> • <u>Music</u>: Purchase 30 iPads to support new curriculum. • Ensure all classrooms have Apple TV configuration to include Projectors & laptops for teachers. • Purchase a new laptop cart to be shared among all classrooms for research & production. • <u>ESL</u> classrooms will share iPads already assigned to the building library. • <u>Tech Ed</u>: Replace lab units with a cart of 30 laptops to support technical/ software applications. • <u>Tech Ed</u>: Provide 3D Cubex printers in support of the curriculum. • <u>Gifted & Special Ed</u>: Verify usage of previously purchased iPads & redeploy select units to AIM staff. 	<ul style="list-style-type: none"> • <u>STREAM</u>: Explore planetarium enhancements that include STEAM simulations that include natural interdisciplinary connections to social studies and English, as well. • <u>Media</u>: Allow GHS CAD students to design reconfigured space for the GHS Library to include a café to be serviced potentially by Life Skills students with snacks created by FACS foods classes and bookkeeping/ All record keeping will be managed by select business education classes under supervision/in collaboration with Martin Lorenzo. (Anticipated furniture expenditures and light constructions costs have <u>not</u> been included in this budget.) • Tie in video system from athletic complex into renovated media center to provide real-time cable & news feeds.

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	<p>equipped with 5 workstations to support a centers-based approach to learning.</p> <ul style="list-style-type: none"> • <u>Gifted & Special Ed</u>: Replace K-4 teacher laptops. • <u>Gifted & Special Ed</u>: Add 3 laptops per classroom in all K-4 buildings to facilitate centers approach & differentiated interventions. • <u>Gifted & Special Ed</u>: Verify usage of previously purchased iPads & redeploy select units to AIM. • <u>Gifted</u>: Purchase Apple TV components, including teacher laptops for all AIM staff. • <u>Health/PE</u>: Purchase 1 iPad with keyboard per staff to support the management of health-related student data via the Advanced Systems Design, Inc. program that tracks weight, BMI, exercise, etc. (Additional Polar heart monitors & tablets to be purchased to support real-time student 	<p>previously purchased iPads & redeploy select units to AIM.</p> <ul style="list-style-type: none"> • <u>Gifted</u>: Purchase Apple TV components, including teacher laptops for all AIM staff. • <u>Health/PE</u>: Purchase 1 iPad with keyboard per staff to support the management of health-related student data via the Advanced Systems Design, Inc. program that tracks weight, BMI, exercise, etc. (Additional Polar heart monitors & tablets to be purchased to support real-time access from the monitors.) 	<ul style="list-style-type: none"> • <u>Gifted</u>: Purchase Apple TV components, including teacher laptops for all AIM staff. • <u>Health/PE</u>: Purchase 1 iPad with keyboard per staff to support the management of health-related student data via the Advanced Systems Design, Inc. program that tracks weight, BMI, exercise, etc. (Additional Polar heart monitors & tablets to be purchased to support real-time access from the monitors.) 	<ul style="list-style-type: none"> • Create a performance area to facilitate poetry recitation, improv, display of voice & instrumental skills, etc. as actual learning experiences to be articulated in revised curriculum & also to facilitate more authentic assessment opportunities. • Convert extra space to an art gallery to display samples of student & staff work. • Reassign Promethean Boards currently located at GMS & UP. • <u>Science, Business (BCIT), & Math</u>: Replace computers funded by CFF originally that support research, data collection, word processing, PowerPoint presentations, graphing, etc. • <u>World Languages</u>: Pilot Apple TV configuration. • <u>ESL</u> will share iPads already assigned to the building library. • <u>Gifted & Special Ed</u>: Verify usage of previously purchased iPads & redeploy select units to AIM. • <u>Gifted</u>: Purchase Apple TV components, including teacher laptops for all AIM. • <u>Special Ed</u>: Purchase 6 laptops
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	access from the monitors.)			<p>to support Read 180.</p> <ul style="list-style-type: none"> • Health/PE: Purchase 1 iPad with keyboard per staff to support the management of health-related student data via the Advanced Systems Design, Inc. program that tracks weight, BMI, exercise, etc. (Additional Polar heart monitors & tablets to be purchased to support real-time student access from the monitors.) • PE: Install sound system in the Dance studio to facilitate regular use.
District-wide Year 1				
Safety	<ul style="list-style-type: none"> • Install swipe card system in all buildings. • Install door alarm systems in all buildings. • Upgrade & add to camera surveillance system. • Upgrade & add to walkie talkies. • Purchase & install a driver’s license swipe system for all buildings. 			
Management	<ul style="list-style-type: none"> • Upgrade GMS Auditorium video & audio system. • Upgrade GHS LGI audio & video system. • Replace GHS Auditorium wireless microphone system (Funding should come from rental fees.) • Prepare all paystubs online, manage Facilities Rental & other forms/ reports online. • Install an automated phone answering system. • Manage Emergency Card updates online. • Manage Student Registration online. • Install a more user-friendly website product. 			

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Year 2 (2014-2015)				
	K-4	5-6	7-8	9-12
Curriculum	<ul style="list-style-type: none"> • All labs will be upgraded with newly purchased desktop/laptop models to accommodate district-wide PSSA administration for grades 3-4 and the new elementary computer (BCIT) curriculum. (An added benefit is that we will save \$500 per school in shipping costs for having converted to online PSSA administration.) • <u>2nd grade</u>: All classes will be equipped with FM systems that amplify sound. • Laptop carts will be purchased & shared among 1st & 2nd grades. • Grades 1-4 classroom workstations will be replaced through attrition by 3 laptops per classroom. (These laptops will also be available for mass testing as needed.) 	<ul style="list-style-type: none"> • Replace PCs in Lab B with Apple products. (An added benefit is that we will save \$500 per school in shipping costs for having converted to online PSSA administration.) • Convert Lab C to a STEM simulation lab/classroom. • Purchase iPad carts of 30 units to be shared among classrooms for research purchases. 	<ul style="list-style-type: none"> • Update Compass Lab used for instructional support. (An added benefit is that we will save \$500 per school in shipping costs for having converted to online PSSA administration.) 	<ul style="list-style-type: none"> • <u>Tech Ed</u>: Upgrade Tech Ed classroom computers to support technical software/applications. • <u>Tech Ed</u>: Provide 3D Cubex printers in support of the curriculum. • <u>Video Production</u>: Reconfigure current video productions suite to include a sound lab to support more advanced communication classes. • <u>English</u>: Replace computers originally purchased through CFF that support research, writing, & production.

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District-wide Year 2	
Infrastructure	<ul style="list-style-type: none">• Replace all switches.• Upgrade server & storage capacity.• Provide wireless network throughout the district.• Upgrade telephone system.

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Year 3 (2015/2016)				
	K-4	5-6	7-8	9-12
Curriculum	<ul style="list-style-type: none"> • <u>Gateway Cyber Academy:</u> Expand to K-12 configuration, assuming sufficient enrollment interest. (Enhance marketing to promote K-12 & hybrid options. Continue to renew outside contract with AIU Waterfront Learning, assuming the AIU continues to offer quality curriculum at the most cost-effective price.) • <u>Kindergarten:</u> Install Apple TV systems in all classrooms. 	<ul style="list-style-type: none"> • <u>Gateway Cyber Academy:</u> Expand to K-12 configuration, assuming sufficient enrollment interest. (Enhance marketing to promote K-12 & hybrid options. Continue to renew outside contract with AIU Waterfront Learning, assuming the AIU continues to offer quality curriculum at the most cost-effective price.) • Convert MSMS Library to Media Center model. • Install Apple TV systems in all classrooms. 	<ul style="list-style-type: none"> • Convert GMS Library to Media Center model. • Replace 2 GMS Labs. (An added benefit is that we will save \$500 per school in shipping costs for having converted to online PSSA administration.) 	<ul style="list-style-type: none"> • Install Apple TV systems in all classrooms.

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3-Year Overall Spending Breakdown				
Curriculum	\$2,453,344.00		YEAR 1	\$1,900,871.00
Safety	\$ 130,450.00		YEAR 2	\$782,027.00
Infrastructure	\$ 204,566.00		YEAR 3	\$202,740.00
Management	\$ 97,278.00			
TOTAL	\$2,885,638			

Other Considerations

- Year 1 updates at Gateway HS will facilitate large-scale standardized test administration in individual classrooms as opposed to shutting down the library during the testing windows 2-3 times per year.
- Year 2 K-4 upgrades in all labs will facilitate district-wide online standardized assessment for grades 3-8 that will save \$500.00 per building annually for current PSSA ship-to-school charges.
- District-wide training on the use of current and changing technology should be offered regularly throughout the year and may be facilitated by staff or student interns. Prescribed enhancements will facilitate not only large-scale training efforts but also more personalized options that are reliant on technology.
- It is recommended that the district maintain its current subscription to EDLINE but expand usage among parent/guardians beyond the current estimation of 60-70% usage. Expansion should include at least homework access for absent students and an option to submit assignments via EDLINE.

Final Thoughts

It is estimated that Gateway School District maintains a 3 device: 1 student ratio in terms of current access. Following the implementation of this proposed three-year plan, it is expected that this ratio will be reduced to a 2:1 ratio. Stakeholders are cautioned that this three-year plan follows a fluid design that is contingent on available funding, new technology options, and/or changing standards/compliance guidelines. However, it is a clear goal to move toward an era where K-12 students may be issued laptops and/or iPads to be used in class and taken home, as these electronic devices will include access to all electronic textbooks and resources needed to support teaching and learning.