

III. Develop networking and telecommunications systems within each school, across the district, and to the global community.

III.1 Provide video telecommunications for all schools.

III.2 Provide for all schools a data network which links classroom, media center, labs, as well as the administrative data network.

III.3 Develop and implement a Wide Area Network that is unique to the division.

III.4 Develop network standards for all new construction and renovation.

## **Individual Objectives with Rationale and Strategies**

**GOAL I: Establish professional development programs, support systems, and incentives to enhance teaching and learning through the use of computer and media technologies.**

**Objective I.1 Provide specialized technology training to instructional leaders and support staff.**

*Individuals with direct technology responsibilities, instructional leaders, and technology support staff should have a foundation necessary to support and promote an aggressive, comprehensive technology plan.*

*Whereas instructional leaders and support staff possess various levels of proficiency and experience with the use and application of technology, training opportunities should be organized around beginning, intermediate, and advanced approaches with participants being able to refine their expertise through each training opportunity.*

### Strategy I.1.01

Conduct summer institutes on computer and media technology applications for Building Technology Contacts, Media Specialists, and Technology Specialists.

### Strategy I.1.02

Conduct summer institutes on computer and media technology applications for building Instructional Coordinators and division Curriculum Coordinators.

### Strategy I.1.03

Conduct summer institutes on computer and media technology applications for identified secretarial and support staff.

### Strategy I.1.04

Conduct summer institutes on educational and administrative technology applications for building administrators.

**GOAL I: Establish professional development programs, support systems, and incentives to enhance teaching and learning through the use of computer and media technologies.**

**Objective I.2 Provide training and professional development opportunities on available technologies and software for school personnel across all levels and positions.**

*All school personnel should have a foundation necessary to support and promote an aggressive, comprehensive technology plan.*

*Whereas school personnel possess various levels of proficiency and experience with the use and application of technology, training opportunities should be organized around beginning, intermediate, and advanced approaches with participants being able to refine their expertise through each training opportunity.*

Strategy I.2.01 ✓

Maintain a library of video and audio training materials which deal with the use of computer and media technology equipment and software.

Strategy I.2.02 ★

Provide a series of short, focused demonstration sessions on computer and media technology use and application during each semester.

Strategy I.2.03 ★

Provide a series of hands-on sessions on computer and media technology use and application during each semester.

Strategy I.2.04 ★

Provide courses focused on particular technology software applications during each semester.

Strategy I.2.05 ★

Provide building specific training sessions designed to meet identified building computer and media technology training needs.

Strategy I.2.06 ✓

Provide, through substitutes, release time for staff members to attend training sessions, site visits, conferences, and classes which are focused on the use and application of computer and media technology in instruction.

Strategy I.2.07

Develop and sponsor train-the-trainer workshops.

Strategy I.2.08

Establish a collaborative university level course delivered on-site in the division.

Strategy I.2.09 ✓

Provide financial support to staff members wishing to enroll in computer and media technology focused courses and training opportunities.

Strategy I.2.10

Publish and distribute each ~~July~~ *spring* a schedule for the coming school year of staff development activities targeting computer and media technology use and application.

Strategy I.2.11

Provide opportunities for staff members to design a technology proficiency plan that utilizes all or some of the categories of computer and media technology training opportunities supported by the division.

Strategy I.2.12

Advertise and offer, on an enrollment fee basis and contingent upon enrollment space being available, the division's technology training opportunities to surrounding divisions.

Strategy I.2.13

Utilize NTTI ( National Teacher Training Institute in Technology) Master Teacher training program and institute.

Strategy I.2.14

Organize a process by which all instructional staff will have the opportunity to demonstrate proficiency in each of the State adopted Technology Standards for Instructional Personnel by the year 2002. (See attachment.)

Strategy I.2.15

Employ Technology Standards Mentors to provide local definitions of enablers and demonstrators for the State adopted Technology Standards for Instructional Personnel by June 1999. (See attachment.)

Strategy I.2.16

Provide a comprehensive program to enable all instructional staff members to have a variety of staff development opportunities to gain and demonstrate proficiency in each of the State adopted Technology Standards for instructional Personnel beginning with school year 1999-2000. (See attachment.)

Strategy I.2.17 ✓

Provide a division training lab with appropriate equipment and software.

**GOAL I: Establish professional development programs, support systems, and incentives to enhance teaching and learning through the use of computer and media technologies.**

**Objective I.3 Provide for all staff to be proficient in the use of appropriate computer and media technologies.**

*It is essential to a successful technology program that school division personnel and building level educators be proficient in the use of available technology.*

Strategy I.3.01

Define areas of computer and media technology proficiencies for all staff.

Strategy I.3.02

Define enablers and demonstrators for computer and media technology proficiencies for instructional staff which are congruent with those described in the State adopted *Technology Standards for Instructional Personnel*.

Strategy I.3.03

Establish required entry levels of computer and media technology proficiency for the hiring of all new staff.

Strategy I.3.04

Establish required levels of computer and media technology proficiencies for existing staff.

Strategy I.3.05

Acquaint new staff members and staff members with new responsibilities with the established technology use as it applies to the area to which they are assigned.

**GOAL I: Establish professional development programs, support systems, and incentives to enhance teaching and learning through the use of computer and media technologies.**

**Objective I.4 Offer technology incentives to encourage staff members to utilize various forms of computer and media technologies.**

*The division recognizes the benefits of a staff that is highly fluent in the use of technology and should support the efforts of staff members who take personal initiative to become skilled in the various forms of computer and media technologies.*

Strategy I.4.01 ★

Provide an RFP (Request For Proposal) process for staff members to apply for early assignment of computer and media technologies.

Strategy I.4.02 ✓

Provide recertification incentives to staff members who take advantage of video and audio training materials.

**GOAL I: Establish professional development programs, support systems, and incentives to enhance teaching and learning through the use of computer and media technologies.**

**Objective I.5 Form an open partnership with the Charlottesville Community to support full utilization of technology within schools and with the school community.**

*Under conditions of limited resources it is important that all segments of a community share methods, knowledge, experience, and resources across the greater community.*

Strategy I.5.01

Offer opportunities for training in and use of available computer and media technology resources to the community.

Strategy I.5.02

Work in conjunction with the City government and community entities to establish a central technology training site that can be used by all parties to train staff and community members in the use of available computer and media technology.

Strategy I.5.03 ✓

Continue to cooperate with the community information network efforts. (Monticello Area Virtual Village)

**GOAL I: Establish professional development programs, support systems, and incentives to enhance teaching and learning through the use of computer and media technologies.**

**Objective I.6 Continue to provide technology support and training systems at the district and building levels.**

*The need for specially trained educators and technicians increases in proportion to the extent technology is integrated in the curriculum and across the division. A technology support structure provides consolidated, coordinated efforts towards accomplishing goals and facilitating efficient use of available technology resources.*

Strategy I.6.01 ★

Consolidate and manage computer and media technology resources under the auspices of the Technology Department.

Strategy I.6.02 H

Provide appropriate coordination, training, and support for division instructional, media, and information technologies through the leadership of the Coordinator of Instructional Systems Technology, Coordinator of Instructional Media Services, and Coordinator of Data Systems.

Strategy I.6.03

Provide training and instructional support to building level staff members through an elementary (PK-4), a middle (5-8), and a secondary (9-12) Technology Specialist for Instruction.

Strategy I.6.04 ✓

Provide maintenance, repair, installation, and service for equipment, software, and networks through Technology Support Specialist and Network Systems Administrator.

**GOAL I: Establish professional development programs, support systems, and incentives to enhance teaching and learning through the use of computer and media technologies.**

**Objective I.7 Recognize that providing technology opportunities involves a process of ongoing planning, assessment, evaluation, and fiscal support.**

*Technology is in a constant, rapid state of development and change. The division must demonstrate its commitment to maintaining an environment which keeps abreast of existing and emerging technologies and which seeks to develop a clear understanding of future needs, directions, and approaches.*

Strategy I.7.01 ✓

The Technology Department will present an annual progress report on the implementation of the division technology plan.

Strategy I.7.02 ★

The Technology Department will present an annual inventory review of *media and* technology equipment and software.

Strategy I.7.03 ✓

The Technology Department will present annual budget requests that reflect the progress with and implementation of the division technology plan.

Strategy I.7.04 ✓

The Technology Department will assist each instructional site to develop a building level technology plan which addresses the building's needs, reflects the division plan, and includes a community technology awareness component. and which focuses on the use of technology as an instructional tool. [The division plan provides a technology infrastructure focus while the individual building plans provide the instructional focus.]

Strategy I.7.05

The Technology Department will utilize the state developed measurement instrument to determine the impact of local technology initiatives on student learning and achievement.

**GOAL I: Establish professional development programs, support systems, and incentives to enhance teaching and learning through the use of computer and media technologies.**

**Objective I.8 Establish annual capital budget items to support computer and media technology.**

*With the recognition of the need to provide technology opportunities comes the need to approach fiscal support in an organized, recognized manner.*

Strategy I.8.01 ★

Establish district budget line items for computer and media technology (hardware, software, training, support) that is at least 1% of the overall district budget.

Strategy I.8.02

Establish building-level budget line items for building specific computer and media technology hardware, software, training, support, and consumable supplies.

Strategy I.8.03 ★

Establish a district budget line item to support a comprehensive technology training program.

Strategy I.8.04

Establish a district budget line item to contract for professional grant writer services.

Strategy I.8.05 ✓

Establish a district budget line item to support the division plan for maintaining and upgrading computer and media technology resources.

Strategy I.8.06 ✓

Establish a district budget line item to support equipment, software, access lines, and maintenance for a Wide Area Information Network.

**GOAL I: Establish professional development programs, support systems, and incentives to enhance teaching and learning through the use of computer and media technologies.**

**Objective I.9 Pursue alternate means of funding, supporting, and implementing a comprehensive technology plan.**

*The division recognizes that providing a technological environment is an expensive proposition within the confines of limited resources. It is therefore important for the division to pursue additional means of support for its technology efforts.*

Strategy I.9.01

Organize a division grants committee.

Strategy I.9.02

Organize a technology grants subcommittee.

Strategy I.9.03

Offer grant writing workshops to staff members.

Strategy I.9.04

Contract for professional grant writer services, as needed, in order to pursue alternative funding to implement a comprehensive technology plan.

Strategy I.9.05

Pursue community partnerships with area businesses and organizations.

Strategy I.9.06 ✓

Continue present and pursue additional cooperative activities and programs with the University of Virginia and other institutions of higher learning.

Strategy I.9.07 ✓

Continue to recognize, utilize, and seek the aid, support, and talents of parents and other interested individuals in the Charlottesville community.

Strategy I.9.08 ✓

Continue to apply for and meet the requirements of the Universal Service and e-Rate Program.

**GOAL II: Provide appropriate technologies to ensure that computer and media technology becomes an integral component of the learning environment.**

**Objective II.1 Place at least one computer with network capabilities for teacher and student use in each classroom or learning area.**

*Ready access to technology is the key to a successful technology program. The classroom management needs of teachers and instructional needs of students require diverse information and media sources.*

Strategy II.1.01 ✓

Provide a network ready CD-ROM drive equipped computer in each high school classroom.

Strategy II.1.02 ✓

Provide a network ready CD-ROM drive equipped computer in each middle school classroom.

Strategy II.1.03 ★

Provide a network ready CD-ROM drive equipped computer in each upper elementary classroom.

Strategy II.1.04 ★

Provide a network ready CD-ROM drive equipped computer in each elementary school classroom.

Strategy II.1.05 ★

Provide at least one network ready laser printer for each multiple of ten networked computers in each building.

Strategy II.1.06

Provide at least five network ready CD-ROM drive equipped computers in each elementary classroom.

Strategy II.1.07

Provide at least five network ready CD-ROM drive equipped computers in each upper elementary classroom.

Strategy II.1.08

Provide at least five network ready CD-ROM drive equipped computers in each middle school classroom.

Strategy II.1.09

Provide at least five network ready CD-ROM drive equipped computers in each high school classroom.

Strategy II.1.10

Provide a one-to-one workstation to student ratio.

**GOAL II: Provide appropriate technologies to ensure that computer and media technology becomes an integral component of the learning environment.**

**Objective II.2 Purchase appropriate instructional, management, and presentation resources in disk, CD-ROM, and/or video format.**

*While computers are the backbone of a technology environment, software and concomitant resources are required to make the environment fully functional.*

Strategy II.2.01 ✓

Utilize IMS in conjunction with each building's media center to provide opportunities for preview and evaluation of district and building software and media purchases.

Strategy II.2.02 ✓

Provide for district purchase of site/district licenses for software that will be used across the division.

Strategy II.2.03 ★

Provide for building purchase of copy or site licenses for building specific software.

Strategy II.2.04

Purchase grading and attendance software which will link to current school-based administrative computing networks.

Strategy II.2.05 ★

Establish a plan for maintaining and upgrading computer and media technology resources for both instructional and administrative applications.

Strategy II.2.06

Maintain at each site a library of current software and equipment documentation/user manuals.

Strategy II.2.07

Purchase multimedia/computer components in conjunction with and to support textbook adoption across the curriculum.

**GOAL II: Provide appropriate technologies to ensure that computer and media technology becomes an integral component of the learning environment.**

**Objective II.3 Provide basic multimedia capability for each instructional site.**

*Multimedia devices provide the methods that enable teachers and students to utilize fully all available resource forms to organize and present information.*

Strategy II.3.01 ✓

Provide a computer with multimedia capabilities for the high school.

Strategy II.3.02 ✓

Provide a computer with multimedia capabilities for the middle school.

Strategy II.3.03 ✓

Provide a computer with multimedia capabilities for the upper elementary school.

Strategy II.3.04 ✓

Provide a computer with multimedia capabilities for each elementary school.

*[NOTE: All computers currently being ordered for instructional use across the division are multimedia computers.]*

Strategy II.3.05 ✓

Provide at least one digitizing camera for each school.

Strategy II.3.06 ✓

Provide large group presentation capabilities at each instructional site.

Strategy II.3.07 ★

Provide a minimum of two videodisc systems at each school.

Strategy II.3.08 ★

Provide a minimum of two camcorders for each school.

Strategy II.3.09 ✓

Provide at least two closed caption adaptive devices at each building to be used with television monitors which lack closed caption capability.

Strategy II.3.10 ✓

Provide each school with at least one color scanner.

**GOAL II: Provide appropriate technologies to ensure that computer and media technology becomes an integral component of the learning environment.**

**Objective II.4 Provide extended multimedia production and editing capability at IMS.**

*The division recognizes the educational benefits of multimedia presentations and the need for their creation and distribution for instruction and staff development activities.*

Strategy II.4.01 ★

Equip the Instructional Media Services (IMS) site as an extended, full-service multimedia production and editing facility.

Strategy II.4.02 ✓

Provide, through IMS, video and computer projection systems for division checkout and use.

Strategy II.4.03 ✓

Provide, through IMS, laptops for systemwide checkout.

**GOAL II: Provide appropriate technologies to ensure that computer and media technology becomes an integral component of the learning environment.**

**Objective II.5 Purchase classroom sets of electronic learning tools.**

*The use of graphing calculators and other focused devices contribute to student engagement (time on task) dealing with key concepts and problem solving skills.*

Strategy II.5.01 ✓

Provide classroom sets of graphing calculators for middle and high schools.

Strategy II.5.02 ✓

Provide classroom sets of calculators for each elementary school.

Strategy II.5.03

Purchase classroom sets of electronic translators, dictionaries, and thesaurus.

Strategy II.5.04 ✓

Provide at the secondary level scientific probe kits for classroom use.

**GOAL II: Provide appropriate technologies to ensure that computer and media technology becomes an integral component of the learning environment.**

**Objective II.6 Provide additional, or establish initial, general purpose microcomputer labs at all schools.**

*A comprehensive technology program should consider both individual and large group access to technology enhanced instruction.*

Strategy II.6.01

Establish two general purpose microcomputer labs at the high school.

Strategy II.6.02 ★

Add an additional general purpose microcomputer lab at the middle school.

Strategy II.6.03 ★

Add an additional general purpose microcomputer lab at the upper elementary school.

Strategy II.6.04 ★

Add an additional general purpose microcomputer lab at each elementary school.

**GOAL II: Provide appropriate technologies to ensure that computer and media technology becomes an integral component of the learning environment.**

**Objective II.7 Provide additional, or establish initial, curriculum specific technologies at the high school.**

*Some curriculum areas have discipline specific technology needs.*

Strategy II.7.01 ✓

Continue to support the high school mathematics technology initiative.

Strategy II.7.02

Continue to support the high school science technology initiative.

Strategy II.7.03 ✓

Provide support for a high school foreign language technology initiative.

Strategy II.7.04 ✓

Continue to support the Technology Education program at the middle school.

Strategy II.7.05 ✓

Continue to support a comprehensive Business and Technology Education program at the high school.

Strategy II.7.06

Provide support for the library network and CD-ROM tower access within the high school and to its classrooms.

**GOAL II: Provide appropriate technologies to ensure that computer and media technology becomes an integral component of the learning environment.**

**Objective II.8 Procure for all schools laptop computers which can be checked out by staff and students.**

*The division should provide the opportunity for students to use the same technology at home as they have available in school. This at home access should help stimulate student motivation, increase learning opportunities, encourage independent learning, and promote parental involvement. The division should provide similar opportunity to staff members in order to promote independent initiative which will lead to efficient use of and proficient facility with the technology available in the schools.*

**Strategy II.8.01**

Purchase eight lap top computers for checkout by high school staff.

**Strategy II.8.02**

Purchase four lap top computers for checkout by middle school staff.

**Strategy II.8.03**

Purchase four lap top computers for checkout by upper elementary school staff.

**Strategy II.8.04**

Purchase three lap top computers for each elementary school for checkout by elementary school staff.

**Strategy II.8.05**

Provide, as a condition of employment, to each professional staff member a portable workstation.

**Strategy II.8.06**

Purchase ten lap top computers for checkout by high school students.

**Strategy II.8.07**

Purchase six lap top computers for checkout by middle school students.

**Strategy II.8.08**

Purchase six lap top computers for checkout by upper elementary school students.

**Strategy II.8.09**

Purchase four lap top computers for each elementary school for checkout by elementary students.

**GOAL II: Provide appropriate technologies to ensure that computer and media technology becomes an integral component of the learning environment.**

**Objective II.9 Procure specialized devices that will assist computer input/output for special needs and other student populations.**

*All students should have the ability to enter and retrieve information easily and with facility.*

Strategy II.9.01 ✓

Purchase adaptive microcomputer input/output devices as appropriate for students with special needs.

Strategy II.9.02 ✓

Equip and staff a keyboarding classroom for the middle school.

Strategy II.9.03 ✓

Provide, through the Walker Technology Specialist, all upper elementary school students with structured keyboarding instruction within the regular technology program.

**GOAL III: Develop networking and telecommunications systems within each school, across the district, and to the global community.**

**Objective III.1 Provide video telecommunications for all schools.**

*With the expansion of educational global video systems comes the need for distribution of these services.*

Strategy III.1.01 ✓

Provide cable access to all schools.

Strategy III.1.02 ✓

Provide satellite access to the division via Instructional Media Services (IMS).

Strategy III.1.03 ✓

Provide video monitors for each classroom and learning area at the high school.

Strategy III.1.04 ★

Provide video monitors for each classroom and learning area at the middle school.

Strategy III.1.05 ★

Provide video monitors for each classroom and learning area at the upper elementary school.

Strategy III.1.06 ★

Provide video monitors for each classroom and learning area at each elementary school.

**GOAL III: Develop networking and telecommunications systems within each school, across the district, and to the global community.**

**Objective III.2 Provide for all schools a data network which links classroom, media center, labs, as well as the administrative data network.**

*Building-wide networking provides the opportunity to integrate technology into all aspects of the curriculum. Students and staff will have the capability to access, share, and present information and resources.*

Strategy III.2.01 ✓

Provide at the high school a local area network with drops to each classroom and learning area.

Strategy III.2.02 ✓

Provide at the middle school a local area network with drops to each classroom and learning area.

Strategy III.2.03 ✓

Provide at the upper elementary school a local area network with drops to each classroom and learning area.

Strategy III.2.04 ✓

Provide at all elementary schools a local area network with drops to each classroom and learning area.

Strategy III.2.05

Provide each classroom telephone line access.

Strategy III.2.06 ✓

Provide each site with facsimile capabilities.

Strategy III.2.07 ✓

Provide each classroom with two-way communication access to the school's office area.

Strategy III.2.08

Provide each media center with updated on-line cataloging systems.

Strategy III.2.09

Provide each media center with updated on-line cataloging systems networked into the building's local area network.

Strategy III.2.10

Provide each media center with information retrieval capability for site, system, state, and global resources.

Strategy III.2.11 ✓

Provide each networked computer workstation in the district with direct Internet access.

**GOAL III: Develop networking and telecommunications systems within each school, across the district, and to the global community.**

**Objective III.3 Develop and implement a Wide Area Network that is unique to the division.**

*The division recognizes the need for intraschool networking to increase staff efficiency and facilitate sharing of division resources.*

Strategy III.3.01 ✓

Design and implement a district wide area network that interconnects all instructional sites and central offices.

Strategy III.3.02 ★

Institute a division standard data base system for storing and processing division information.

Strategy III.3.03

Institute an appropriately secure, readily accessible, central database of student attendance, discipline, scheduling, grading, and standardized test data.

Strategy III.3.04

Utilize available technology to facilitate a division standard for maintaining and reporting grades and student assessment by individual teachers within each instructional site.

Strategy III.3.05

Utilize available technology to facilitate a division standard for each instructional site's grade reporting, record retention, and record reporting.

Strategy III.3.06

Provide IMS with a barcoded cataloging system for information retrieval across the wide area network.

Strategy III.3.07 ✓

Procure an Internet gateway in order to provide direct Internet connection to all instructional sites and central offices.

Strategy III.3.08

Provide staff with the capability for remote access to the division Internet gateway.

Strategy III.3.09 ★

Provide an internal e-mail system for all staff members connected to the division network.

Strategy III.3.10

Utilize a Wide Area Network to disseminate information, memos, and basic correspondence.

Strategy III.3.11

Encourage staff and students to contribute materials to a division archive of instructional materials.

Strategy III.3.12

Provide via appropriate networking schemes teacher and student access to the archive of available instructional and media materials.

Strategy III.3.13

Provide a cross-platform electronic communication system which offers access to electronic-mail, current memos, policies and regulations, and archives of division and state department of education documents.

Strategy III.3.14

Utilize a central, network-accessible, cross-platform calendar as the primary scheduling and reporting tool for all personnel, building, and division activities and events.

Strategy III.3.15 ★

Offer a school-community communications system that provides both general and individualized messages.

Strategy III.3.16

Offer to students who are absent or unable to attend school phone or modem access to instructional information.

Strategy III.3.17

Offer to professional staff off-site electronic access to the division's Wide Area Network.

**GOAL III: Develop networking and telecommunications systems within each school, across the district, and to the global community.**

**Objective III.4      Develop network standards for all new construction and renovation.**

*To promote efficient and consistent technology network structures, it is crucial that the division establish standards of network infrastructure.*

**Strategy III.4.01**

Adopt division voice-data-video wiring standards for all renovation and new construction.

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