



SOUTH GLENS FALLS

Central School District

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www.sgfcSD.org

Technology Plan

2016-2019

Smart Schools Spending Investment Plan



A SNAPSHOT OF OUR SCHOOLS

Our Community

South Glens Falls High School is a public school located on the southeastern edge of the Adirondack Mountains. The city of Glens Falls and its adjacent communities support a population of approximately 100,000 people with an economic base centered on the paper industry. The school district is suburban to rural, encompasses 70 square miles and serves a population of approximately 18,000. The high school consists of more than 1,000 students in grades nine through 12. Neighboring communities of Lake George and Saratoga Springs foster a strong tourism trade and offer many cultural experiences such as museums, theaters and performance arenas.

The South Glens Falls Central Schools has four elementary schools, one middle school and a high school. The elementary schools serve students in universal prekindergarten through grade 5; the middle school serves students in grades 6-8 and the high school serves students in grades 9-12.

Enrollment (as of October 2015)

| | |
|--------------------|-------------------------------|
| 3,211 | Total students in grades K-12 |
| 1,004 | High School, grades 9-12 |
| 734 | Middle School, grades 6-8 |

Profile of the Class of 2015

DIPLOMA BREAKDOWN

| | |
|--|------------|
| Total number of diplomas awarded..... | 191 |
| Graduates earning a Regents diploma..... | 90 |
| Graduates earning an Advanced Regents diploma..... | 84 |
| Regents with CTE Endorsement..... | 8 |

Post-Graduation Plans

| | |
|------------------------|------------|
| Four-year college..... | 37% |
| Two-year college..... | 41% |
| Workforce..... | 8% |
| Military service..... | 3% |

TECHNOLOGY PLANNING COMMITTEE

Mission

The South Glens Falls District Technology Committee, consisting of representatives from all educational stakeholder groups, is a driving force that facilitates lifelong learning in the 21st Century. The committee establishes a pathway toward seamless integration of technology that empowers the school community to be engaged global citizens.

Vision

The South Glens Falls Central School District Technology Committee envisions a learning community that uses technology:

- competently, fluently, and ethically• in a rigorous and relevant curriculum that encourages inquiry-based, hands-on learning
- to promote individual, self-driven educational growth
- to support interdisciplinary and global collaboration
- as coaches, mentors, advocates, and facilitators of learning

Guiding Principles, Values and Beliefs

- We value a strong infrastructure based on a technology vision that will support our educational goals.
- We value making purposeful and pragmatic choices when provided multiple technology options that support instructional goals.
- We value a seamless integration of technology for students to access curriculum which will facilitate independent learning embedded across all learning environments.
- We value continuous, individualized and differentiated opportunities for professional development to support integration of technology into the classroom.

TECHNOLOGY AND THE CURRICULUM

Long-Term Goals

1. All students will have continuous and reliable access to internet and other technology tools, at school as well as in community settings and at home.
2. Model learning spaces, including classrooms and maker spaces, will be constructed and maintained to support digital instructional practices and deeper learning.
3. Students, faculty, and other school employees will use digital tools and platforms as a way to increase efficiency, decrease use of consumable resources, and improve overall communication and collaboration.
4. Objectives based on national technology standards will be developed, assigned to all grade levels, and assessed as appropriate.

Highlights of Our Long-Term Goals

Goal #1

In the next three-five years, South Glens Falls will be moving to a 1:1 student to computer ratio for students in grades 6-12. Over the next two years, all students in grades 6-8 will be the first to experience this change. As students in middle and high school move to individual technology use, the district will increase the ratio of students to computers at the elementary level. The district expects to have at least one Chromebook cart per grade level at each of the four elementary buildings.

Goal #2

Model Classrooms will be piloted at the middle school next year. These classrooms will have moveable furniture, multiple points of presentation and access for students to work collaboratively on product-based learning. Each year, the district will add model classrooms to other areas of the district. All renovated spaces will be constructed like this during the capital project.

Five of the district's buildings (four elementary schools and the middle school, which serve all district students in K- grade 8) are working to implement MakerSpaces for student innovation this year. In a MakerSpace, students are given the freedom to try out ideas and create new things. The district plans to increase the use of these rooms each year going forward, and expand them through the capital project. At the high school, a student innovation space is planned. This is a space where students will be free to brainstorm ideas, work on projects, collaborate and be leaders of their learning. This space is expected to be completed at the end of the project.

Goal #3

Each year, the district looks for ways to use digital tools and platforms to increase efficiency and capacity. Over the past three years, mylearningplan, Linkit, Google Apps for Education and online Finance Manager have been utilized by all staff in some capacity. Each year, the Tech Committee will look for more platforms to use.

Goal #4

The district will be implementing a technology standards-based curriculum K-12 that integrates with its current curriculum. It will be designed to supplement the current curriculum to ensure students learn the fundamentals of technology. Embedded in this process is the need for digital literacy, which will be a focus of the curriculum. The ISTE Standards will be used as the basis of this curriculum.

THE ISTE STANDARDS

What is ISTE?

The ISTE Standards are the most widely referenced benchmarks for best practices for integration of technology in schools (previously the National Educational Technology Standards (NETS)). They are published by the International Society for Technology in Education.

In 2001, a collaborative including the National Association of Secondary School Principals, the National Association of Elementary School Principals, the National School Boards Association, the North Central Regional Education Laboratory, the International Society for Technology in Education, two state departments of education and two universities recognized and promoted the idea that there were technology-related skills, knowledge, and practices that were essential to good educational leadership. This collaborative developed the National Educational Technology Standards for Students (NETS-S). In 2009, these standards were further refined and developed. They are now referred to as the ISTE•S Standards.

The ISTE•S standards are complemented by a similar set of standards for teachers (ISTE•T), administrators (ISTE•A), instructional technology coaches (ISTE•C), and computer science educators (ISTE•CSE). The ISTE standards have been adopted by 29 states. They are broadly accepted as the best current attempt at defining the technology-related skills, knowledge and practices that are important in the K-12 environment.

Modified draft ISTE standards will be coming out in spring 2016.

ISTE Standards for Students

1. Creativity and Innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

- Apply existing knowledge to generate new ideas, products, or processes.
- Create original works as a means of personal or group expression.
- Use models and simulations to explore complex systems and issues.
- Identify trends and forecast possibilities.

2. Communication and Collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

- Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.
- Communicate information and ideas effectively to multiple audiences using a variety of media and formats.
- Develop cultural understanding and global awareness by engaging with learners of other cultures.
- Contribute to project teams to produce original works or solve problems.

3. Research and Information Fluency

Students apply digital tools to gather, evaluate and use information.

- Plan strategies to guide inquiry.
- Locate, organize, analyze, evaluate, synthesize and ethically use information from a variety of sources and media.
- Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
- Process data and report results.

4. Critical Thinking, Problem Solving, and Decision Making

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

- Identify and define authentic problems and significant questions for investigation.
- Plan and manage activities to develop a solution or complete a project.
- Collect and analyze data to identify solutions and/or make informed decisions.
- Use multiple processes and diverse perspectives to explore alternative solutions.

4. Digital Citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

- Advocate and practice safe, legal, and responsible use of information and technology.
- Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
- Demonstrate personal responsibility for lifelong learning.
- Exhibit leadership for digital citizenship.

6. Technology Operations & Concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations.

- Understand and use technology systems.
- Select and use applications effectively and productively.
- Troubleshoot systems and applications.
- Transfer current knowledge to learning of new technologies.

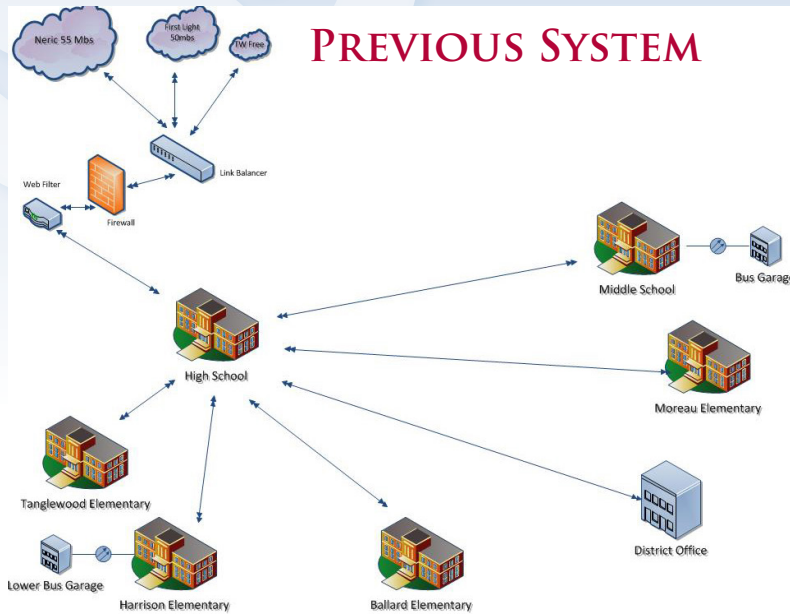
CURRENT STATE OF TECHNOLOGY (2014-15 INVENTORY)

| Technology equipment | Number of devices in use that are less than five years old | How many of these devices are connected to the LAN? |
|---|--|---|
| Desktop computers/Virtual Machine (VM) | 994 | 994 |
| Laptops/Virtual Machine (VM) | 328 | 328 |
| Chromebooks | 584 | 584 |
| Tablets less than nine (9) inches with access to an external keyboard | 0 | 0 |
| Tablets nine (9) inches or greater with access to an external keyboard | 0 | 0 |
| Tablets less than nine (9) inches without access to an external keyboard | 40 | 40 |
| Tablets nine (9) inches or greater without access to an external keyboard | 350 | 350 |
| Totals | 2,296 | 2,296 |

| Technology equipment | Number of devices in use that are less than five years old |
|---|--|
| Document Cameras | 150 |
| Flat-Panel Displays | 4 |
| Interactive Projectors | 0 |
| Interactive Whiteboards | 275 |
| Multi-function Printers | 30 |
| Projectors | 237 |
| Scanners | 15 |
| Other Peripherals Digital Cameras: 30 Video Cameras: 40 3D Printers: 1 | 71 |
| Totals | 782 |

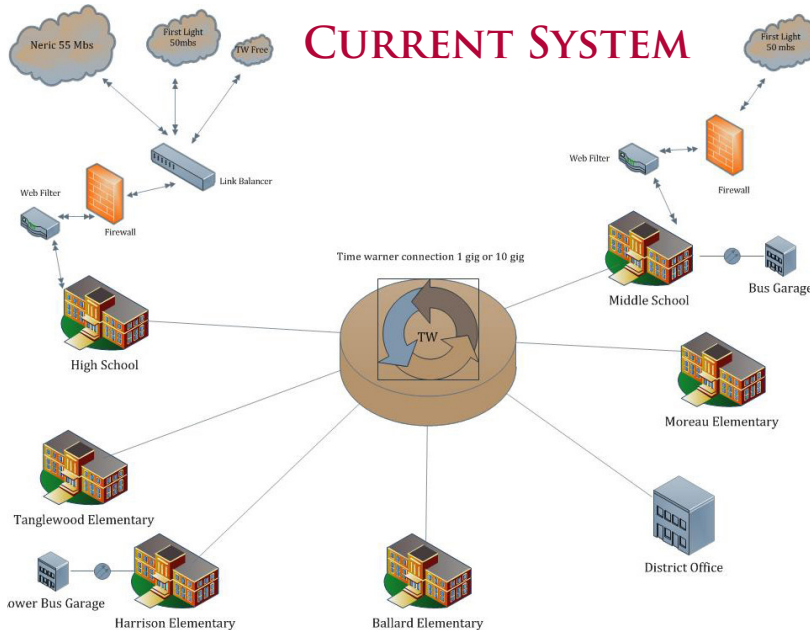
WHAT WORK HAS BEEN DONE OVER THE LAST THREE YEARS?

The technology department has worked on a solution to eliminate the remaining single-point-of-failure Internet connection and WAN (building-to-building connection) to the high school in case the links were severed.



Under the old LAN configuration at the high school, our central connection to the Internet service had a single point of failure.

If the high school lost its Internet connection, all other buildings' Internet connection and phone systems would have been out of service. The Internet connection was limited to 45MB using one single line from NERIC. Each building is connected to the high school using a Time Warner Cable (TWC) 1GB fiber line.



Under the new system, the Time Warner Cable connection is routed using the TWC switches. This give the district more redundancy. If the high school is out-of-service, all other buildings can still communicate with each other and the Internet and phone services will still be up and running through the middle school. Each building is connected to each other building using the TWC 1GB fiber, and the middle and high schools are connected using a 2GB fiber. The high school now has two connections to the Internet, a 100MB-connection from NERIC and a 50MB-connection from First Light. The middle school has a dedicated 100MB-connection from First Light.

TECHNOLOGY FUNDING SOURCES

1. Smart Bond Act 2014 Summary

In November 2014, the voters of New York State approved the Smart Schools Bond Referendum. This legislation enables districts to access state funding in high-priority areas, including technology. The South Glens Falls Central School District received a \$2,230,126 million dollar allocation through Smart Schools. The Smart Schools legislation allows the district to spend these funds in any of six specific areas.

The six priority areas are listed below. South Glens Falls will be focusing on areas 1, 3 and 6.

1. Install high-speed broadband or wireless internet connectivity for schools
2. Install high-speed broadband or wireless internet connectivity for communities;
3. Acquire learning technology equipment or facilities, including but not limited to interactive whiteboards, computer servers, and desktop, laptop, and tablet computers;
- 4 Construct, enhance, and modernize educational facilities to accommodate prekindergarten programs
5. Construct, enhance, and modernize educational facilities to provide instructional space to replace classroom trailers
6. Install high-tech security features in school buildings and on school campuses

2. 2015 Capital Project Referendum

On Dec. 8, 2015, South Glens Falls Central School District residents approved a \$57.8 million capital project referendum that will advance and improve instructional programming; improve health, safety, handicapped-accessibility compliance and security measures; achieve energy efficiencies and other cost-saving measures; and protect the community's long-term investment in its school facilities.

Voters approved the capital project proposal 651 votes to 420 votes.

The project includes several modern updates for students: an eight-classroom science addition at the high school, as well as six classrooms at Ballard Elementary School to accommodate the growing student population. Also included in the project are expanded library media centers at Ballard and Tanglewood and upgrades to the high school auditorium. Updated technology equipment and infrastructure is embedded in the plans for all updated instructional spaces. The project will also address building maintenance needs such as roofing, windows, doors and flooring across all six school buildings. A combined transportation and operations/maintenance facility will be constructed on the site of the lower bus garage on Harrison Avenue.

South Glens Falls will be reimbursed for 71 percent of the total project cost through state building aid, and the district is also planning to use \$1.1 million of its capital reserve funds toward this project. The district would finance the remaining \$15.7 million over a 30-year period. The estimated annual cost for homeowner who has a home valued at \$100,000 is \$16 per year for the life of the loan, or \$0.16 per \$1,000 of assessed home value.

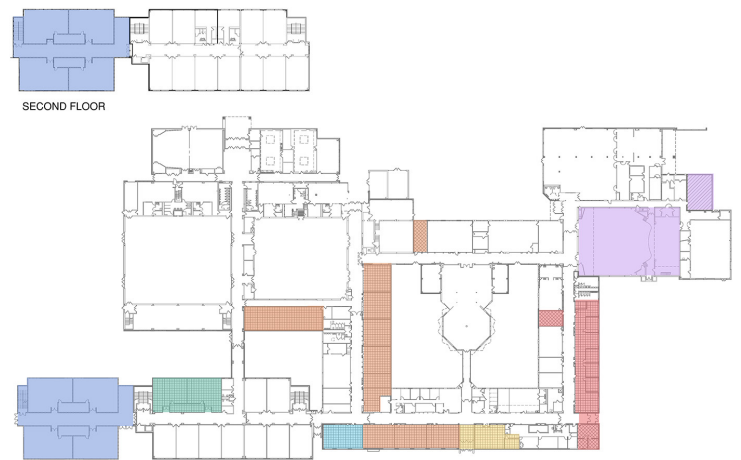
The next phase of the project is the final architectural design for each of the school buildings and site work plans. Improvements to the senior high school parking lot drainage is expected to be completed next summer. Once the project is approved by the State Education Department, which can take several months, a final construction timeline will be established. The district hopes to complete the capital project by the fall of 2020.

3. Use of the General Fund

The district annually budgets for a BOCES lease purchase; BOCES computer supplies and software; hardware and software. Hardware and software are NYS aidable based on student counts and the district budgets to maximize aid. The district continues to maximize erate funding.

The current budget appropriations for 2015-16 is \$325,000, which includes:

- BOCES lease purchase..... \$185,000
- BOCES supplies and software.....\$35,000
- Computer hardware.....\$50,338
- Computer software.....\$52,172



FUTURE TECHNOLOGY PLAN (BASED ON SMART SCHOOLS COMPONENTS 1,3 AND 6) FUNDING SOURCES FOR SPECIFIC PLANS

Enhancement of School Connectivity

Ensure the high-quality wireless access is available across the district and that the speed of the district's internet connection meets or exceeds the Federal Communication Commission's minimum speed standard of 100 Mbps per 1,000 students in order to meet the needs of all 21st century learners.

| Item SS: Smart Schools GF: General Fund CP Capital Project | Funding Source | Cost |
|---|----------------|-------------|
| LAN Network Infrastructure (Switches, Batteries, Cable Fiber) We are proposing an upgrade/expansion of the existing network in the district. In middle and high buildings, we will be replacing core switches. In all buildings, we will be updating the fiber optic connection between main data frame and intermediate frame. | SS | \$1,153,600 |
| Wireless Network Infrastructure The wireless network will receive a major upgrade throughout the district. The access points will be updated to the newer standard, which will increase throughput speeds to devices. In addition, the number of access points will increase to provide full coverage in all district buildings. As a result, users will have a simultaneous experience, regardless of location in the network. | SS | \$358,400 |
| Network Management (Racks/MDF Closet) Throughout the capital project, we will be updating data closet infrastructure where necessary. | CP | \$40,000 |
| Total | | \$1,552,000 |

Continued Installation of High-Tech Security Devices

- Provide additional security cameras where necessary
- Update PA system to support safety plans in the district
- Provide schools with secure visitor sign-in

| Item SS: Smart Schools GF: General Fund CP Capital Project | Funding Source | Cost |
|--|----------------|-----------|
| Indoor and Outdoor Cameras (As needed.) | CP/GF | \$80,000 |
| Security System for Visitors | SS | \$27,000 |
| Additional Security Measures (To include: Door Sensors at Exterior Doors, Security System Swipe card at MDF Closets, other as needed.) | CP | \$163,000 |
| Additional Security (To include: PA System/Clocks/VOIP) | SS | \$604,800 |
| Total | | \$874,800 |

Acquisition of Learning Technology

- Provide a 1:1 student to device environment in grades 6-12 by the end of the plan.
- Increase technology devices in K-5 so that students have the opportunity to access 21st Century information and tools when needed
- Ensure that new science classrooms, library media centers, innovation spaces, etc. have the necessary technology and equipment for students
- Create “modern learning spaces” at the middle school to provide students with 21st century learning environments

| Item SS: Smart Schools GF: General Fund CP Capital Project | Funding Source | Cost |
|--|----------------|--|
| Increase learning devices at the elementary level (Goal is at least one shared cart of devices per grade level.) | GF/SS | \$86,326 (+ GF allotment) |
| Completing 1:1 mobile devices (Grades 6-12) | GF | \$300 per device with case and insurance |
| Interactive TVs/Second Point of Presentation (Model classrooms) | GF | \$25,000 |
| Completing 1:1 Chromebook devices for teachers (Over course of plan) | GF | \$250 per device |
| Speakers (Model classrooms) | GF | \$4,000 |
| Science Classroom Technology | CP | \$300,000 |
| Library Media Ballard & Tanglewood | CP | \$150,000 |
| Notes: GF includes BOCES Lease purchase \$185,000 BOCES supplies and software \$35,000 Computer hardware \$50,338 Computer software \$52,172 | | |

SMART SCHOOLS INVESTMENT PLAN

| Smart Schools Items | Cost |
|---|-------------|
| Enhancement of School Connectivity | \$1,512,000 |
| Continued Installation of High-Tech Security Devices | \$631,800 |
| Acquisition of Learning Technology | \$86,326 |
| Total | \$2,230,126 |

TIMELINE FOR TECHNOLOGY PLAN ROLLOUT

2015-16

- Continue professional development and Chromebooks for middle school teachers

2016-2017

- Wire middle school
- 1:1 sixth grade technology
- Build four 21st century classrooms at the middle school
- Begin wiring elementary buildings
- Add devices on shared carts to elementary schools
- Begin to develop formal technology curriculum specific to grades K-5

2017-2018

- Complete wiring of elementary school buildings
- 1:1 seventh and eighth grade technology
- Continue building model classrooms
- Add devices on shared carts to elementary schools
- Continue to develop formal technology curriculum specific to grades 6-8
- Research and purchase security systems for visitors at each building

2018-2019

- Wire high school (Time dependent on capital project work)
- 1:1 begins at high school
- Continue building model classrooms
- Add devices on shared carts to elementary schools
- Continue to develop formal technology curriculum specific to grades 9-12

STAFFING AND SUPPORT

Current Staffing

- Director of Technology - Alex Spada
- District Data Coordinator (DDC) - Carol Eckl
- Computer Aides - 1 per building
- 2 Microcomputer Technicians (40 hours per week)
- 2 Network Analysts (32 hours per week through WSWHE BOCES)

Needs

In the 2016-17 school year, the South Glens Falls Central Schools will begin to implement several significant changes. It will be necessary to have the correct support to ensure the district is successful in meeting its technology goals.

Technology Mentor (Technology student use support at middle school)

Because so much is happening in the middle school (1:1, model classrooms, curriculum enhancement, digital literacy), it is important to have a teacher who can act as mentor to their fellow teachers in the area of technology for the building. This position would be filled by a current teacher who would receive by a stipend for extra work beyond their work day.

Technology Integration Specialist (Curriculum and instruction support K-12)

As the district creates a K-12 technology curriculum, teachers will need additional support to ensure students are progressing through the technology standards. Professional development will need to be done on a daily basis with teachers and students to help them transition through this plan. Because of this key piece, we are looking to reallocate funds from one of our instructional coaching positions to fill this long-term position.

Microcomputer Technicians and Network Analysts (Hardware/infrastructure support)

As we add at least 250-500 more devices to our district every year, the technology department will be tracking the number of trouble tickets and noting whether there is an increase in support time. Based on this data, there may be a need for more support in technology over the course of this three-five year plan.

Professional Development

Professional development for our staff and teachers is essential to ensure our curriculum grows to successfully integrate technology, and that our students make progress as well. Professional development is needed to support all district goals.

For example, the district has been moving toward using Google Apps for Education. Because this has been a focus, teachers are receiving whole-group and small-group instruction around Google Docs, Classroom, Drive and other Google tools. This professional development will continue to be the focus for our teachers through the 2016-17 school year. At the same time, teachers will be given access to Chromebooks and will learn in-depth how they can be used by students in the classroom.

Professional development will be offered on conference days, after school and to individuals throughout the day. Each level will have a slightly different focus but a common theme of student use and curriculum integration.