



Bedford Central School District

Smart Schools Investment Plan

**Public Hearing
March 16, 2016**

**Amendment Completed
January 2017**

All changes are in blue

Bedford Central School District Smart Schools Investment Plan

PLAN OVERVIEW:

In January 2014, Governor Andrew M. Cuomo called for New York State to invest \$2 billion in its schools through a Smart Schools Bond Act (SSBA). Voters approved the Smart School Bond Act in November 2014 and as a result the Bedford Central School District is allocated to receive \$624,371. In alignment with the 2015 - 2018 Bedford Central School District Technology Plan recommendations, this Investment Plan is designed to:

- Expand wireless network capacity at all elementary schools and the Hillside Program
- Update aging network hardware at all elementary schools, Fox Lane Middle School and the Hillside Program
- Update aging core network hardware

This plan was developed in conjunction with the Bedford Technology Advisory Committee and in consultation with groups of District Administrators, Teachers, Students, Parents and Community Members.

PRECONDITIONS:

As a precondition to utilizing the SSBA funds for the purchase of devices, the New York State Education Department requires that the District has adequate internet access of at least 100 Mbps per 1,000 students. The Bedford Central School District meets and exceeds this requirement with regard to the District's Internet connection as well as the fiber connections between school buildings. The use of the SSBA funds will be used to increase the available wireless bandwidth capacity within the individual school buildings.

REASON FOR AMENDMENT:

New York State approved the Bedford Central School District Smart Schools Investment Plan in June 2016. Subsequently, Federal E-Rate funding was approved in the amount of \$196,447 which will offset the cost of hardware included in the original plan. This additional funding has made it possible to add needed networking hardware that was cut from the original plan due to funding limitations. By adding this hardware to the Smart Schools Investment Plan, the District will not need to seek equipment hardware budget increases to purchase these items. Before purchasing the items, New York State requires the District to have this amended plan on the district website.

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PURCHASE PLAN & ALLOCATION OF FUNDS

The Bedford Central School District Technology Advisory Committee first recommended a timeline to update the technology network infrastructure as a part of the 2013-2016 Technology Plan. This commitment to updating the BCSD network, to support student learning, was reaffirmed with the 2015-2018 Technology Plan approved by the New York State Education Department in October 2015. It is the recommendation of the Technology Advisory Committee, that the SSBA funds be used to advance this plan.

In addition to the update of aging network equipment, this plan increases the wireless network capacity of all five elementary schools and Hillside. This will be accomplished by replacing the current “coverage design model”, which provides wireless coverage throughout the school for a limited number of devices with a “capacity design model” which will provide the capacity for 25-30 wireless devices per classroom. In alignment with the plan, and the approved 2015-2018 Bedford Central School District Technology Plan, the District plans to utilize the SSBA funds as described below in Table 1 for the SSBA allowable expenditure Budget Category areas.

Table 1: SSBA Allowable Expenditures

SSBA Allocation: \$624,371 by Budget Category

SSBA Budget Category	Allocations
School Connectivity <ul style="list-style-type: none"> - Update Elementary, Fox Lane Middle School and Hillside Network Hardware - Expand Wireless Access for Elem. Classrooms and Hillside - Update Core Network Hardware 	\$603,339.88 \$535,660
Connectivity Projects for Communities	\$0
Classroom Technology	\$0
Pre-Kindergarten Classrooms	\$0
Replace Transportable Classrooms	\$0
High Tech Security Features <ul style="list-style-type: none"> - Update Voice Gateways - connections to lockdown systems 	\$20,594.75 \$31,277
Totals:	\$623,934.63 \$566,937

***Totals are rounded up for entry in NYS submission portal**

TBD: ~~\$436.37~~ **\$ 57,434**

Available for Future Projects

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The following information below summarizes the SSBA Budget Category in Table 1 for **School Connectivity**

- Update Elementary, Fox Lane Middle School and Hillside Network Hardware
With the exception of a few recent hardware additions at Fox Lane Middle School, the network switches throughout Fox Lane Middle School, all elementary schools and the Hillside Program are 8 years old and have been placed on an “end of life” schedule by the manufacturer. By updating these switches, the available bandwidth between all network closets will be updated from 1 gigabit to 10 gigabit speed.

- Expand Wireless Access for Elem. Classrooms and Hillside
Currently the elementary schools and the Hillside program of the Bedford Central School District have wireless access points that are shared by every 3-4 classrooms. A wireless access point is capable of supporting 25-30 devices. With the growth in daily use of mobile devices to access instructional resources and the timeline for state assessments to move to Computer Based Testing announced by the New York State Education Department, there is a clear need to increase the wireless capacity to support the connection of a device per student in adjoining classrooms.

- Update Core Network Hardware
The core network hardware located in the central server room serves as the connection point for all schools, servers and the district Internet connection. This hardware is over 8 years old. Some components of the core switches are on a manufacturer “end of life” schedule. The new core switches proposed as a part of this plan come with a lower annual warranty cost than the current switches. This plan includes redundant hardware to provide the failover capacity to minimize the possibility of a district wide network outage at the central network connection.

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Table 2. SSBA Funds Sub-Allocation Category: School Connectivity

SSBA Connectivity Projects for Schools	Sub-Allocation
Network / Access Costs <ul style="list-style-type: none"> - Update FLMS Network Hardware <i>(13 switches)</i> - Update Elementary Network Hardware <i>(30 switches)</i> - Hillside Network Hardware <i>(1 switch)</i> - Update Core Network Hardware <i>(2 core switches)</i> - <i>Network Closet Battery Backup Hardware</i> - New total for items listed above as well as wireless controllers and additional core network switches - Wireless Access Points (Elem, Hillside & FLMS) 	\$71,585.25 \$207,317.00 \$9,845 \$65,983.50 \$10,237.63 \$361,449 \$98,123
Outside Plant Costs	\$0
School Internal Connections and Components <ul style="list-style-type: none"> - Expand Wireless Access for Elementary Classrooms <i>(235 access points)</i> - Expanded Wireless Access for Hillside <i>(4 access points)</i> - <i>Replace Aging FLMS Wireless Access Points (55 access points)</i> 	\$141,528.75 \$2,409 \$33,123.75 \$0
Professional Services	\$61,310.00 \$76,088
Testing	\$0
Other Upfront Costs	\$0
Other Costs	\$0
TOTAL	\$603,339.88 \$535,660

***Totals are rounded up for entry in NYS submission portal**

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Notes on the above amendments:

Network / Access Costs

The total costs for this category has been reduced by approximately \$3,500. However, with the approval of Federal E-Rate funds to offset the original equipment purchases, additional hardware has been included in this amended plan, without increasing the overall costs. The additional hardware was not originally included in the Smart Schools Investment Plan, but had been planned for future budget recommendations. The allocation of E-Rate funds allows us to include this additional hardware in this plan instead of proposing future equipment budget increases. This equipment includes:

- Wireless Controllers and necessary licensing (\$58,960)
- Additional Network Core Switches (26,230)
- Additional Battery Backup Hardware (\$17,237)
- Various Fiber Optic Cables and Modules

School Internal Connections and Components

New York State changed the categorization of wireless access points. To align the plan with the reimbursement process, the funds previously requested for wireless access points have been removed from this category and are now represented in the Network / Access Costs sub-allocation category.

Professional Services

With the addition of the hardware in the Network / Access Costs category, it is necessary for additional contract services to provide configuration, installation and testing services.

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The following information below summarizes the SSBA Budget Category in Table 1 for **High-Tech Security Features**

➤ Update Voice Gateways

Every school building as well as the central server room is equipped with voice gateway hardware. This voice gateway hardware has been placed on an “end of life” schedule by the manufacturer. In addition to supporting the telephone system throughout the district, the voice gateways serve as an integral connection between the school lockdown systems and school public address and other notification systems.

Table 4. SSBA Funds Sub-Allocation Category: High-Tech Security Features

SSBA High-Tech Security Features	Sub-Allocation
Capital-Intensive Project (Standard Review)	\$0
Main Entrance Electronic Security System (Streamline Review) - Voice Gateways - Connections to Lockdown Alarm Systems	\$0 \$31,277
Main Entrance Entry Control System (Streamline Review)	\$0
Approved Door Hardening Project (Streamline Review)	\$0
Other Costs - Voice Gateways - Connections to Lockdown Alarm Systems	\$20,594.75 \$0
TOTALS	\$20,594.75 \$31,277

***Totals are rounded up for entry in NYS submission portal**

Notes on the above amendments:

Other Costs

After the initial submission of the plan, NYS asked for our request to be moved from “Other Costs” to Electronic Security System.

Electronic Security System

The original request for Voice Gateways, included five gateways for the elementary schools. Gateways for Hillside & the Fox Lane Campus were being planned for a future equipment budget request. With the available funds due to the E-Rate discount, three additional gateways are included above. Additionally, the gateways that will be purchased are newer models than originally proposed which requires new licensing, which is also included in the amount requested.

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PROFESSIONAL DEVELOPMENT:

The information listed below is taken from the 2015-2018 District Technology Plan.

It is our goal to ensure that technology is used in the teaching and learning process consistently, effectively, timely and well. The key factor in ensuring this goal is to target relevant....professional development. Professional Development is offered through partnerships with the Director of Professional Development and the Bedford Staff Development Center.

Technology Professional Development Opportunities provided over the next three years will include:

PD Activity	Topics	Audience	Method of Delivery
Enhancing Practices Seminars	Google Classroom Google Sites Document Cameras	Pre-K-12 teachers	Teacher developed and facilitated sessions
Google Beginner Sessions	Google Clouds and Introduction to Google Drive and Apps	All faculty and staff	District directors develop and facilitate sessions
Google Sites Sessions	Developing and using Google Sites	K-12 teachers	District directors develop and facilitate sessions
Technology Boot Camp	Educational Technology	K-12 teachers	District faculty (directors and teachers) facilitated sessions - offered in the summer
Tech Advisors	Integrating recently purchased new technology into instruction	Schools with new technology	Teacher provided 1-to-1 support and small group PD sessions
Reading Plus Sessions	Web-based reading support program	K-5 teachers, District Computer Aides	Consultant developed and facilitated session
eSchoolData Training Session	Web-based gradebook and portal	6-12 teachers	Consultants, district data staff and computer aides developed and facilitated sessions

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SUSTAINABILITY:

The Bedford Central School District has demonstrated consistent financial support for the use of technology throughout the district, as well as the resources necessary to maintain and support the multitude of devices. The SSBA funds will be used to update an aging technology network as part of that ongoing support. The District believes it is the best use of these “one-time funds” instead of purchasing devices outside our normal refresh cycle budgeting process, which could add additional annual expenses. The hardware proposed in this plan integrates into our existing systems, minimizing additional maintenance costs and is expected to support the needs of our schools for the next 5-7 years.

TIMELINE:

Upon approval of this Investment Plan by New York State, the equipment will be purchased in accordance with District purchasing policies. Due to the nature of the hardware and work being performed, the installation of equipment must be scheduled during non-school days. The District anticipates purchase and installation of the hardware over a two year period. This new equipment will be inventoried per Board of Education policy and added to the District’s comprehensive asset insurance policy as required.

REFERENCES:

- ❑ [Bedford Central School District Technology Plan](#)
- ❑ [New York State Smart Schools Bond Website](#)
- ❑ [New York State Smart Schools District Allocations](#)
- ❑ [FCC E-Rate Program](#)