

## Smart Schools Investment Plan - NorthColonieJune2016-01

## SSIP Overview

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1. Please enter the name of the person to contact regarding this submission.

William Furlong

- 1a. Please enter their phone number for follow up questions.

518-785-8591 x3106

- 1b. Please enter their e-mail address for follow up contact.

williamfurlong@ncolonie.org

2. Please indicate below whether this is the first submission, a new or supplemental submission or an amended submission of a Smart Schools Investment Plan.

First submission

3. All New York State public school districts are required to complete and submit a District Instructional Technology Plan survey to the New York State Education Department in compliance with Section 753 of the Education Law and per Part 100.12 of the Commissioner's Regulations. Districts that include investments in high-speed broadband or wireless connectivity and/or learning technology equipment or facilities as part of their Smart Schools Investment Plan must have a submitted and approved Instructional Technology Plan survey on file with the New York State Education Department.

By checking this box, you certify that the school district has an approved District Instructional Technology Plan survey on file with the New York State Education Department.

☒ District Educational Technology Plan Submitted to SED and Approved

4. Pursuant to the requirements of the Smart Schools Bond Act, the planning process must include consultation with parents, teachers, students, community members, other stakeholders and any nonpublic schools located in the district.

By checking the boxes below, you are certifying that you have engaged with those required stakeholders. Each box must be checked prior to submitting your Smart Schools Investment Plan.

☒ Parents  
☒ Teachers  
☒ Students  
☒ Community members

- 4a. If your district contains non-public schools, have you provided a timely opportunity for consultation with these stakeholders?

☒ Yes  
☐ No  
☐ N/A

5. Certify that the following required steps have taken place by checking the boxes below: Each box must be checked prior to submitting your Smart Schools Investment Plan.

☒ The district developed and the school board approved a preliminary Smart Schools Investment Plan.  
☒ The preliminary plan was posted on the district website for at least 30 days. The district included an address to which any written comments on the plan should be sent.  
☒ The school board conducted a hearing that enabled stakeholders to respond to the preliminary plan. This hearing may have occurred as part of a normal Board meeting, but adequate notice of the event must have been provided through local media and the district website for at least two weeks prior to the meeting.  
☒ The district prepared a final plan for school board approval and such plan has been approved by the school board.  
☒ The final proposed plan that has been submitted has been posted on the district's website.

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- 5a. Please upload the proposed Smart Schools Investment Plan (SSIP) that was posted on the district's website, along with any supporting materials. Note that this should be different than your recently submitted Educational Technology Survey. The Final SSIP, as approved by the School Board, should also be posted on the website and remain there during the course of the projects contained therein.

SmartSchoolsBondAct-FinalSSIP.pptx

6. Please enter an estimate of the total number of students and staff that will benefit from this Smart Schools Investment Plan based on the cumulative projects submitted to date.

6,912

7. An LEA/School District may partner with one or more other LEA/School Districts to form a consortium to pool Smart Schools Bond Act funds for a project that meets all other Smart School Bond Act requirements. Each school district participating in the consortium will need to file an approved Smart Schools Investment Plan for the project and submit a signed Memorandum of Understanding that sets forth the details of the consortium including the roles of each respective district.

☐ The district plans to participate in a consortium to partner with other school district(s) to implement a Smart Schools project.

8. Please enter the name and 6-digit SED Code for each LEA/School District participating in the Consortium.

Partner LEA/District	SED BEDS Code
(No Response)	(No Response)

9. Please upload a signed Memorandum of Understanding with all of the participating Consortium partners.

(No Response)

10. Your district's Smart Schools Bond Act Allocation is:

\$1,838,380

11. Enter the budget sub-allocations by category that you are submitting for approval at this time. If you are not budgeting SSBA funds for a category, please enter 0 (zero.) If the value entered is \$0, you will not be required to complete that survey question.

	Sub-Allocations
School Connectivity	477,703
Connectivity Projects for Communities	0
Classroom Technology	358,211
Pre-Kindergarten Classrooms	0
Replace Transportable Classrooms	0
High-Tech Security Features	0
<b>Totals:</b>	<b>835,914</b>

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## School Connectivity

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1. In order for students and faculty to receive the maximum benefit from the technology made available under the Smart Schools Bond Act, their school buildings must possess sufficient connectivity infrastructure to ensure that devices can be used during the school day. Smart Schools Investment Plans must demonstrate that:
  - sufficient infrastructure that meets the Federal Communications Commission's 100 Mbps per 1,000 students standard currently exists in the buildings where new devices will be deployed, or
  - is a planned use of a portion of Smart Schools Bond Act funds, or
  - is under development through another funding source.

Smart Schools Bond Act funds used for technology infrastructure or classroom technology investments must increase the number of school buildings that meet or exceed the minimum speed standard of 100 Mbps per 1,000 students and staff within 12 months. This standard may be met on either a contracted 24/7 firm service or a "burstable" capability. If the standard is met under the burstable criteria, it must be:

1. Specifically codified in a service contract with a provider, and
2. Guaranteed to be available to all students and devices as needed, particularly during periods of high demand, such as computer-based testing (CBT) periods.

Please describe how your district already meets or is planning to meet this standard within 12 months of plan submission.

The district already meets the requirement for 100 Mbps per 1000 students. We currently have a 1000Mbps connection to the internet for 5500 students with options to increase it to 2,5,or 10Gbps in the future. The bandwidth between our buildings and network closets is currently at 1 to 10 Gbps (depending on location). All off-campus locations have recently been upgraded to 10Gbps. The planned SSBA connectivity upgrades will increase the speed between our on campus buildings and all network closets to 10Gbps. We currently have WiFi coverage in all of our buildings, but we would like to increase the capacity/density of the coverage. We plan to provide an access point in every classroom with this upgrade.

- 1a. If a district believes that it will be impossible to meet this standard within 12 months, it may apply for a waiver of this requirement, as described on the Smart Schools website. The waiver must be filed and approved by SED prior to submitting this survey.

☐ By checking this box, you are certifying that the school district has an approved waiver of this requirement on file with the New York State Education Department.

2. Connectivity Speed Calculator (Required)

	Number of Students	Multiply by 100 Kbps	Divide by 1000 to Convert to Required Speed in Mb	Current Speed in Mb	Expected Speed to be Attained Within 12 Months	Expected Date When Required Speed Will be Met
Calculated Speed	5,500	550,000	550	1000	1000	Already Met

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## School Connectivity

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**3. Describe how you intend to use Smart Schools Bond Act funds for high-speed broadband and/or wireless connectivity projects in school buildings.**

**Connectivity Projects**

1. 210 Access points - Add additional wifi capacity to all classrooms in all schools (at least one access point in every classroom)
2. Switches, Cabling, and SFPs - Bring 1Gbps speed to every wired port on the network
3. Interior Fiber - replace the interior fiber connections between network closets to increase bandwidth from 1Gbps to 10Gbps
4. Outdoor Fiber - replace fiber between buildings on campus to increase bandwidth from 1 Gbps to 10 Gbps
5. Outdoor Fiber to the Athletic Stadium - to provide wifi access for surrounding track and fields to be used for heart rate monitors used in PE classes. It will also provide exterior wifi access for science classes using Chromebooks.
6. New Firewall/Web Filter to handle the increased volume of traffic from new devices
7. Servers, UPS, and Racks - to provide adequate Authentication and management support for connections using WiFi and racks and UPS units to support new connections and switches

The district plans to use eRate funding for 40% of the purchase price for a majority of the connectivity project items. Items using eRate funding will have the word "eRate" followed by the eRate application year in the line item description, and the line item price will already reflect the 40% discount. Please note that similar items from different eRate year applications may have different prices based on the quotes that were filed for eRate that year. Please also note that we have already filed for an extension to purchase items from the 2015-16 eRate year after September of 2016, because we are concerned that the SSIP will not be approved in time.

**4. Describe the linkage between the district's District Instructional Technology Plan and the proposed projects. (There should be a link between your response to this question and your response to Question 1 in Part E. Curriculum and Instruction "What are the district's plans to use digital connectivity and technology to improve teaching and learning?")**

All plans for the use of technology to improve teaching and learning rely heavily on having a solid network infrastructure in place. The resources and equipment that our teachers currently use and plan to use are becoming more and more dependent on a reliable connection to the internet. Our future plans include the use of Chromebooks which need constant connection to the WiFi network to operate. Our plans also include the use of the Google Apps for Education platform including Read & Write and Google Classroom and many other cloud-based applications which all require access to the internet. Therefore, we feel that one of the most important investments we can make for our future is a fast, reliable network that allows students, staff, and community members to collaborate in the digital world.

**5. If the district wishes to have students and staff access the Internet from wireless devices within the school building, or in close proximity to it, it must first ensure that it has a robust Wi-Fi network in place that has sufficient bandwidth to meet user demand.**

**Please describe how you have quantified this demand and how you plan to meet this demand.**

The district already has WiFi coverage in all of its buildings, but additional capacity is needed in places where full carts of Chromebooks and Laptops will be used. We currently have 297 access points (Cisco 2600 & 2700) that are controlled by two redundant Cisco 5800 wireless controllers. The WiFi system is managed by Cisco Prime. The district has planned to add an additional 210 access points to our existing system to handle the additional capacity needed in the future. The additional access points will allow us to put at least one in every classroom. Larger areas like libraries and auditoriums, will have multiple access points. We are also increasing the bandwidth of the backbone of the network to 10Gbps and the internet connection to 1Gbps in order to handle the increased WiFi traffic. We also are upgrading our firewall/web filter to handle the increased traffic levels.

**6. As indicated on Page 5 of the guidance, the Office of Facilities Planning will have to conduct a preliminary review of all capital projects, including connectivity projects. Please indicate on a separate row each project number given to you by the Office of Facilities Planning.**

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School Connectivity

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Project Number
01-06-23-06-7-999-BA1
01-06-23-06-0-009-007

7. Certain high-tech security and connectivity infrastructure projects may be eligible for an expedited review process as determined by the Office of Facilities Planning.

Was your project deemed eligible for streamlined review?

Yes

- 7a. Districts that choose the Streamlined Review Process will be required to certify that they have reviewed all installations with their licensed architect or engineer of record and provide that person's name and license number. The licensed professional must review the products and proposed method of installation prior to implementation and review the work during and after completion in order to affirm that the work was code-compliant, if requested.

☒ I certify that I have reviewed all installations with a licensed architect or engineer of record.

8. Include the name and license number of the architect or engineer of record.

Name	License Number
Eric J. Sheffer	8621

9. If you are submitting an allocation for School Connectivity complete this table.  
Note that the calculated Total at the bottom of the table must equal the Total allocation for this category that you entered in the SSIP Overview overall budget.

	Sub-Allocation
Network/Access Costs	307,982
Outside Plant Costs	51,900
School Internal Connections and Components	113,261
Professional Services	4,560
Testing	0
Other Upfront Costs	0
Other Costs	0
<b>Totals:</b>	<b>477,703</b>

10. Please detail the type, quantity, per unit cost and total cost of the eligible items under each sub-category. This is especially important for any expenditures listed under the "Other" category. All expenditures must be eligible for tax-exempt financing to be reimbursed through the SSBA. Sufficient detail must be provided so that we can verify this is the case. If you have any questions, please contact us directly through [smartschools@nysed.gov](mailto:smartschools@nysed.gov).  
NOTE: Wireless Access Points should be included in this category, not under Classroom Educational Technology, except those that will be loaned/purchased for nonpublic schools.  
Add rows under each sub-category for additional items, as needed.

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Select the allowable expenditure type. Repeat to add another item under each type.	Item to be purchased	Quantity	Cost per Item	Total Cost
Network/Access Costs	Barracuda Firewall BNGF900R/BNGF900	1	60,440	60,440
Professional Services	Firewall Installation and Configuration, and Setup per hour	24	190	4,560
Network/Access Costs	L-LIC-CT5508-100A (Adder licence for 5508) Access Point	2	14,623	29,246
Network/Access Costs	AIR-AP2802I-B-K9 (access point) ERATE 2017	90	327	29,430
Network/Access Costs	AIR-AP2802E-B-K9 (access point) ERATE 2017	10	352	3,520
Network/Access Costs	AIR-ANT2524DW-R (antenna)ERATE 2017	28	10	280
Network/Access Costs	Cisco Patch anntenna ERATE 2017	3	227	681
Network/Access Costs	Cisco Patch anntenna ERATE 2017	3	378	1,134
Network/Access Costs	HP 2530-8G-PoE+ Switch ERATE 2017	1	165	165
Network/Access Costs	HP 5130-24G-SFP-4SFP+ EI Switch ERATE 2017	2	1,008	2,016
Network/Access Costs	HP 5900AF-48XG-4QSFP+ Switch	1	17,040	17,040
Network/Access Costs	HP A58x0AF 650W AC Power Supply	2	315	630
Network/Access Costs	HP 58x0AF Frt(ports)-Bck(pwr) Fan Tray	2	76	152
Network/Access Costs	HP 5130-48G-PoE+-2SFP+-2XGT (370W) EI Switch ERATE 2017	1	1,333	1,333
Network/Access Costs	HP 5130-48G-PoE+-4SFP+ (370W) EI Switch ERATE 2017	12	1,290	15,480
Network/Access Costs	HP X130 10G SFP+ LC LR Transceiver ERATE 2017	16	708	11,328
Network/Access Costs	HP X240 10G SFP+ SFP+ 5m DAC Cable ERATE 2017	4	76	304
Network/Access Costs	HP X130 10G SFP+ LC SR Transceiver ERATE 2017	2	345	690
Network/Access Costs	HP X240 10G SFP+ SFP+ 3m DAC Cable ERATE 2017	3	68	204
Network/Access Costs	HP 5500 150WAC Power Supply ERATE 2017	4	104	416
Connections/Components	APC SMARTUPS SMX2000LVNC	7	708	4,956

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	ERATE 2017			
Connections/Components	APC SMART-UPS EXT BATT PK SMX120BP ERATE 2017	1	341	341
Connections/Components	CPI 45U network rack ERATE 2017	3	270	810
Connections/Components	CPI 2 post rack ERATE 2017	2	74	148
Connections/Components	CPI rack 10in cable management ERATE 2017	1	194	194
Connections/Components	CPI 11U rack ERATE 2017	2	89	178
Connections/Components	Middle Atlantic 8U rack ERATE 2017	1	78	78
Connections/Components	CPI 19U rack ERATE 2017	1	99	99
Connections/Components	CORNING CCH-01U fiber encloser ERATE 2017	27	107	2,889
Connections/Components	CORNING CCH-02U fiber encloser ERATE 2017	7	122	854
Connections/Components	CORNING CCH-03U fiber encloser ERATE 2017	2	144	288
Connections/Components	CORNING CCH-04U fiber encloser ERATE 2017	3	162	486
Connections/Components	Middle Atlantic 6' ladder rack 12pack ERATE 2017	1	362	362
Connections/Components	Middle Atlantic 10' ladder rack 12pack ERATE 2017	1	549	549
Connections/Components	Middle Atlantic 3U rack ERATE 2017	1	37	37
Connections/Components	1 1/4 Interduct 10,000 ft ERATE 2017	1	4,080	4,080
Network/Access Costs	AIR-AP2802I-B-K9 (access point) ERATE 2016	67	350	23,450
Network/Access Costs	AIR-AP3802I-B-K9 (access point) ERATE 2016	1	446	446
Network/Access Costs	HP 5130-24G-PoE+-4SFP+ EI Swch ERATE 2016	7	922	6,454
Network/Access Costs	HP 5130-48G-PoE+-4SFP+ EI Swch ERATE 2016	5	1,290	6,450
Network/Access Costs	HP 5130-24G-4SFP+ EI Switch ERATE 2016	5	799	3,995
Network/Access Costs	HP 5130-48G-4SFP+ EI Switch ERATE 2016	46	1,095	50,370
Network/Access Costs	HP X240 10G SFP+ to SFP+ 0.65m DAC Cable ERATE 2016	26	47	1,222
Network/Access Costs	HP X120 1G SFP LC SX Transceiver ERATE 2016	8	81	648
Outside Plant Costs	Outdoor Fiber from SHS to BC and JH	1	21,900	21,900

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	ERATE 2017			
Connections/Components	Indoor Fiber Replacement ERATE 2017	1	47,997	47,997
Outside Plant Costs	Outdoor Fiber from JH to Stadium ERATE 2017	1	30,000	30,000
Connections/Components	Dell Poweredge R620 Server (for VM)	3	7,713	23,139
Connections/Components	48 Port 10GB switch for VM Environment	2	7,445	14,890
Connections/Components	Dell Poweredge R430 Server	2	4,566	9,132
Connections/Components	Dell 18.5in KMM	2	877	1,754
Network/Access Costs	1 AIR-OEAP1810-B-K9 802.11ac Wave 2 OfficeExtend AP, B Reg Domain (for US)	1	413	413
Network/Access Costs	AIR-AP3802E-B-K9 (access point) non-ERATE	15	1,183	17,745
Network/Access Costs	AIR-AP3802E-B-K9 (access point) non-ERATE	20	1,115	22,300



## Smart Schools Investment Plan - NorthColonieJune2016-01

Community Connectivity (Broadband and Wireless)

1. Describe how you intend to use Smart Schools Bond Act funds for high-speed broadband and/or wireless connectivity projects in the community.

(No Response)

2. Please describe how the proposed project(s) will promote student achievement and increase student and/or staff access to the Internet in a manner that enhances student learning and/or instruction outside of the school day and/or school building.

(No Response)

3. Community connectivity projects must comply with all the necessary local building codes and regulations (building and related permits are not required prior to plan submission).

☐ I certify that we will comply with all the necessary local building codes and regulations.

4. Please describe the physical location of the proposed investment.

(No Response)

5. Please provide the initial list of partners participating in the Community Connectivity Broadband Project, along with their Federal Tax Identification (Employer Identification) number.

Project Partners	Federal ID #
(No Response)	(No Response)

6. If you are submitting an allocation for Community Connectivity, complete this table.  
Note that the calculated Total at the bottom of the table must equal the Total allocation for this category that you entered in the SSIP Overview overall budget.

	Sub-Allocation
Network/Access Costs	(No Response)
Outside Plant Costs	(No Response)
Tower Costs	(No Response)
Customer Premises Equipment	(No Response)
Professional Services	(No Response)
Testing	(No Response)
Other Upfront Costs	(No Response)
Other Costs	(No Response)
<b>Totals:</b>	<b>0</b>

7. Please detail the type, quantity, per unit cost and total cost of the eligible items under each sub-category. This is especially important for any expenditures listed under the "Other" category. All expenditures must be capital-bond eligible to be reimbursed through the SSBA. If you have any questions, please contact us directly through [smartschools@nysed.gov](mailto:smartschools@nysed.gov).  
Add rows under each sub-category for additional items, as needed.

**Smart Schools Investment Plan - NorthColonieJune2016-01**Community Connectivity (Broadband and Wireless)

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Select the allowable expenditure type. Repeat to add another item under each type.	Item to be purchased	Quantity	Cost per Item	Total Cost
(No Response)	(No Response)	(No Response)	(No Response)	(No Response)

## Smart Schools Investment Plan - NorthColonieJune2016-01

## Classroom Learning Technology

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1. In order for students and faculty to receive the maximum benefit from the technology made available under the Smart Schools Bond Act, their school buildings must possess sufficient connectivity infrastructure to ensure that devices can be used during the school day. Smart Schools Investment Plans must demonstrate that sufficient infrastructure that meets the Federal Communications Commission's 100 Mbps per 1,000 students standard currently exists in the buildings where new devices will be deployed, or is a planned use of a portion of Smart Schools Bond Act funds, or is under development through another funding source.

Smart Schools Bond Act funds used for technology infrastructure or classroom technology investments must increase the number of school buildings that meet or exceed the minimum speed standard of 100 Mbps per 1,000 students and staff within 12 months. This standard may be met on either a contracted 24/7 firm service or a "burstable" capability. If the standard is met under the burstable criteria, it must be:

1. Specifically codified in a service contract with a provider, and
2. Guaranteed to be available to all students and devices as needed, particularly during periods of high demand, such as computer-based testing (CBT) periods.

Please describe how your district already meets or is planning to meet this standard within 12 months of plan submission.

The district already meets the requirement for 100 Mbps per 1000 students. We currently have a 1000Mbps connection to the internet for 5500 students with options to increase it to 2,5,or 10Gbps in the future. The bandwidth between our buildings and network closets is currently at 1 to 10 Gbps (depending on location). All off-campus locations have recently been upgraded to 10Gbps. The planned SSBA connectivity upgrades will increase the speed between our on campus buildings and all network closets to 10Gbps. We currently have WiFi coverage in all of our buildings, but we would like to increase the capacity/density of the coverage. We plan to provide an access point in every classroom with this upgrade.

- 1a. If a district believes that it will be impossible to meet this standard within 12 months, it may apply for a waiver of this requirement, as described on the Smart Schools website. The waiver must be filed and approved by SED prior to submitting this survey.

☐ By checking this box, you are certifying that the school district has an approved waiver of this requirement on file with the New York State Education Department.

2. Connectivity Speed Calculator (Required)

	Number of Students	Multiply by 100 Kbps	Divide by 1000 to Convert to Required Speed in Mb	Current Speed in Mb	Expected Speed to be Attained Within 12 Months	Expected Date When Required Speed Will be Met
Calculated Speed	5,500	550,000	550	1000	1000	Already Met

3. If the district wishes to have students and staff access the Internet from wireless devices within the school building, or in close proximity to it, it must first ensure that it has a robust Wi-Fi network in place that has sufficient bandwidth to meet user demand.

Please describe how you have quantified this demand and how you plan to meet this demand.

The district already has WiFi coverage in all of its buildings, but additional capacity is needed in places where full carts of Chromebooks and Laptops will be used. We currently have 297 access points (Cisco 2600 & 2700) that are controlled by two redundant Cisco 5800 wireless controllers. The WiFi system is managed by Cisco Prime. The district has planned to add an additional 210 access points to our existing system to handle the additional capacity needed in the future. The additional access points will allow us to put at least one in every classroom. Larger areas like libraries and auditoriums, will have multiple access points. We are also increasing the bandwidth of the backbone of the network to 10Gbps and the internet connection to 1Gbps in order to handle the increased WiFi traffic. We also are upgrading our firewall/web filter to handle the increased traffic levels.

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Classroom Learning Technology

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4. All New York State public school districts are required to complete and submit an Instructional Technology Plan survey to the New York State Education Department in compliance with Section 753 of the Education Law and per Part 100.12 of the Commissioner's Regulations.

Districts that include educational technology purchases as part of their Smart Schools Investment Plan must have a submitted and approved Instructional Technology Plan survey on file with the New York State Education Department.

☒ By checking this box, you are certifying that the school district has an approved Instructional Technology Plan survey on file with the New York State Education Department.

5. Describe the devices you intend to purchase and their compatibility with existing or planned platforms or systems. Specifically address the adequacy of each facility's electrical, HVAC and other infrastructure necessary to install and support the operation of the planned technology.

The district plans to replace outdated computer equipment(desktops, laptops, and projectors) in existing locations. No new electrical or HVAC infrastructure will be required to support the purchases. The devices that we plan to purchase will be compatible with our current platforms/systems. We currently have Chromebooks managed by Google Apps for Education. Our proposed Chromebooks will be managed by the same system. We currently manage our PCs with Microsoft SCCM. Our proposed PCs will use the same management software and will be covered by our existing software site licenses for application software. Our current Macs are managed by JAMF. The proposed Macbooks and iMacs will also be managed by JAMF and applications will be covered by our existing site licenses.

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**6. Describe how the proposed technology purchases will:**

- > enhance differentiated instruction;
- > expand student learning inside and outside the classroom;
- > benefit students with disabilities and English language learners; and
- > contribute to the reduction of other learning gaps that have been identified within the district.

**The expectation is that districts will place a priority on addressing the needs of students who struggle to succeed in a rigorous curriculum. Responses in this section should specifically address this concern and align with the district's Instructional Technology Plan (in particular Question 2 of E. Curriculum and Instruction: "Does the district's instructional technology plan address the needs of students with disabilities to ensure equitable access to instruction, materials and assessments?" and Question 3 of the same section: "Does the district's instructional technology plan address the provision of assistive technology specifically for students with disabilities to ensure access to and participation in the general curriculum?"**

Our Smart School Bond Act classroom device purchases will greatly benefit our ELL Learners, students with disabilities, and students who struggle to succeed in a rigorous curriculum. The use of SSBA funds to purchase laptops, desktops, and Chromebooks will help continue the expansion of our Google Apps for Education(GAFE) platform by putting more devices in the hands of students and their teachers. The GAFE platform (Google Docs, Google Drive, Google Classroom, and Google sites) enables an incredible level of collaboration between students and teachers including (student-to-student, student-to teacher, and teacher-to teacher). GAFE allows students to not only work at their own pace, but it also allows students to communicate one on one with their teacher through email and comments.

GAFE is also being used as a means of sharing between general education teachers and special-education teachers. This collaborative tool has increased the ability for special education teachers to review classroom teachers' lesson plans, so that they can craft their plans for their individual students accordingly. Each of our special education classrooms will have laptops and Chromebooks that mirror the general education classrooms to ensure a seamless transition for students into the general education setting.

ELL students will specifically benefit from the purchase of more classroom devices. Google Read&Write, Speak-it, and other applications will be available on all of these devices giving ELL and other students reliable access to speech-to-text applications. Many of the ELL students do not have access to computers at home. So it is crucial that they have access at school. New purchases of laptops, desktops, and Chromebooks will allow these students to complete their work at school. Flipped learning practices also allow for the ELL student to go over a topic more than once and at their own pace. As we grow our access to technology in the classroom, more assignments given to students will be media based projects. The text, visuals and media in these projects will reinforce the ENL students ability to learn the language, but also allow them to shine as "creators".

Lastly, there are various types of learners. Some are verbal, but many are visual and need to see images in large format. The projectors that we intend to purchase with SSBA funds will offer an opportunity for visual learners to participate in structured material. The higher resolution and brighter projectors will also allow visually impaired students to see the images more clearly.

**7. Where appropriate, describe how the proposed technology purchases will enhance ongoing communication with parents and other stakeholders and help the district facilitate technology-based regional partnerships, including distance learning and other efforts.**

The district currently uses a Google Apps for Education platform for collaboration and communication between students and teachers. Because this is a cloud-based system, students and their parents have access to this system from any web-enabled device at home or school. The use of Google classroom for assignments continues to grow among our staff. As we replace more of their laptops with newer technology, more teachers will begin to use this valuable communication resource. We also have a web-based parent/student portal through Infinite Campus for communication of Grades and other information such as Bus Routes, Notices, etc. The district is also in the process of creating a Student Virtual Learning Academy with online classes offered to students accessible from home and school.

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8. Describe the district's plan to provide professional development to ensure that administrators, teachers and staff can employ the technology purchased to enhance instruction successfully.

**Note: This response should be aligned and expanded upon in accordance with your district's response to Question 1 of F. Professional Development of your Instructional Technology Plan: "Please provide a summary of professional development offered to teachers and staff, for the time period covered by this plan, to support technology to enhance teaching and learning. Please include topics, audience and method of delivery within your summary."**

As we have done in the past, North Colonie will continue to provide a professional development program open to all teachers and administrators throughout the district, regardless of their level of technological expertise. The instructional innovation team was launched at Shaker High School during the 2014- 2015 school year. This team, comprised of teachers from every discipline and a group of administrators, worked to survey each department to discover their needs in terms of technology resources. In addition to soliciting information regarding purchases, the team also sought to understand each discipline's specific needs regarding technology. The group worked throughout the school year to identify best practices for the use of technology to increase student engagement and higher-level thinking and then shared those practices and resources with all teachers in the building. During the summer of 2015, 17 Professional development Opportunities were offered to teachers. A similar set of courses/opportunities are being planned for this summer including courses on the use of Google Classroom, Google Sites, Tinkercad, and other technology tools. The District will also offer Tech Time Sessions where teachers will have an opportunity to come together and develop their own websites, interactive notebooks, Google classroom assignments, etc. Individuals and groups will focus on enhancing their teaching and student learning with technology. During the school year there is also a process for teachers and administrators to propose staff development opportunities that are conducted after school hours. These classes range from one hour of instruction to 15 hours.

The district has 17 classroom teachers that are also part of an Instructional Technology Resource Teacher program. Those teachers offer one on one help as well as staff development opportunities during and after the school day. Additionally, students are being trained as Tech Mentors to help both their peers and teachers with the successful use of technology to support teaching and learning.

Last year, each district administrator participated in a summer workshop focusing on digital innovation from which specific building based objectives were created in order to support the integration of technology in the teaching and learning process. Accordingly, the high school and junior high school conducted Professional Development Opportunities on integrating technology into curriculums the first two days of the 2015-16 school year. The elementary buildings conducted technology surveys to solicit information about the best ways to support staff in their efforts to integrate technology into the classroom.

9. Districts must contact the SUNY/CUNY teacher preparation program that supplies the largest number of the district's new teachers to request advice on innovative uses and best practices at the intersection of pedagogy and educational technology.

☒ By checking this box, you certify that you have contacted the SUNY/CUNY teacher preparation program that supplies the largest number of your new teachers to request advice on these issues.

- 9a. Please enter the name of the SUNY or CUNY Institution that you contacted.

University at Albany, SUNY

- 9b. Enter the primary Institution phone number.

(518) 442-4988

- 9c. Enter the name of the contact person with whom you consulted and/or will be collaborating with on innovative uses of technology and best practices.

Jianwei Zhang

## Smart Schools Investment Plan - NorthColonieJune2016-01

Classroom Learning Technology

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10. A district whose Smart Schools Investment Plan proposes the purchase of technology devices and other hardware must account for nonpublic schools in the district.

Are there nonpublic schools within your school district?

- ☒ Yes  
☐ No

- 10a. Describe your plan to loan purchased hardware to nonpublic schools within your district. The plan should use your district's nonpublic per-student loan amount calculated below, within the framework of the guidance. Please enter the date by which nonpublic schools must request classroom technology items. Also, specify in your response the devices that the nonpublic schools have requested, as well as in the in the Budget and the Expenditure Table at the end of the page.

The district has multiple non-public schools within its boundaries, and each school has different technology needs. Because it would be difficult to share some of the items that we plan to purchase (ex. mounted projectors), the district plans to purchase, inventory, and loan equipment specifically requested by each non-public school. Requests for the equipment must be received annually by June 15th. Most requests have been received already. Requests for non-public schools list the specific school in the line item detail. The remaining amount reserved for the non-public schools is listed under the "Other" Category.

- 10b. A final Smart Schools Investment Plan cannot be approved until school authorities have adopted regulations specifying the date by which requests from nonpublic schools for the purchase and loan of Smart Schools Bond Act classroom technology must be received by the district.

☒ By checking this box, you certify that you have such a plan and associated regulations in place that have been made public.

11. Nonpublic Classroom Technology Loan Calculator

The Smart Schools Bond Act provides that any Classroom Learning Technology purchases made using Smart Schools funds shall be lent, upon request, to nonpublic schools in the district. However, no school district shall be required to loan technology in amounts greater than the total obtained and spent on technology pursuant to the Smart Schools Bond Act and the value of such loan may not exceed the total of \$250 multiplied by the nonpublic school enrollment in the base year at the time of enactment.

See:

[http://www.p12.nysed.gov/mgtserv/smart\\_schools/docs/Smart\\_Schools\\_Bond\\_Act\\_Guidance\\_04.27.15\\_Final.pdf](http://www.p12.nysed.gov/mgtserv/smart_schools/docs/Smart_Schools_Bond_Act_Guidance_04.27.15_Final.pdf).

	1. Classroom Technology Sub-allocation	2. Public Enrollment (2014-15)	3. Nonpublic Enrollment (2014-15)	4. Sum of Public and Nonpublic Enrollment	5. Total Per Pupil Sub-allocation	6. Total Nonpublic Loan Amount
Calculated Nonpublic Loan Amount	358,211	5,371	1,041	6,412	56	58,296

12. To ensure the sustainability of technology purchases made with Smart Schools funds, districts must demonstrate a long-term plan to maintain and replace technology purchases supported by Smart Schools Bond Act funds. This sustainability plan shall demonstrate a district's capacity to support recurring costs of use that are ineligible for Smart Schools Bond Act funding such as device maintenance, technical support, Internet and wireless fees, maintenance of hotspots, staff professional development, building maintenance and the replacement of incidental items. Further, such a sustainability plan shall include a long-term plan for the replacement of purchased devices and equipment at the end of their useful life with other funding sources.

☒ By checking this box, you certify that the district has a sustainability plan as described above.

## Smart Schools Investment Plan - NorthColonieJune2016-01

Classroom Learning Technology

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13. Districts must ensure that devices purchased with Smart Schools Bond funds will be distributed, prepared for use, maintained and supported appropriately. Districts must maintain detailed device inventories in accordance with generally accepted accounting principles.

☒ By checking this box, you certify that the district has a distribution and inventory management plan and system in place.

14. If you are submitting an allocation for Classroom Learning Technology complete this table.  
Note that the calculated Total at the bottom of the table must equal the Total allocation for this category that you entered in the SSIP Overview overall budget.

	Sub-Allocation
Interactive Whiteboards	13,425
Computer Servers	(No Response)
Desktop Computers	102,901
Laptop Computers	194,816
Tablet Computers	27,317
Other Costs	19,752
<b>Totals:</b>	<b>358,211</b>

15. Please detail the type, quantity, per unit cost and total cost of the eligible items under each sub-category. This is especially important for any expenditures listed under the "Other" category. All expenditures must be capital-bond eligible to be reimbursed through the SSBA. If you have any questions, please contact us directly through [smartschools@nysed.gov](mailto:smartschools@nysed.gov).

Please specify in the "Item to be Purchased" field which specific expenditures and items are planned to meet the district's nonpublic loan requirement, if applicable.

NOTE: Wireless Access Points that will be loaned/purchased for nonpublic schools should ONLY be included in this category, not under School Connectivity, where public school districts would list them.

Add rows under each sub-category for additional items, as needed.



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Classroom Learning Technology

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Select the allowable expenditure type. Repeat to add another item under each type.	Item to be Purchased	Quantity	Cost per Item	Total Cost
Desktop Computers	Precision Workstation T3420 SFF	44	825	36,300
Desktop Computers	iMac	46	1,339	61,594
Laptop Computers	Dell Latitude e5470	127	719	91,313
Laptop Computers	13in Macobook Pro - Part Number MF839LL/A	64	1,200	76,800
Laptop Computers	Chromebooks	90	224	20,160
Other Costs	Short Throw Projectors	7	989	6,923
Other Costs	Bulbless Projectors	7	975	6,825
Other Costs	Non-public Equipment - remaining reserved	1	1,849	1,849
Laptop Computers	Dell Latitude e5470 - Loudonville Christian	1	719	719
Laptop Computers	Chromebooks - St. Ambrose	26	224	5,824
Desktop Computers	21.5 in iMac - St. Gregory's	3	1,669	5,007
Interactive Whiteboards	15 Mimio IWB - Loudonville Christian	15	895	13,425
Other Costs	Chromebook Charging Cart - St. Ambrose	1	1,600	1,600
Tablet Computers	10 Pack 16GB iPads - St. Pius	7	3,740	26,180
Tablet Computers	16 GB iPad - St. Pius	3	379	1,137
Other Costs	Survivor Case iPad - St. Pius	73	35	2,555

## Smart Schools Investment Plan - NorthColonieJune2016-01

## Pre-Kindergarten Classrooms

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1. Provide information regarding how and where the district is currently serving pre-kindergarten students and justify the need for additional space with enrollment projections over 3 years.

(No Response)

2. Describe the district's plan to construct, enhance or modernize education facilities to accommodate pre-kindergarten programs. Such plans must include:

- Specific descriptions of what the district intends to do to each space;
- An affirmation that pre-kindergarten classrooms will contain a minimum of 900 square feet per classroom;
- The number of classrooms involved;
- The approximate construction costs per classroom; and
- Confirmation that the space is district-owned or has a long-term lease that exceeds the probable useful life of the improvements.

(No Response)

3. Smart Schools Bond Act funds may only be used for capital construction costs. Describe the type and amount of additional funds that will be required to support ineligible ongoing costs (e.g. instruction, supplies) associated with any additional pre-kindergarten classrooms that the district plans to add.

(No Response)

4. All plans and specifications for the erection, repair, enlargement or remodeling of school buildings in any public school district in the State must be reviewed and approved by the Commissioner. Districts that plan capital projects using their Smart Schools Bond Act funds will undergo a Preliminary Review Process by the Office of Facilities Planning.

Please indicate on a separate row each project number given to you by the Office of Facilities Planning.

Project Number
(No Response)

5. If you have made an allocation for Pre-Kindergarten Classrooms, complete this table.  
Note that the calculated Total at the bottom of the table must equal the Total allocation for this category that you entered in the SSIP Overview overall budget.

	Sub-Allocation
Construct Pre-K Classrooms	(No Response)
Enhance/Modernize Educational Facilities	(No Response)
Other Costs	(No Response)
<b>Totals:</b>	<b>0</b>

6. Please detail the type, quantity, per unit cost and total cost of the eligible items under each sub-category. This is especially important for any expenditures listed under the "Other" category. All expenditures must be capital-bond eligible to be reimbursed through the SSBA. If you have any questions, please contact us directly through [smartschools@nysed.gov](mailto:smartschools@nysed.gov).  
Add rows under each sub-category for additional items, as needed.

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Pre-Kindergarten Classrooms

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Select the allowable expenditure type. Repeat to add another item under each type.	Item to be purchased	Quantity	Cost per Item	Total Cost
(No Response)	(No Response)	(No Response)	(No Response)	(No Response)

## Smart Schools Investment Plan - NorthColonieJune2016-01

## Replace Transportable Classrooms

1. Describe the district's plan to construct, enhance or modernize education facilities to provide high-quality instructional space by replacing transportable classrooms.

(No Response)

2. All plans and specifications for the erection, repair, enlargement or remodeling of school buildings in any public school district in the State must be reviewed and approved by the Commissioner. Districts that plan capital projects using their Smart Schools Bond Act funds will undergo a Preliminary Review Process by the Office of Facilities Planning.

Please indicate on a separate row each project number given to you by the Office of Facilities Planning.

Project Number
(No Response)

3. For large projects that seek to blend Smart Schools Bond Act dollars with other funds, please note that Smart Schools Bond Act funds can be allocated on a pro rata basis depending on the number of new classrooms built that directly replace transportable classroom units.

If a district seeks to blend Smart Schools Bond Act dollars with other funds describe below what other funds are being used and what portion of the money will be Smart Schools Bond Act funds.

(No Response)

4. If you have made an allocation for Replace Transportable Classrooms, complete this table. Note that the calculated Total at the bottom of the table must equal the Total allocation for this category that you entered in the SSIP Overview overall budget.

	Sub-Allocation
Construct New Instructional Space	(No Response)
Enhance/Modernize Existing Instructional Space	(No Response)
Other Costs	(No Response)
<b>Totals:</b>	<b>0</b>

5. Please detail the type, quantity, per unit cost and total cost of the eligible items under each sub-category. This is especially important for any expenditures listed under the "Other" category. All expenditures must be capital-bond eligible to be reimbursed through the SSBA. If you have any questions, please contact us directly through [smartschools@nysed.gov](mailto:smartschools@nysed.gov).

Add rows under each sub-category for additional items, as needed.

Select the allowable expenditure type. Repeat to add another item under each type.	Item to be purchased	Quantity	Cost per Item	Total Cost
(No Response)	(No Response)	(No Response)	(No Response)	(No Response)

## Smart Schools Investment Plan - NorthColonieJune2016-01

## High-Tech Security Features

1. Describe how you intend to use Smart Schools Bond Act funds to install high-tech security features in school buildings and on school campuses.

(No Response)

2. All plans and specifications for the erection, repair, enlargement or remodeling of school buildings in any public school district in the State must be reviewed and approved by the Commissioner. Districts that plan capital projects using their Smart Schools Bond Act funds will undergo a Preliminary Review Process by the Office of Facilities Planning.

Please indicate on a separate row each project number given to you by the Office of Facilities Planning.

Project Number
(No Response)

3. Was your project deemed eligible for streamlined Review?

- ☐ Yes  
☐ No

4. Include the name and license number of the architect or engineer of record.

Name	License Number
(No Response)	(No Response)

5. If you have made an allocation for High-Tech Security Features, complete this table.

Note that the calculated Total at the bottom of the table must equal the Total allocation for this category that you entered in the SSIP Overview overall budget.

	Sub-Allocation
Capital-Intensive Security Project (Standard Review)	(No Response)
Electronic Security System	(No Response)
Entry Control System	(No Response)
Approved Door Hardening Project	(No Response)
Other Costs	(No Response)
<b>Totals:</b>	<b>0</b>

6. Please detail the type, quantity, per unit cost and total cost of the eligible items under each sub-category. This is especially important for any expenditures listed under the "Other" category. All expenditures must be capital-bond eligible to be reimbursed through the SSBA. If you have any questions, please contact us directly through [smartschools@nysed.gov](mailto:smartschools@nysed.gov).

Add rows under each sub-category for additional items, as needed.

Select the allowable expenditure type. Repeat to add another item under each type.	Item to be purchased	Quantity	Cost per Item	Total Cost
(No Response)	(No Response)	(No Response)	(No Response)	(No Response)

**Smart Schools Investment Plan - NorthColonieJune2016-01**

Report

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