

**Smart Schools Investment Plan - MALONE - Submission 1**

SSIP Overview

Page Last Modified: 01/03/2017

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

Timothy Whipple

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

518-483-7800 opt. 3

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

twhipple@malonecsd.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.

Final Investment Plan - MaloneCSD.pdf

- 5b. Enter the webpage address where the final Smart Schools Investment Plan is posted. The Plan should remain posted for the life of the included projects.

www.malonecsd.org

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.

2,450

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:

\$2,822,926

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	122,768
Connectivity Projects for Communities	0
Classroom Technology	125,002
Pre-Kindergarten Classrooms	0
Replace Transportable Classrooms	0
High-Tech Security Features	147,187
<b>Totals:</b>	<b>394,957</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 current purchases 100 MBPS from NERIC (Northeast Regional Information Center). Current levels of usage are approximately 70-80% during peak times. Through an agreement with NERIC, the district will be purchasing an additional 130 MBPS by July 1, 2016. This will enable the district to have 230 MBPS.

UPDATE: 11-20-2016 Malone CSD purchased an additional 130 MBPS on July 1, 2016 and now has 230 MBPS.

- 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	2,300	230,000	230	230	(No Response)	(No Response)

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

The district plans to move to a 1:1 student to device ratio in the future. A strong internal wireless infrastructure is necessary to ensure the added devices can connect wirelessly to the network without delay. Additional wireless routers will be purchased, along with back-end equipment to facilitate the level devices the district plans for investment.

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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?")

As stated in Question 1 of Part E, our district has adopted the International Society for Technology in Education (ISTE) standards for students. Those standards are organized into six categories: 1) Creativity and Innovation, 2) Communication and Collaboration, 3) Research and Information Fluency, 4) Critical Thinking, Problem Solving, and Decision Making, 5) Digital Citizenship, and 6) Technology Operations and Concepts. Looking at these categories, these are not skills that we want our students practicing once a month when we can get them into a computer lab. These are skills that are crucial for college and career readiness. For that reason, teachers and students need to be able to use technology much more frequently, flexibly, and organically, as a natural part of the teaching and learning taking place. Gone are the days when a couple of computer labs in a building were good enough. The school connectivity project will help to ensure that our wireless coverage is sufficient in its capabilities to support the 1:1 computing environment we are moving toward.

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.

A strong internal wireless infrastructure is necessary to ensure the added devices can connect wirelessly to the network without delay. Additional wireless routers will be purchased, along with back-end equipment to facilitate the level devices the district plans for investment. Through an agreement with NERIC, burstable capability is provided up to 250 MBPS at any time where the districts usage spikes due to demand.

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.

Project Number
161501067999003
(No Response)
(No Response)

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?

No

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

Name	License Number
Thomas Kenney	15921

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.

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School Connectivity

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	Sub-Allocation
Network/Access Costs	114,413
Outside Plant Costs	(No Response)
School Internal Connections and Components	8,355
Professional Services	(No Response)
Testing	(No Response)
Other Upfront Costs	(No Response)
Other Costs	(No Response)
<b>Totals:</b>	<b>122,768</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.**

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	24 port core switch	3	5,657	16,971
Network/Access Costs	Layer 2 switches	13	2,118	27,540
Network/Access Costs	40 port core switch	2	25,275	50,550
Network/Access Costs	backup power supply for 40 port core switch	2	1,020	2,040
Network/Access Costs	Access points	31	558	17,312
Connections/Components	24 strand cable - 460 foot length	2	1,397	2,794
Connections/Components	24 strand cable - 300 foot length	1	1,025	1,025
Connections/Components	12 strand cable - 300 foot length	1	487	487
Connections/Components	24 strand cable - 700 foot length	1	1,935	1,935
Connections/Components	12 strand cable - 700 foot length	1	876	876
Connections/Components	24 strand cable - 400 foot length	1	1,238	1,238

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Community Connectivity (Broadband and Wireless)

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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.

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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)

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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.

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### 2. Connectivity Speed Calculator (Required)

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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 currently have 129 wireless access points throughout the entire school district which are managed by a Cisco Wireless LAN Controller. The 129 wireless access points that we currently have in our wireless network infrastructure provide seamless coverage in all of our instructional and administrative areas. We will be purchasing 30 more wireless access points within our Smart Schools plan which will be installed in 30 individual classrooms whom will be getting new Chromebook Carts this Summer. We have quantified this demand in terms of each enterprise grade wireless access point is designed to optimally handle between 25 and 30 wireless clients so in areas where we have deployed mobile carts we have installed an access point within those locations to handle the wireless needs. Those access points will also help handle the traffic in nearby classrooms as well.



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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.

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**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.**

In this project, we intend to create several makerspaces throughout the district. The middle school and high school makerspaces will be the largest, each permanently housed in the libraries in those two buildings. For our three elementary buildings, we are starting with a traveling model for the makerspaces, which will allow for equipment to be brought right into the classroom or library.

In short, they are spaces where the technology (both high and low tech) is provided for students to collaboratively identify problems and issues important to them, and then creatively set out to address them. Not only does this process teach the sorts of skills like collaboration, strategic planning and organization, and expose them to emerging technologies that they will very likely encounter in their lives beyond school, but it does it in a way that encourages creativity and individuality, thus increasing engagement.

For the most part, the technology we will be purchasing is standalone. The exceptions being: the laptops and iPads, which would be integrated with our existing network and wireless infrastructure, and the laser cutter which will be housed in our tech shop which will allow it to be tied into the existing ventilation system. We have already consulted with our Buildings & Grounds department to ensure the spaces to be utilized can provide adequate power for the remaining equipment.

To form the core of the high technology portions of our makerspaces, we plan on purchasing:

- (10) Dell Latitude 15 3000 Series Laptops
- These will be used in conjunction with the 3D printers, the Makey Makeys, video & photo editing, and for a number of coding/programming applications. They all have built-in wi-fi adapters and will connect to our existing wireless network.
- (2) Ultimaker 2 Extended+ 3D Printer x2, (4) Ultimaker 3 3D Printer, (3) Ultimaker 2 Go 3D Printer, (10) Crafty 3D Printing Pen, Assorted Filament, Hardened Steel Nozzles for the printers using metal filament, Replacement Hot End Kits for the printers, Controllers for the printers which include the ability to monitor prints remotely
- These will form the core of the fabrication components of the makerspaces. Students will be able to design and print custom parts in a range of PLA (non-toxic) filaments. They do not have any special ventilation or power requirements, and are not connected to the network.
- (1) Full Spectrum H Series Laser with a 45 watt upgrade, air compressor for the laser head, exhaust fan for ventilation, focus lens for fine detail jobs, assorted acrylic and anodized aluminum sheets, (1) Dell Optiplex 5040 desktop computer with 24" monitor
- This machine, as mentioned above, will be housed in the high school tech shop in order to take advantage of the existing ventilation system. The laser has the ability to cut and engrave a wide range of materials, and it will, like the 3D printers, be used in custom fabrication of parts for projects in the makerspaces.
- (1) Nomad 883 Pro Desktop CNC Machine, replacement cutters, vise, flip jig, & threaded table for securing materials for machining, fixturing wax for safely and securely affixing materials to be machined
- This machine will also be housed in the high school tech shop, although it does not require separate ventilation. It can be used to machine a range of materials, from wax to wood and metal. One of the main uses of this machine will be in the production of custom circuit boards for electronic devices fabricated in the makerspaces.
- (25) View-Master VR Deluxe for Google Cardboard, (25) Unlocked Motorola Moto E, (3) Ricoh Theta S Spherical Camera
- With the release of Google's Cardboard and Expedition apps, these devices will be used in allowing teachers to not only participate in virtual field trips around the world, but as part of our makerspaces for students to create their own VR experiences using the spherical cameras.
- (2) littleBits Pro Library w/ Wall Storage, (3) littleBits Workshop Set
- The Pro Libraries will be part of the permanent makerspaces in the middle and high schools, and the Workshop Sets will be part of the traveling makerspaces in the elementary buildings. littleBits are a fantastic tools for teaching everything from the basics of circuitry to sophisticated device programming and prototyping.
- (90) Makey Makey kits, (20) Raspberry Pi kits, (20) Arduino kits
- The Makey Makey kits offer introductory level coding and programming experience. The majority of these will be used at the elementary and middle levels. The Raspberry Pi and Arduino kits offer the opportunity to essentially make computerized devices that are fully customizable. These kits will be part of the high school makerspace.
- (3) Sphero SPRK+ Education Pack, (3) Sphero Ultra Ultimate Covers Pack, (6) Sphero Terrain Park, (6) Sphero Jump Ramps
- Spheros are robots which can be programmed using accompanying apps. These devices are often used to teach students the types of thinking that are necessary for successful coding and programming. They will be divided amongst the makerspaces.
- (36) iPad 4 Mini 16GB Wi-Fi (Apple Care NOT included), (36) Rugged Cases for iPad 4 Mini
- These will accompany the Spheros and be loaded with the free apps for programming. Their use will not be limited to the Spheros, however, as there are a number of other coding and programming applications that are available, including some to teach students to develop their own iOS apps.
- (4) Canon EOS Rebel T5 Digital Camera w/ 18-55mm and 75-300mm lenses and bag, (4) Canon 50mm lens & Canon 10-18mm lens, (10) PNY

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SDHC 64GB Storage Card for Canon EOS Rebel T5, (4) Wasabi Power Battery 2 Pack with Charger for Canon EOS Rebel T5, (2) Canon Vixia HF-G20 HD Digital Camcorder, (2) Canon 2591B002 DM-100 Directional Stereo Mic for Vixia Camcorder, (2) LimoStudio Photo Video Studio Light and Chromakey Kit, (2) Vanguard Alta Pro 263AGH Aluminium Tripod, (2) Canon Soft Carrying Case SC-A80 for Vixia Camcorder, (7) PNY SDXC 64GB Storage Card for Vixia Camcorder, (2) Wasabi Power Battery 2 Pack with Charger for Vixia Camcorder

- The middle and high school makerspaces will each house two of these camera packages and one of the camcorder packages. A major part of their use will be for student projects in digital photography and videography; we have a number of students in both buildings interested in digital photography as an art medium, but also photography and videography in connection with journalism.
- The cameras and camcorders will also be used to document projects in the makerspaces. This will give those students interested in the journalism aspect a practical application as we will be maintaining a blog for the makerspaces in order to share what is happening in the makerspaces with the community.

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### Classroom Learning Technology

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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?"

Many students who struggle in a traditional classroom setting feel disconnected from the curriculum. This process often finds its origin in early grades when they struggle to meet grade level goals, either due to academic deficiencies or identified learning disabilities. Very often, as these students get older, they become more disinterested and more hostile toward school in general. For them, school is a necessary evil where their every move is dictated to them.

Makerspaces offer students of every ability level the opportunity to pursue their own interests and passions, while still learning and practicing the higher order thinking skills and collaboration that we are seeking to instill in all of our students. Providing a place where students can acquire skills while they exercise their creativity in innovative projects that address what they are passionate about naturally increases engagement.

The non-traditional setup of a makerspace creates conditions that are perfect for differentiated learning. Because projects are identified and defined by the students themselves, they are empowered to work in ways that they learn best, and intrinsically motivated to work through difficulties. Teachers in these spaces become facilitators first and foremost, rather than disseminators of information. Their primary role is to aid students in finding the best methods and acquiring the right skills to achieve the desired outcome. In these projects, all students can successfully take part, regardless of (or in some cases because of) their preferred mode of learning, or any academic or physical disability. This also creates an atmosphere in which students are encouraged to capitalize on one another's strengths for the good of the whole group, a mindset and skill which will be invaluable in their lives beyond school.

The equipment listed in the above response only tells part of the story of what the makerspaces will include, as you are only seeing the high tech portion. But even there, you see a range of equipment covering a wide spectrum of possible interests. Combined with the low tech supplies and equipment, not reflected in this submission, we are aiming to create spaces where any student can walk in and find a way to explore their passions. As a district with a high level of students living in poverty and student with disabilities, we seek to provide our students with skill sets that will help them be successful in their futures lives. The skills like those listed above, collaborative planning and work, as well as exposure to technologies like 3D printing and computer programming can open doors for them that might otherwise never have even been built.

Currently, districts across New York State, including ours, are seeking to ensure that students with disabilities are provided an education in the least restrictive environment. All too often, students with disabilities become physically and socially isolated from their peers; a process that becomes more and more evident as they move up through the grades. The makerspace project seeks to bring all of our students together in an environment where everyone can create, innovate, and demonstrate their strengths.

To help initiate this process, the makerspaces will include in their project lists the design, testing, and production of assistive technology and adaptive equipment for our students with disabilities. In order to end the isolation discussed above, it is not enough to just "mainstream" students, or to try to pretend as though disabilities do not exist, but rather getting all students to see one another as individuals, who, when we strip away the labels, are much alike. Creating an environment where all students can work together, acknowledge one another's differences and then truly get to know one another is what we are after.

Based on research and publications by experts in the field, such as the University of New Hampshire's Therese Willkomm (<https://goo.gl/ctMjDS>), we will be involving our Assistive Technology Committee, which includes special education teachers, occupational and speech therapists, general education teachers, district administration, and the district's IT Coordinator, in the makerspaces. Several members of this committee have already participated in professional development focused on in-house fabrication of such technology and devices. To this end:

- The committee will identify students with needs that could be met with the technologies available.
- Members of the committee, each student's team, and the staff and students involved in the makerspaces will provide introductory sessions, orienting the students in regard to the equipment and procedures of the makerspaces. These introductory sessions will be tailored to the individual needs of each student.
- These students will then become part of the team of students, made up of all ability levels, in the makerspaces which will, through the design

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process (<https://goo.gl/mW74E6>), create their own assistive technology solutions.

- Beyond the immediate result of creating something to help the individual student, the overarching goal is to encourage our students with disabilities to remain active participants in the makerspaces. Having seen first-hand the value of such programs in meeting the educational and personal goals of all students, including students with disabilities, we will strive for these students to continue on as makers.

**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.**

In our part of New York State, makerspaces in general, and technologies like 3D printers in particular, are relatively rare. As a district, we are always looking for ways to get community members into our buildings so they can see what our students and staff are doing. The makerspaces we are creating will serve as a perfect avenue fostering this sort of involvement. Our preliminary plans to get people to come into the makerspaces include:

- Twice annual maker fairs, where student projects will be showcased. Parents and community members will be able to see completed and in-progress work, meet the student makers, and see the equipment they are using.
- Monthly community maker nights, when parents and community members can get hands-on time with the equipment with the guidance and help of student makers.

We have also been building partnerships with Clarkson University. Our students have been involved in a variety of programs with Clarkson faculty and graduate students including robotics, coding, engineering, and entrepreneurship. We are looking to expand that connection and have plans in place for their direct involvement in our makerspaces as we get them up and running. We are also looking into the possibility of involving students from the teacher prep programs at SUNY Potsdam and SUNY Plattsburgh who might be interested in expanding their experience beyond the more traditional classroom setting.

There is also a growing interest in the region, thanks to the efforts of NERIC and the Model Schools program, to encourage a larger maker culture in northern New York schools. At the Model Schools meetings, there have been discussions about an annual maker fair as well as other ways for districts to share ideas for successful makerspaces. It is our intention, once we have our makerspaces up and running, to take an active role in these efforts.

**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."**

The professional development needed for this project to succeed falls into two categories. The first is training on the new pieces of technology in order for staff to become proficient in their use. Staff members will need more than a simple passing knowledge of how a 3D printer or laser engraver works, how to program a Sphero, or how littleBits and Makey Makeys are assembled if they are to become the facilitators for our students. In order to provide that level of skill, a series of after school workshops will be offered once the hardware arrives. Each series will focus on one particular piece of technology and work sequentially from the beginner to advanced levels.

The second category is in some ways more complex; this involves training teachers in the philosophy behind makerspaces, and how to effectively and efficiently facilitate students in their planning and active collaboration. One factor which does make this professional development easier to plan is that it dovetails nicely with a larger district initiative to promote engaging, student-centered classrooms. In our workshops we will build on these existing themes and help staff see how these same strategies can be applied in the makerspaces. These workshops, unlike the hardware workshops, will initially be grouped into grade level bands. This will allow workshop presenters and participants to focus in on the specific needs of the age groups they will be working with in the makerspaces.

The first category of professional development fits neatly within the scope of question F-1 of the district's 2015 Instructional Technology Plan. That plan describes, among other things, in-house offerings such as the annual Tech Camp and the use of staff surveys to provide data to plan professional development offerings. The workshops needed to familiarize staff with makerspace technologies and ultimately bring them up to expert levels certainly will be included in these offerings.

Also included in the answer to that question is a description of the role of the district's IT Coordinator in providing customized, one-to-one professional development. In addition addressing the second category of professional development in the more traditional workshops and annual Tech Camp, it is this individualized contact that is more likely, in some ways, to help create the philosophy of a "maker culture" in our schools. The IT Coordinator will work with department coordinators and individual teachers to help them see how the makerspaces can be used to teach, enhance, and reinforce their curricula, while fostering the sorts of real world skills we believe are important for our students to acquire.

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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.

SUNY Potsdam

- 9b. Enter the primary Institution phone number.

315-267-2515

- 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.

Dr. Peter Brouwer

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 conducted a meeting with the local non-public school. The school prioritized their needs for computer and wireless equipment to be loaned from Malone CSD based on their pro-rata share of the classroom technology sub-allocation. Once the plan has been approved, the district will purchase the computer and wireless equipment for the school, include those pieces of equipment in the district-owned inventory, and loan the items to the school for their use. The district will require the non-public school to request devices from the district by June 1 of each year.

- 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).

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	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	125,002	2,226	139	2,365	53	7,367

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.

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	0
Computer Servers	0
Desktop Computers	769
Laptop Computers	15,470
Tablet Computers	12,060
Other Costs	96,703
<b>Totals:</b>	<b>125,002</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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Select the allowable expenditure type. Repeat to add another item under each type.	Item to be Purchased	Quantity	Cost per Item	Total Cost
Laptop Computers	Dell Latitude	10	899	8,990
Tablet Computers	iPad Mini 4 16GB Wi-Fi (Does not include Apple Care)	36	335	12,060
Desktop Computers	Dell Optiplex 5040	1	769	769
Other Costs	Dell 24	1	239	239
Other Costs	Ultimaker 2 Extended + 3D Printer	2	2,759	5,518
Other Costs	Ultimaker 3 3D Printer	4	3,215	12,860
Other Costs	Ultimaker 2 Go 3D Printer	3	1,103	3,309
Other Costs	3D Systems Sense 3D Scanner	5	379	1,895
Other Costs	Hardened Steel Nozzles for Ultimaker 2 Extended +	2	24	48
Other Costs	Ultimaker 2 Go Replacement Hot End Kit	9	79	711
Other Costs	Ultimaker 2 Extended + Replacement Hot End Kit	6	206	1,236
Other Costs	Ultimaker 3 BB Print Core Replacement	4	109	436
Other Costs	Ultimaker 4 AA Print Core Replacement	4	109	436
Other Costs	MatterHackers PRO Series 3.00mm PLA Filament - Assorted Colors	390	34	13,260
Other Costs	MatterHackers PRO Series 3.00mm Filament - Glow in the Dark	25	37	925
Other Costs	ColorFabb 3.00mm Filament - bronzeFill	15	44	660
Other Costs	ColorFabb 3.00mm Filament - copperFill	15	44	660
Other Costs	Proto-Pasta 3.00mm Filament - Magnetic Iron	15	30	450
Other Costs	Proto-Pasta 3.00mm Filament - Stainless Steel	15	45	675
Other Costs	MatterControl Touch 3D Printer Controller	5	237	1,185
Other Costs	Crafty 3D Printing Pen	10	85	850
Other Costs	MatterHackers PRO Series 1.75mm Filament - Assorted Colors	16	34	544



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Other Costs	Full Spectrum Laser H Series	1	3,499	3,499
Other Costs	45 Watt Upgrade for 5th Gen H Series Laser	1	250	250
Other Costs	5th Gen H Series Air Compressor	1	150	150
Other Costs	5th Gen H Series Exhaust Fan	1	200	200
Other Costs	1.5 Inch Focus Lens for 5th Gen H Series Laser	1	250	250
Other Costs	1/8 Inch Acrylic Sheets - 12 Inch by 24 Inch - Assorted Colors	150	17	2,550
Other Costs	1/4 Inch Acrylic Sheets - 12 Inch by 24 Inch - Clear	55	20	1,100
Other Costs	Anodized Aluminium Sheets for H Series	49	10	490
Other Costs	Nomad 883 Pro Desktop CNC Machine	1	2,499	2,499
Other Costs	.0625 Inch Flat Cutter for Nomad Pro 883 - 3 Pack	1	25	25
Other Costs	.0625 Inch Ball Cutter for Nomad Pro 883 - 3 Pack	1	25	25
Other Costs	.125 Inch Flat Cutter for Nomad Pro 883 - 3 Pack	1	25	25
Other Costs	.125 Inch Ball Cutter for Nomad Pro 883 - 3 Pack	1	25	25
Other Costs	Low Profile Vise for Nomad 883 Pro	1	120	120
Other Costs	Flip Jig for Nomad 883 Pro	1	120	120
Other Costs	Threaded Table for Nomad 883 Pro	1	100	100
Other Costs	Machinable Fixturing Wax for Nomad 883 Pro	5	10	50
Other Costs	View-Master VR Deluxe for Google Cardboard	25	30	750
Other Costs	Unlocked Motorola Moto E for Use with View-Master	25	90	2,250
Other Costs	Ricoh Theta S Spherical Camera	3	340	1,020
Other Costs	LittleBits Pro Library w/ Wall Storage	2	4,999	9,998
Other Costs	LittleBits Workshop Set	3	1,999	5,997
Other Costs	Makey Makey Invention Kit	90	42	3,780
Other Costs	Raspberry Pi Starter Kit	20	75	1,500
Other Costs	Arduino Starter Kit	20	76	1,520
Other Costs	Sphero SPRK+ Education Pack	3	1,200	3,600
Other Costs	Sphero Ultra Ultimate Covers Pack	3	100	300

**Smart Schools Investment Plan - MALONE - Submission 1**

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Other Costs	Sphero Terrain Park	6	20	120
Other Costs	Sphero Jump Ramps	6	20	120
Other Costs	Canon EOS Rebel T5 Digital Camera with EF-S 18-55mm IS II, EF 75-300mm f/4-5.6 III, and bag.	4	449	1,796
Other Costs	PNY SDHC 64GB Storage Card for EOS Rebel	10	20	200
Other Costs	Wasabi Power Battery 2 Pack with Charger for Canon EOS Rebel T5	4	21	84
Other Costs	Canon EF 50mm f/1.8 STM and EF-S 10-18mm F4.5-5.6 IS STM Lens Kit	4	319	1,276
Other Costs	Canon Vixia HF-G20 HD Digital Camcorder	2	799	1,598
Other Costs	PNY SDXC 64GB Storage Card for Vixia	7	20	140
Other Costs	Wasabi Power Battery 2 Pack with Charger for Canon Vixia	2	45	90
Other Costs	Canon 2591B002 DM-100 Directional Stereo Mic for Vixia	2	190	380
Other Costs	Canon Soft Carrying Case SC-A80 for Vixia	2	30	60
Other Costs	LimoStudio Photo Video Studio Light and Chromakey Kit	2	145	290
Other Costs	Vanguard Alta Pro 263AGH Aluminum Tripod	2	180	360
Laptop Computers	Dell 11 Chromebook **Nonpublic**	27	240	6,480
Other Costs	Cart for Dell 11 Chromebooks **Nonpublic**	1	887	887
Other Costs	iPad Mini 4 Rugged Case by AVAWO	36	12	432
Other Costs	NylonX 3.00mm Carbon Fiber Filament	15	52	780

## Smart Schools Investment Plan - MALONE - Submission 1

## Pre-Kindergarten Classrooms

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.

**Smart Schools Investment Plan - MALONE - Submission 1**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 - MALONE - Submission 1

## 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 - MALONE - Submission 1

### High-Tech Security Features

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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.**

Due to violent events that have taken place in schools over the last decade, improvements to building security has been a priority for Districts all over the country. Malone CSD has taken affirmative steps to ensure students, faculty and visitors are as safe as possible while they occupy school buildings each day. Additional measures, including updating and providing for additional security cameras is a funding priority based on feedback from student groups and building administrators.

The district will be replacing analog cameras at all five building locations with I/P cameras, which are digital and will improve the quality of the video. This camera renovation will include additional camera equipment in locations currently not being served by existing cameras. Thus, the district has obtained a project number from SED Facilities Planning so that the new camera locations can be reviewed and approved by their office.

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
161501067999003

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
Thomas Kenney	15921

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	137,187
Entry Control System	(No Response)
Approved Door Hardening Project	(No Response)
Other Costs	10,000
<b>Totals:</b>	<b>147,187</b>

## Smart Schools Investment Plan - MALONE - Submission 1

High-Tech Security Features

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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
Electronic Security System	HD vandal resistant camera - indoor	79	532	42,028
Electronic Security System	Camera installation	113	365	41,245
Electronic Security System	HD vandal resistant camera - outdoor	19	1,752	33,288
Electronic Security System	HD interior dome camera - indoor	15	1,123	16,845
Electronic Security System	wall mounting brackets	19	199	3,781
Other Costs	engineering services	1	10,000	10,000

**Smart Schools Investment Plan - MALONE - Submission 1**

Report

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**Smart Schools Investment Plan - MALONE - Submission 1**

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