2020 Bond Educational Technology
Frequently Asked Questions
September 2023

What items will be included in the 2020 Bond Educational Technology Improvement?
The three areas that the school Bond 2020 Educational Technology Improvement projects will cover will include **classroom modernization**, **infrastructure** and **security**. In addition, administrators, teachers, and students will receive a device refresh. The new laptops will be used for school and classroom assignments. Please note, each school will have its own project plan and therefore may not include all areas that are described below. For updates on each of these areas please visit the project status and timeline.

Details of the classroom modernization and **infrastructure work:**
- A new fiber optic backbone will be added to each school that will increase connectivity, speed and durability.
- Wi-Fi networks will be placed in each classroom so teachers and students will no longer feel the effects of slow internet speeds. Currently, Wi-Fi is shared between classrooms and speeds can slow when more devices are added.
- Wi-Fi networks will also be added to non-classroom spaces. This will allow teachers to be more mobile and creative in choosing their class spaces allowing for more optimized school space utilization.
- Each classroom will be upgraded to include a wall phone, a desktop computer with a monitor station, a wall-mounted laser projector with an Airtame unit, and a 100" pull down projector screen.
- An audio amplification and enhancement system will be added to classrooms so that a teacher's voice can be heard at an equal level at any place in the room. It will also come with a student engagement microphone in addition to the teacher's microphone. This technology has been demonstrated to improve academic achievement and speech perception and increased on-task behavior.
- A new gym call box will be installed by the main entrance to the gym as part of the school's emergency response plan.

Details of the security work:
- District-wide cyber security assessment
- Regular infrastructure project updates

What is the schedule for the work?
In order to effectively administer the work across the entire district, the Classroom Technology Improvement Project is starting the work through a pilot program at four schools: Boise-Eliot, César Chávez, George Middle School, and Lane Middle School. The pilot program work started in November 2021.

The pilot program will allow the project teams to apply lessons learned in those schools when the program is rolled out across the entire district. This will help ensure that future work will be accomplished in the most effective and efficient manner.

The rollout schedule criteria will center around Diversity, Equity and Inclusion. More details will be made available as the pilot program develops To track the progress of the pilot program please consult the [project timeline](#).

How were the schools in the pilot program selected?
Boise-Eliot and César Chávez were originally selected as part of the pilot because of the student populations they serve, the age of their buildings, and serving as both a small school and larger school that would require the full installation of all components of the modernization efforts. These two schools would provide valuable information about timing and effort that could be applied to all schools, and help to inform the efforts for all of the remaining buildings in the district. George and Lane were both added as a result of being added to the Verizon Innovative Learning Schools grant. Both schools needed to be included to get the full wireless coverage the schools needed to participate fully in this grant effort.

How long will the Educational Technology Improvement Projects take for each school?
Each school will have different levels of work that will need to be done based on the size of the school, age of the building, and other factors. It is estimated that on average the work at each individual school will take from twelve months to fourteen months to complete.

Will this project be replacing the existing whiteboard, chalkboard, bulletin board, Smart Board or interactive projectors that are on the teaching wall in the classroom?
As part of the 2020 Bond SmartBoard and Interactive Projectors will receive a new wall-mounted laser projector and projector screen that will be used with the new Airtame unit so that those classrooms are in alignment with the District's classroom technology standard. PPS does not support the SmartBoard and interactive projectors. The common model of the interactive projector that has been used has been discontinued by Epson.

The Interactive Projectors will be replaced with the new non-interactive wall-mounted laser projector and the existing whiteboard will remain on the teaching wall. Existing whiteboards, chalkboards, and bulletin boards that are currently on the teaching wall will not be removed.

Will the teaching station computer and the additional classroom tech be installed at the same time?
No, the new teaching station computer and new monitor will be installed first in each of the classrooms. Classroom teaching stations will receive a new Chrome desktop computer unless

the classroom curriculum falls under a CTE program or High School Science or music program in which case the default computer will be a Windows computer.

In phase two of the classroom tech installation, the new wall-mounted projector with the Airtame units, a new projector screen, Lightspeed surround sound system, and the new gym call box will be installed. The reason for the delay is phase two will take longer for the installation and we want to ensure all teachers have updated computers to utilize ahead of the additional classroom tech installations.

How long will it take to complete the work across the entire district?
It is estimated that it will take up to five years to complete the teaching station refresh and up to nine years to complete all the tech modernization work. However, COVID 19 has had significant impacts on product supply chains and the construction labor market. It is possible these impacts could cause delays on any current or future Bond projects including the Educational Technology Improvements.

Where can I find the status of my school's technology upgrade?
You can find out the status of your school's work on the 2020 Bond Education Technology Dashboard.

How can I ask questions about the Educational Technology Improvement project?
The Portland community is encouraged to submit their questions, comments and compliments on the Let's Talk tab on the 2020 Bond webpage. Inquiries will be followed up by a PPS OTIS staff member.

Will the construction and upgrade work cause disruptions in the schools?
PPS OTIS has approved work to be conducted outside of regular school hours so that the Educational Technology Improvement projects will be the least impactful to students and teachers' classroom experience. This allows teachers and students to participate fully in their classrooms during the day. Work at each school will take one to four months to complete per school due to the work that is needed for the technology improvements, the age of the building and specific building complexities. The classroom technology will be installed in two phases, the first phase will include the new Teaching Station Computer and monitor. The second phase will include the additional classroom technology that has previously been mentioned above.

What is the communication plan for all stakeholders throughout the 2020 Bond Educational Technology Improvement phases?
OTIS staff and school Principals will walk through each school during the design phase to confirm the placement for tech modernizations in the classroom and non-traditional classroom spaces. OTIS project managers will keep them up to date throughout the process.

School administrators, teachers and the Portland community will be updated throughout the project schedule. This 2020 Bond Educational Technology Improvement webpage will include project status updates, the school groupings, and a list of additional opportunities for

community engagement. In an effort to communicate effectively to all community members, the PPS website includes a translate button at the bottom of the website that enables community members to read the website updates in their home language.

Will all schools get the same technology or will it be updated as technology advances over that timeframe?
The technology that will be used for the educational technology improvements are standard classroom technology items as much as possible throughout the district schools based on what technology can be fully updated and supported by OTIS in the future. All items that will be installed are standard classroom technology items and are not projected to have significant improvements in the technology in the near future. Items will include a laser projector, a projector screen that is optimized for projectors that won't have glare, in-classroom teacher and student microphones, and in-classroom Wi-Fi networks. The fiber backbones that will be installed will enable upgraded tech in the future. The Wi-Fi networks over time will need to be updated with future Bonds.

Why are you upgrading the laser projectors?
Teachers will be able to have a higher quality image when they are utilizing the new laser projectors. The bulbs are long-life lasers and therefore will help to support the PPS environmental objectives. In addition to being more energy efficient, laser projectors are also more visible in adverse lighting conditions. Each classroom will also have a new projector screen that will be mounted to the wall for the laser projectors to use. If the gym has an existing tech cart the existing projectors will be replaced with a laser table-top style projector.

Will these tech upgrades enable classes to be offered as hybrid classes with students attending in-person and some attending remotely?
The educational technology improvement project, infrastructure project, and One2One device deployment projects that are made possible by the 2020 Bond do include in-classroom Wi-Fi networks which will increase classroom efficiency. Teachers will be able to move between traditional and non-traditional classroom spaces due to school-wide fiber backbones. The audio amplification project will improve sound quality for all participants and teachers for in-person learning environments. The audio amplification project will improve audio capture for teacher-to-virtual attendee communications. The 2020 Bond does not include in-classroom microphones beyond the teacher microphone and the student engagement microphone.

Why is classroom audio amplification important?
Teachers and students will feel refreshed in these upgraded classrooms because of the addition of audio amplification enhancement. Instead of projecting their voice to the farthest point of the classroom, teachers will now be able to speak in a regular tone. Audio amplification projects have had proven results through case studies for schools across the United States.

Beaverton School District noticed after they added audio amplification to their classrooms that it "helped students practice listening skills without straining to hear. And it provided all students with equitable outcomes."

The summary also noted previous "research concluded that students who can benefit from classroom amplification, in addition to students with hearing loss, include:
- children younger than age 15
- students sitting in the back of the class, who may miss up to 30 percent of what their teacher says
- students struggling academically
- students in a noisy classroom environment
- students in a team-teaching environment
- students with a soft-spoken teacher
- learning disabled students
- and English language learners.

Will the audio amplification project create closed captions for the participants on the screens while people talk?
No, the closed captions would not be automatically created from the audio amplification Lightspeed system. Closed captions can be added into presentations that the teachers create if there are any videos that are shown to the class participants virtually or in the classroom. Due to the new Airtame 2 units that will be installed in classrooms, teachers can also use any device to share their screen on the new projector screens throughout the school.

Who provides project oversight?
PPS OTIS project status reports are submitted quarterly to the Citizens Bond Accountability Committee (BAC). Project managers also communicate key information to the School Board at regular subcommittee meetings.

Why is Marshall included in the program? I thought that school was closed.
Marshall is being used as a swing school to help host students while their schools are being renovated. Currently, for the 2021-2024 school years, Marshall is home to students from Benson Polytechnic High School.

Why are Roosevelt, Franklin, Grant, and Faubion on the list? I thought they were already renovated. Roosevelt, Franklin, and Grant High Schools, and Faubion PK-8 were modernized or rebuilt through the 2012 Bond. However, those schools will still need updated Wi-Fi Networks and classroom technology items that were not available or funded through the 2012 Bond. The Educational Technology portion of the Bond 2020 focuses on updating technology and creating an equitable standard across schools in the district. This will ensure those schools have the same high-quality standard for technology that can be found in all classrooms.

What is the standard height of classroom whiteboards?
- Kindergarten dry erase boards should be measured from the floor to the bottom of the whiteboard and be no more than 30 inches (AFF).
- Middle school dry erase boards should be measured from the floor to the bottom of the whiteboard and be no more than 32 inches (AFF).

- High school dry erase boards should be measured from the floor to the bottom of the whiteboard and be no more than 36 inches (AFF).

What type of teaching station computer will be installed in my classroom?
The Bond 2020 teaching station computer will be determined in your school's design phase when the Principal submits the list of classroom curriculum per room, and based on what type of device is already in the classroom. **The standard for all classrooms will be a Chrome desktop teaching station including:**

- All Language programs including Chinese, Japanese, Spanish, Russian, Vietnamese, and Arabic language classes
- All K-8 classes including PE/health, math, and science

Chrome desktop teaching stations will be the default in district wide classrooms unless the classroom curriculum fall into the following types of curriculum:

The following classroom curriculum will receive a HP 600 desktop teaching station:
- High School Music
- High School Science
- High School Math
- All programs that have the same curriculum as CTE classes including:
  - automotive
  - audio production and broadcasting
  - business management
  - Mass communications/mass studies
  - Design and applied arts
  - hospitality/culinary arts
  - Transportation
  - agriculture
  - health science
  - childcare or teen centers

The following classroom curriculum will receive a Z2 desktop teaching station

- High School computer science with graphics cards (to be in alignment with the fully modernized schools)
- All Makerspaces (to be in alignment with the fully modernized schools)
- High School Engineering with CAD software (to be in alignment with the CTE curriculum)
- High School robotics labs with CAD software (to be in alignment with the CTE curriculum)
- High School construction and manufacturing with CAD software (to be in alignment with the CTE curriculum)

The following classroom curriculum will receive a Apple Studio desktop teaching station for Mac labs

- High School Digital Design: Graphic design and video production (to be in alignment with the CTE curriculum).

Can I utilize my new Airtame unit that is connected to the new teaching wall's wall-mounted laser projector to stream videos? If not, could I utilize my Chromecast plug-in that I have from home?
The Airtame units will be able to project from any device to the projector, but it is not intended for streaming videos. If utilized for video the audio and the video will not sync due to the delay for streaming. Chromecast plug-ins are not an option for schools because they are intended for home usage and not for commercial usage.

Can I utilize my new Chrome desktop computer for Google Meet or Zoom video meetings?
The new Chrome desktop computer won't have a mic nor a video camera. We would recommend using the Pixelbook or Chromebook laptop that each teacher utilizes as their mobile device for those types of virtual meetings. The Chrome desktop is intended to ensure there is a teaching station connected to the projector and other classroom tech in each classroom, in addition it ensures each teacher can access their files from anywhere in the building with their personal login with files stored in the cloud as well as ensures there is a teaching station computer for substitutes.