

EDUCATIONAL & FACILITY IMPROVEMENT SUMMARY

02 27 2020

Staff has identified technology, curriculum and special education classrooms as priority scopes of work within the Educational Improvements category. Roofs, mechanical systems, security, seismic, and ADA were identified as priority scope of work within the Physical Facility Improvements category of work. Though both categories of work have many other essential needs, these scopes regularly rose to the top during discussions on need, priority and impact. Below are summaries of each.

EDUCATIONAL IMPROVEMENTS

TECHNOLOGY

Having a resilient and functioning technology infrastructure is an essential core for providing an effective school experience for our students, teachers, and staff. The technology infrastructure is critical in all aspects of the operations and functions throughout the district. The technology and network infrastructure provides the basis from which many of our most critical systems function. Starting with the Student Information System (SIS), our phone system which is our most critical element of communication, all electronic communication, access to our financial and human resources system (ERP), security access controls for our automated door locks, security cameras, paging systems, all require an up to date and well maintained infrastructure. Our classrooms and instructional materials are also dependent upon the same infrastructure to provide attendance, curriculum, communications (email, phone, and video conferencing), access to the Internet, electronic courses, learning management systems (LMS), instructional applications and a myriad of other resources. Without a healthy and well maintained core infrastructure all of those resources are at risk of failing at critical times.

Cyber security is also a component of a healthy core infrastructure. Technology changes rapidly and the advances in technology bring those same advances to the bad actors on the Internet. Aging and out of date infrastructure provides open opportunities to exploit the holes presented to be able to run malware, ransomware, and other acts of cyber crimes that put our student data, staff data, and critical resources at risk.

The infrastructure at PPS has been ignored and unattended to for many years and is so out of date that we are at risk of failing systems and leaving us vulnerable to cyber attacks. In order to provide the best educational opportunities, and in order to provide equitable access to all of the rich resources technology can make available, PPS needs a large investment to erase the technical debt that has accrued over the past 2 decades. The first, and best, of the three options presented below builds a plan to reverse the years of neglect and will bring our infrastructure up to an operational standard that will be reliable, resilient, secure, and more easily maintained. This investment will also provide the devices necessary for students to access all the abundant resources available in a fully realized digitally enabled school district. Additionally, it will lay the needed foundation from which we can build a cyber security program to help defend against the myriad of bad actors and malicious attacks which are increasing rapidly across the country specifically targeting school districts.

Budget Options

A. \$231,300,000 - Provides all of the resources to refresh and ensure a modern and resilient core infrastructure, one-to-one student programs in grades 6-12, and a 2-to-1 device ratio in grades K-5. Builds a modernized and equitable learning space in all learning spaces across the district that have not already been through a modernization process and ensures that all students have access to the tools, resources, and information a digitally realized district can provide. This also includes the the funding to replace our 20 year old ERP system and a phone system that is end of life and will soon be out of support. Additionally these funds will provide the contracted resources required to complete the many projects this effort will require.

B. \$187,000,000 - This option contains all of the needed infrastructure improvements that are needed at this time. It also includes the modernized and equitable learning spaces. As well as the ERP replacement. The main difference between this option and option A is the type of device made available in the 6-12 one-to-one program. This option provides students with a Chromebook rather than a Windows based computer. Additionally it reduces the number of devices available in grades K-5. Additional reductions have been made to the amount and number of contracted services which will be required to complete these projects.

C. \$145,000,000 - The additional reduction in costs for this option comes by removing almost all of the cost to replace the ERP. Some monies were left for the ERP to use the last two years of the bond process to complete the first two years of planning and process mapping, and to let an RFP for the acquisition of the next ERP which would position the district to be able to move forward seamlessly with the next bond effort to the implementation and migration to the new system. Additional reductions were made to the one-to-one program in grades 6-12 which would rely on a sufficiency model in which only students who could not provide a device of their own would receive a district provided device. Additional reductions were also made to the number of devices made available to students in K-5. And finally reductions in the number of contractors required to carry out bond related projects and the removal of all operational projects.

	Option A	Option B	Option C
Infrastructure and Security	\$62,000,000	\$62,000,000	\$67,000,000
Device Replacement and Refresh	\$70,000,000	\$40,000,000	\$34,000,000
Classroom Modernization	\$33,000,000	\$26,000,000	\$20,000,000
ERP Replacement	\$38,000,000	\$38,000,000	\$11,000,000
Implementation Services	\$22,000,000	\$16,000,000	\$13,000,000
Operational Projects	\$6,300,000	\$5,000,000	\$0
	\$231,300,000	\$187,000,000	\$145,000,000

CURRICULUM

In 2017 Portland Public Schools began revising its core curriculum to guarantee equitable access to learning opportunities for all students. At the center of the work is Portland Public Schools' mission that every student is prepared for college and career, and meaningful choices in life. The development of a Guaranteed and Viable Curriculum (GVC) promotes the intentional collaboration of district departments

and schools in an ongoing effort to ensure student achievement and success remain central to all program decisions and initiatives.

The GVC begins with a quality curriculum. Portland Public Schools has not been able to prioritize the adoption of comprehensive instructional resources; as a result, students have been using outdated instructional resources that impact their learning. The funds requested would support purchasing materials that would not only bring instructional resources current, but would allow the district to get back on the state’s materials adoption cycle. For the first time in decades, PPS would have the full complement of resources for students across subject areas.

Budget Options

A. \$41,384,000.00 - Full funding would allow for the adoption of comprehensive and current instructional materials, across all subject areas, K - 12. This would lead to a) students working with standards-based and updated instructional materials, and, b) would allow for a return to the full Oregon textbook adoption cycle.

B. \$32,384,000.00 - Funding at this level would mean deprioritizing some content areas from adoption, and focusing the adoption across core subject areas, including language arts, math, and science. Unfunded curricular areas would continue to be supported with supplementary instructional materials. We may still be able to participate in the adoption cycle, but only in those prioritized content areas.

C. \$30,884,000.00 - Funding at this level would mean not only deprioritizing some content areas for adoption, but would mean reducing the amount of funding across the content areas for funding, leading to incomplete adoptions in language arts, math, and science. We would not be able to follow full adoptions within the adoption cycle.

	Option A	Option B	Option C
Mathematics	\$6,300,000	\$6,300,000	\$5,300,000
Social Sciences	\$2,000,000	\$0	\$1,000,000
Language Arts	\$8,000,000	\$8,000,000	\$6,000,000
World Languages	\$1,000,000	\$0	\$500,000
Science	\$7,084,000	\$7,084,000	\$6,084,000
ESL	\$2,500,000	\$0	\$2,000,000
Health	\$1,750,000	\$0	\$1,500,000
PE	\$1,750,000	\$0	\$1,500,000
Arts	\$11,000,000	\$11,000,000	\$7,000,000
	\$41,384,000	\$32,384,000	\$30,884,000

SPECIAL EDUCATION

The educational suitability assessment completed as part of the FCA identified many District facilities as poor or unsatisfactory to deliver special education (SPED) programming. Many of the SPED instructional spaces receiving this designation scored low due to inadequate storage, poor acoustics, and suboptimal location within the building.

Planning & Real Estate staff began meeting with the SPED leadership in August 2019 to outline capital investments that could improve SPED spaces. Through subsequent questionnaires and interviews SPED leadership identified flexible, portable furniture and equipment as high priority investments for SPED classrooms. Examples include mobile storage units, soft seating, and portable room partitions. This approach offers a balance of flexible, adaptive classroom configurations with visual and acoustic mitigation to support distraction-free, small group instruction.

Budget Options

A. \$22,300,000 - Provides the resources to equip or update the current focus option classrooms in the District with furniture and fixed equipment aligned with PPS standards and identified by SPED leadership as high priority investments for classroom improvements. The District currently supports 82 focus option SPED classrooms; many of these classrooms are overcrowded so some allowance for expansion is accounted for here. Beyond furniture and equipment aligned with PPS standards, this option includes an allowance for classroom modifications. These modifications include acoustic baffling, replacement of fluorescent lights with dimmable LEDs, and built-in casework, to name three important examples. Combined, the addition of District standard furniture and equipment with classroom modifications will support both the instructional requirements of special education staff and the sensory-needs of our students.

B. \$13,400,000 - This option would include the same set of improvements outlined in the above option (A) but would affect fewer classrooms. The amount proposed is the mid-point between option A and option C, outlined below.

C. \$4,500,000 - This lowest amount would cover the purchase and installation of furniture *only*. The option would offer some ability for SPED staff to create small, structured instructional spaces within classrooms but would be limited in its ability to provide a distraction-free learning environment. Perhaps most importantly, this option would offer the least ability to create sensory support spaces within classrooms, potentially exacerbating incidents of emotional dysregulation.

ADDITIONAL SCOPES OF WORK

In addition to the above priorities, PPS has many educational improvement needs including physical education (PE), athletics, visual and performing arts (VAPA), among others.

The educational suitability assessment identified visual and VAPA and PE as programs underserved by our facilities. In both cases, facility constraints around available space for existing programs were observed. Regarding PE, there are currently nine schools in the District without dedicated gyms (i.e. PE takes place in dual-purpose spaces such as cafeteria-gyms). To be sure, these dual-purpose spaces present significant challenges to fulfilling the number of PE minutes required by state law (HB 3141). Outdoor covered play structures offer a viable option to extend the space available for physical education. Across the District's K-5s, K8s, and MSs, 46 currently *need* covered play structures. District staff are working to develop a prototype to expedite the design and permitting process for these structures. Cost estimates for this prototype are expected by May 2020.

Regarding visual and performing arts, the educational suitability assessment identified 18 schools with VAPA programming without dedicated visual or performing arts spaces. In such cases, arts programming migrates between general-use classrooms, often without vital facility supports such as sinks, storage, and tackable wall surfaces.

Athletics is another area that could benefit from significant capital investment. Many of PPS's sites lack the facilities to provide robust athletic programming and events. PPS athletics will be a part of the forthcoming capital planning efforts that will identify overall needs and priorities. Some athletic capital needs have already been identified, including Grant Bowl, West Sylvan fields, furt fields at various high schools, etc.

PHYSICAL FACILITY IMPROVEMENTS

ROOF

Maintaining roofing systems is essential to creating spaces conducive to learning and avoid serious facility conditions such as:

- Structural deterioration: Continual exposure to water exposes wood in roofs to mold and rot. This can weaken the framing considerably and cause a roof collapse which is a serious threat to your personal safety and the structural integrity of your home.
- Interior damage: Like water, the problem can trickle downward causing damage to the rest of your building, including ceilings, flooring, electrical systems, furniture and equipment.
- Health problems: Wet and damp conditions promote mould growth and create unhealthy conditions.
- General inconvenience: Smaller issues are easier to fix than large ones. A badly damaged roof takes days to repair which is a major inconvenience, not to mention the impact it can have on your energy bills and overall comfort.

The FCA identified approximately 150 deficiencies in categories 1-4 at over 60 sites. Roofing components that need to be repaired or replaced can range from relatively small scopes such as broken access hatches, to large concerns including deteriorated roofing membranes and regular water leaks. Anticipating the performance of any individual roofing is an inexact science, however staff estimates approximately 30 sites will require a full or majority roof replacement in the next 5-10 years with about 25 of those needing replacement within the next 3-4 years.

Budget Options

A. \$182,000,000 - Based on the current information available this amount is Staff's best estimation of the budget needed to respond to critical roofing needs over the course of the bond (approximately 30 roofs). Some roofs are likely to perform better than currently anticipated while others worse. Additional budget could be made available from Program Contingency to address additional roof needs that may arise during the course of the bond program.

B. \$145,000,000 - An alternative option is to budget the amount to address the sites estimated to require full or major roof replacement in the 3-4 years only (approximately 25 roofs).

Notes:

- Staff anticipate being able to replace 3-4 roofs per summer.
- Roof replacements often include ancillary scope of work including roof level seismic improvements, additional building insulation, replacing outdated rooftop equipment, etc.
- Consistent with current practice, staff will convene regularly to review current roofing conditions and reprioritize/sequence roofing work based upon facility need.

MECHANICAL

Mechanical system impacts to teaching and learning spaces range from simple discomfort (both hot and cold) to, poor indoor air quality, costly emergency repairs and even school closures due to lack of heat. Along with roofs, mechanical deficiencies are PPS's largest facility need with dozens of schools having major mechanical system components in currently critical condition. Temperature issues are the most common complaints from school staff with over 6,000 mechanical system work orders submitted last year alone.

The FCA identified approximately 1,800 deficiencies in categories 1-3 at over 80 sites, with the majority of the deficiencies noted in category 1 (Currently Critical) or 2 (Potentially Critical). Additionally the FCA identifies over 50 sites that have repair/replacement costs exceeding \$1 million.¹

Mechanical systems have many complex, dependent components making it challenging to predict a system's performance, identify the root cause of failure, design needed fixes and estimate the total cost. Detailed assessment by professional mechanical engineering firms is necessary to determine how to resolve a failing or poor performing system. However, based upon the FCA data, it's reasonable to assume many of the systems that have estimated costs exceeding \$1 million in categories 1 and 2, will require full or majority system replacements over the life of the bond. Additionally, it is reasonable to assume many other systems will require significant capital expenditure to maintain performance.

Staff estimates full mechanical system replacements average approximately \$10 million (depending on type of system, size of school, hazardous materials present, condition of ductwork, etc.). The FCA data points to large portions of systems in the majority of the schools needing significant repair or full/majority system replacement. Considering contractor availability, staff capacity, impacts to schools with these and other major capital projects, staff estimates approximately as many as 5 large mechanical system projects could be completed annually, plus additional smaller projects.

Budget Options

A. \$200,000,000 - Staff recommends budgeting to complete 5 large mechanical projects each year at an average cost of \$5 million per project (assuming some projects will require full system replacement,

¹ The FCA estimates hard costs only. This estimate excludes projects costs including design, permitting, escalation, management, and contingency.

while others will require only targeted improvements). This amount would address approximately 40 of PPS highest priority sites. Additional smaller projects would also be completed over the course of the bond. Additional budget could be made available from Program Contingency to address additional HVAC needs that may arise during the course of the bond program.

A. \$120,000,000 - An alternative option is to estimate completing 3 large mechanical projects per year; \$15 million per year for the length of the bond (8 years). This amount would address approximately 24 of PPS highest priority sites.

Notes:

- Staff anticipate being able to complete as many as 5 mechanical systems per year. Work would largely take place over summer with some work also taking place during the Fall (before the heating season begins).
- Staff will convene regularly to review current mechanical system performance and reprioritize/sequence work based upon highest need.

SECURITY

PPS staff, students, parents and community members regularly emphasize the need for improved security systems throughout the district. The 2017 bond Secure Schools project is currently installing electronic access controls systems, updated public address system speakers, and other improvements at all schools in the district, but additional improvements will be of significant value.

Staff estimates \$26,500,000 will support adding locking hardware to all classroom doors throughout the district, along with additional security cameras and updated intrusion alarm systems.

Budget Options

A. \$4,000,000 - Staff estimates this amount will allow for the District to upgrade all classroom door locks to the current district standard that allows for a door to be secured from the inside of a classroom. Currently the majority of classrooms throughout district require use of a key or of a sub-standard lock to secure a classroom door.

B. \$20,000,000 - Staff estimates this amount will allow for additional surveillance systems. The estimate is based on \$1.56/Sq.Ft. plus contingency and lifecycle support costs. The majority of non-modernized schools are limited to one surveillance camera. A single camera is not adequate in monitoring, deterring or preventing unwanted activity.

C. \$2,500,000 - Staff estimates this amount will allow for the upgrade and/or replacement of intrusion systems in all non-modernized buildings. The existing intrusion systems are antiquated. Systems do not allow remote programming and cannot be integrated with other building security systems(access control/surveillance).

SEISMIC

Although all new and modernized facilities meet seismic code requirements, and a number of PPS sites have received incremental seismic improvements in recent years via with roof replacement projects or other targeted improvements, few of PPS current buildings meet current seismic code.

Seismic deficiencies were not a scope within the FCA, however reviewing previous cost estimates places the total cost to bring all PPS sites up to current code at over \$1 billion. In addition to being costly, seismic retrofits are also very invasive, and time consuming; often larger scale projects cannot be completed over a single summer.

In reviewing options for seismic retrofits, Staff reviewed smaller schools that are both on the City of Portland URM database, and are likely to receive a full roof replacement in the near future (roof replacements include seismic improvements and offer an opportune time to complete simultaneous seismic retrofits). Staff identified 9 schools that are on the City of Portland URM database and are likely to be included in a full roof replacement as a part of this bond effort.

Budget Options

A. \$66,000,000 - Staff estimates this amount could retrofit up to 9 smaller schools that are on the City of Portland URM database and are likely to be included in a full roof replacement as part of this bond effort.

B. \$45,000,000 - Staff estimates this amount could retrofit up to 6 smaller schools that are on the City of Portland URM database and are likely to be included in a full roof replacement as part of this bond effort.

C. \$15,000,000 - Another alternative option would be to budget for up to 3 of the smallest schools that are on the City of Portland URM database and are likely to be included in a full roof replacement as part of this bond effort.

Notes:

- Staff preliminary identified schools that comprise the above options. Further review and development of scope would take place before confirming sites.
- PPS has received multiple Seismic Rehabilitation Grant Program (SRGP) grants in the last 8 years. These grants offer significant funds toward completing seismic improvements, but do not offer enough to complete full retrofits. Allocating funds for seismic improvement will allow Staff to continue to pursue this (and other) matching fund sources.

ADA

Few schools within the PPS portfolio are fully accessible per ADA requirements and the current estimate to bring all sites up to current code exceeds \$100,000,000. There are currently 28 multi-level schools without elevators. PPS is in the process of updating it's ADA Transition Plan and is currently engaging community feedback. The ADA Transition Plan update process has looked at various options for phasing of improvements.

Budget Options

A. \$29,600,000 - Staff estimates this amount would allow the District to remove barriers at the main level District-wide. This option would allow building administrators to shift programs within schools to accommodate students experiencing disability.

B. \$17,100,000 - Staff estimates this amount would allow the District to remove barriers at two K-5s, one MS, and one HS, per cluster. This option would provide greater support for students experiencing disability by reducing transportation needs, potentially allowing these students to remain at their neighborhood school. Please note this option identified the most affordable path to accessibility; issues around transportation, geography, or site condition were not considered. The advantage with this option, of course, is that it allows two choices at the K-5 level, reducing the transportation onus on the most vulnerable of our student population.

C. \$11,000,000 - Staff estimates this amount would allow the District to make fully accessible one K-5, one MS, and one HS, per cluster. Providing at a minimum of one fully accessible school configuration in each cluster. Please note this option identified the most affordable path to accessibility; issues around transportation, geography, or site condition were not considered.

ADDITIONAL SCOPES OF WORK

PPS has many other critical physical facility needs including plumbing systems, electrical systems, asbestos remediation, energy improvements, flooring replacement, play structure repair, foundation work, etc. Staff acknowledges the need for physical facility improvements exceeds the funding capacity of a single general obligation bond, however it will be important to allocate some funds to address the highest needs amongst these and other scopes, and allow for flexibility to respond to critical needs as they arise.