PORTLAND PUBLIC SCHOOLS

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Date: **January 18, 2024**

To: Board of Education

From: Dan Jung, Chief Operating Officer

Subject: General Obligation Bond Planning

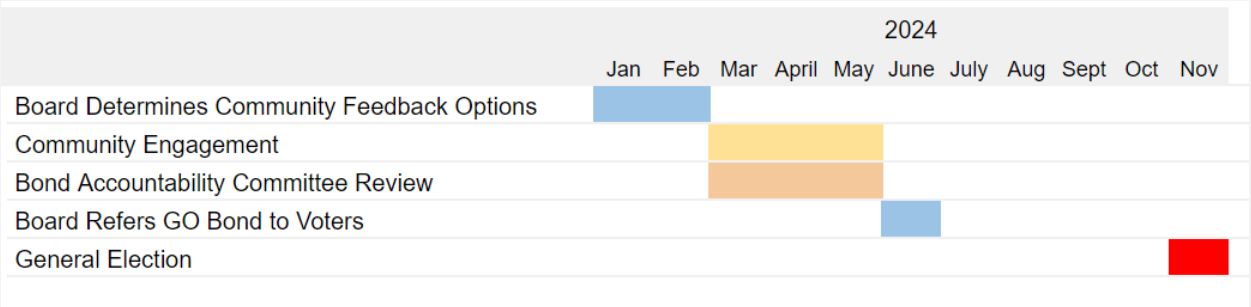
Introduction

The next general obligation bond (GO bond) is anticipated to be presented to voters in November 2024. In order to refer a GO bond package, the District must determine:

1. The amount of the GO bond
2. The financing plan
3. The scope of work

To meet the November 2024 goal, a GO bond referral must be made no later than August. It will be important that these decisions be made quickly to allow time for further scope refinement, review by the Bond Accountability Committee and community input.

Below is a sample GO bond development schedule.



The District has numerous guiding documents that can help inform these decisions as a number of variables need to be considered when making decisions about bond planning, including PPS's priority capital needs, existing GO bond debt, district and market capacity, future maintenance obligations and more.

The following information is designed to lay groundwork for the building of a future bond package by providing capital scope and financial data to inform the community and Board's work.

Note: it may be helpful to answer the bond planning questions in sequential order

1. **What is the desired amount of the GO bond?**
2. **How should the bond be financed?**
3. **What are the scopes of work that should be included?**

GO Bond Financing

PPS began its capital improvement program in 2012 guided by a sustainable financing model that prioritized using short-term debt financing. The benefits of short-term debt are largely two-fold:

(i) total interest is comparatively low; and
(ii) retiring debt in short-term intervals creates revenue capacity for additional/future bonds

These benefits, in combination, allow the District to pursue a regular series of GO bonds while maintaining a consistent tax levy rate.

The downside of short-term debt is that the bond principal amount is relatively low.[1]

This model was a "pay as you go" plan such that the length of the debt would match the approximate time it took to complete the funded improvements. For example, it assumed that an 8-year bond would take approximately 8 years to complete the majority of the work and the debt would be retired in 8 years. When the work was complete, the debt would be paid off, and the district could repeat the cycle.

[1] The original model estimated the first four GO bonds in the $350M - $450M range

The short-term financial model also proposed overlapping bonds to maintain a consistent rate of project completion, and modeled small overlapping 8-year GO bonds that would be voter approved every 4 years. This is where the concept of pursuing a GO bond at every presidential election derived.

Over the course of 3 GO bonds, PPS has moved away from using short-term debt in favor of long-term debt. Long-term debt provides the benefit of larger bond principal amounts, however it also increases the length of the debt term and the interest costs, and does not create the same revenue capacity for the next GO bond in the series.

Currently PPS has bond debt that requires large portions of PPS's tax revenue to pay down. It's important to understand how this debt impacts the District's future GO bond financing options.

Sample GO Bond Financing Scenarios

The District's financial advisor has provided a number of sample financial scenarios. The scenarios are intended to highlight the dependencies of financial variables and help guide Board decision making.

Variables in the below scenarios are:

1. Approximate Bond Amount (Principal) - the total principal amount of the bond
2. Estimated Total Interest - the total estimated interest payments over the life of the bond
3. Total Revenue Needed - the total amount of taxes needed
4. Approximate Interest as % of Principal - the calculation of the amount of total interest against the principal amount
5. Approximate Length of the Debt - estimation of how long the debt will need to be financed to achieve the principal amount - typically the longer the length of debt, the higher the principal amount and the higher the % of interest - similar to a conventional mortgage
6. Maximum Levy Rate - the estimate tax levy rate per $1000 of assessed value
7. Timing of Potential Next Bond Election - estimated next time PPS would ask voters to approve a GO bond based on current debt, levy rate, work load, etc.

Sample Scenarios

Scenario A: Retain the current estimated levy rate maximum[2] and identify the desired length of debt

- Independent Variables: Estimated Levy Rate | Length of Debt
- Dependent Variables: Principal Amount | Interest

Scenario B: Identify the principal bond amount ($1.5B) and the desired levy rate

- Independent Variables: Principal Amount | Estimated Levy Rate
- Dependent Variables: Interest | Length of Debt

Scenario C: Identify the principal bond amount ($1.5B) and the desired the length of debt

- Independent Variables: Principal Amount | Length of Debt
- Dependent Variables: Interest | Estimated Levy Rate

[2] $2.50 per thousand of taxable assessed value

Scenario D: Retain the levy rate, identify the bond amount ($1.5B), and the desired the length of debt

- Independent Variables: Estimated Levy Rate | Principal Amount | Length of Debt
- Dependent Variables: Interest

Sample Scenario Table

	Approx Bond Amount (Principal)	Estimated Total Interest	Total Rev Needed	Approx Interest as % of Principal	Approx Length of Debt	Estimated Levy Rate	Potential Next Bond
A.1	$450M	$90M	$540M	20%	**8 years**	**$2.50 / 1000 (renewal)**	2032
A.2	$850M	$250M	$1.1B	30%	**12 years**	**$2.50 / 1000 (renewal)**	2036
A.3	$850M	$325M	$1.175B	38%	**16 years (8 year drop)**	**$2.50 / 1000 (renewal)**	2032
B.1	**$1.5B**	$575M	$2.075B	38%	20 years (16 year drop)	**$2.50 / 1000 (renewal)**	2040
B.2	**$1.5B**	$250M	$1.175B	17%	16 years (12 year drop)	**$3.00 / 1000 ($0.50 increase)**	2036
C.1	**$1.5B**	$300M	$1.8B	20%	**8 years**	$4.50 ($2 increase)	2032
C.2	**$1.5B**	$400M	$1.9B	26%	**12 years**	$3.25 ($0.75 increase)	2036
D.1	**$1.5B**	$950M	$2.45B	64%	**24 years (8 year drops)**	**$2.50 / 1000 (renewal)**	2032

Blue = Independent Variable

Note: the District has $422M remaining to be sold for the 2020 bond authorization. PPS is planning to sell these remaining funds in 2025.

As you will notice, as the principal amount gets larger, the tradeoffs are either (i) increased interest; (ii) increased estimated levy rates; and/or (iii) increased length of time to the next GO bond election, which in turn impacts the options and capacity for the next GO bond in the series.

In other words, larger principal bond amounts have the benefit of including more projects in the GO bond for the next round, however the larger bonds impacts PPS's capacity to continue to request future bonds and maintain a consistent levy rate.

Guiding Documents

The following documents quantify the District's asset portfolio under a number of different measurements in order to assess investment pace and volume to maintain a defined physical and functional condition.

Facility Condition Assessment

PPS's Facility Condition Assessment (FCA) - completed in 2021 - documented the condition of the District's building assets.[3] Nearly three-quarters of all assets were categorized as "Aged – Exceeded Design Life." Assets with the highest associated costs were related to heat-generating systems, followed by elevators, lifts, and electrical distribution systems.[4]

The Facility Condition Index (FCI) is the ratio of a building's maintenance costs relative to replacing the building at current construction costs. FCI values range from 0.00 (Good) to 1.00 (Critical). A higher FCI indicates a greater need for remedial funding, relative to the facility's replacement value. The District average FCI is 0.13 or "Poor." Sixty-two (62) facilities rated Poor or Critical of the ninety-four (94) sites assessed, indicating a critical need to invest in existing facilities.

Facility Capital Improvement Plan

The highest return on investment is to replace systems before they reach failure. The APPA (formerly the Association of Physical Plant Administrators) is an organization focused on education facility management; resources and information from the APPA are used for benchmarking investment needs for facilities maintenance and capital renewals.

Current Replacement Value (CRV) is a fundamental component of the APPA-calculated standards; the CRV is derived by multiplying new construction costs per gross square foot ($/GSF)[5]. The expected lifespan of facilities is derived by averaging the life of a building structure, systems, components, fixtures, and equipment. The percentage in the benchmark refers to the percentage of facilities' CRV that should be invested annually to maintain school buildings in good condition as recommended by the APPA and discussed in the State of Our Schools: America's K–12 Facilities 2016 ("State of our Schools") study which addresses the specific capital planning needs of K-12 facilities[6].

Benchmark investment calculations use CRV to estimate expected facility costs of ownership. PPS's CRV for the entire facility portfolio was $4.2 billion in 2021. The APPA benchmark for annual investment into maintenance and refurbishment is 3% of CRV for a ten-year total investment of $2.4 billion[7], with an average expenditure of $171 million per year. This high-level calculator assumes buildings are already in "good" condition, so the number for PPS would, under this planning calculation, be even higher.

Performing preventive maintenance is critical to minimizing asset life cycle costs and extending asset life span.

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[3] Assessments were performed per ASTM E2018 guidelines and based on "rapid visual inspection." Data was collected without intrusion, relocation, removal of materials, exploratory probing, use of specialized protective clothing, or any special equipment and did not necessitate lockout-tag-out procedures.

[4] The FCA is a high-level review of many critical building systems, but it is not a comprehensive building assessment. The FCA includes the critical building systems: exterior enclosure, roofing, plumbing, HVAC, fire protection, and electrical. However the FCA does not include other systems such as seismic or security.

[5] APPA Facilities Terms and Definitions Database, n.d. http://tnd.appa.org/detail/6988

[6] Filardo, Mary "State of Our Schools: America's K–12 Facilities 2016" Washington, D.C.: 21st Century School Fund. 2016. https://eric.ed.gov/?id=ED581630 Web September 2022.

[7] This estimated investment includes both capital costs and non-capital routine maintenance.

The Facility Condition Assessment and Capital Improvement Plan highlight the importance of investing in existing school buildings.

Long-Range Facilities Plan

The Long-Range Facilities Plan (LRFP), required by the state, falls within a sequence of steps recommended by the state before capital bond planning. This document relies on the multi-year FCA and enrollment forecasts outlining student population trends for the next fifteen (15) years. Building on these efforts, this plan documents capital forecasts in the context of educational vision, building condition, and building capacity.

The contents of this document are primarily informational. Recommendations, where they exist, were developed in collaboration with District academic program leaders, district stakeholders, and community voice.

This document offers information on all major categories, but does not outline specific project scopes or timelines. Further study is necessary to determine project feasibility within the future budget parameters.

Community voice was central throughout the LRFP development process, and continued dialogue with community members will be essential. The project team sought student input through close coordination with District elementary, middle and high school teachers, and student groups. Affinity groups were organized to enable groups of people to come together around common social identities, including race and cultural backgrounds, fostering a sense of comfort in sharing stories and generating ideas to inform long-range facility planning efforts. These approaches supported inclusive engagement through empowering the voice of historically excluded or tokenized communities in traditional outreach methods.

The Long-Range Facility Plan project team met with District academic leaders from eleven (11) program areas to document programmatic capital priorities. Program representatives were provided with a list of questions before the interviews, allowing them to consult with their colleagues in developing responses. The questions were intended to elevate the District's social justice and racial equity goals in the context of each respective program vision. All questions were inflected based on the specific academic program area. Following the interviews, the project team organized responses into three sections: Program Vision, Facility Constraints, and Capital Forecasts. The capital forecasts were further divided into high, moderate, and low priorities. Each program leader then had the opportunity to review, comment, and edit the text prior to appearing in this Plan.

For reference, below are the high priority capital forecasts provided for each program. It is not anticipated that the next bond will include all of the below work, rather the below scopes are a starting point for further discussion to determine feasibility and priority within budget parameters.

The below projects are verbatim from the LRFP. They are provided to highlight the priorities identified during the development of the plan in 2021. It is expected that prior to inclusion of any scope in a GO bond, specific scopes of work would be further vetted, updated and refined. In other words, the LRFP is a good place to look for initial priorities, but not final determinations.

Early Childhood Education

High Priority

- ★ Addition of one (1) Pre-k Partner Program to Holladay Annex for 2023/24 school year
- ★ Addition of two (2) Pre-K classrooms to Rosa Parks for 2023/24 School year
- ★ Addition of two (2) pre-k classrooms at Lent and one (1) at MLK Jr. for the 2022-23 school year.
- ★ Addition of two (2) pre-k classrooms on the southwest side. The program director has identified Markham Elementary as a potential location (based on neighborhood demand). Markham is projected to be at 73% utilization during the 2021-22 school year with fairly stable enrollment projected over the next five years. As such, there is sufficient space to convert two existing general classrooms into pre-k classrooms at this location.
- ★ Addition of two (2) pre-k classrooms on the west side. The program director has identified Chapman Elementary as a potential location (based on neighborhood demand). Chapman is projected to be at 70% utilization during the 2021-22 school year; enrollment is projected to increase over the next five years, with an anticipated utilization rate of 74% by 2025-26. Even with the enrollment increase, there appears to be sufficient space to convert two existing general classrooms into pre-k classrooms at this location.
- ★ Addition of at least two (2) pre-k classrooms at an inner southeast elementary school. Marysville K-5, Woodmere K-5, and Arleta K-5 are examples of schools in this area with low utilization and declining enrollment. As such, they might be potential candidates for pre-k classroom placement over the next five (5) years.

Elementary Schools

High Priority

- ★ Add or re-purpose space to provide a dedicated family resource center at every elementary school.
- ★ Provide new flexible classroom furnishings and student seating options to allow elementary teachers to easily reconfigure spaces to accommodate a variety of activities.
- ★ Create an outdoor learning area at each elementary school to support STEM instruction and project based learning.

Middle Schools

High Priority

- ★ Conduct accessibility upgrades to ensure that all middle schools are accessible to students, teachers, and visitors with physical disabilities. This will allow all students to enter the building via the main entry and navigate all essential programming within the building.
- ★ Conduct site improvements at middle school campuses, including the addition of accessible, age-appropriate recreational play equipment and a covered play structure.
- ★ Invest in flexible furnishings (e.g., student seating, desks) that support collaboration and the ability to quickly and easily reconfigure spaces for purposeful grouping, reteaching, and interventions.
- ★ Align the Long-Range Facility Plan and Educational Specifications with the final Middle School Redesign plan, ensuring that middle school facilities support the District's vision for reimagining the middle school experience for PPS students.

High Schools

High Priority

- ★ Complete modernization projects of remaining high schools.
- ★ Add dedicated space(s) for community programs at each high school.
- ★ Add space(s) to support social emotional health at every high school (e.g. calming room).

Athletics

High Priority

- ★ Develop Jackson, Marshall, and Whitaker-Adams as athletic hubs.
- ★ Athletic upgrades at four (4) middle schools: Lane, Ockley Green, George, and West Sylvan. Each site should at minimum have a multipurpose turf field with a track, an appropriately sized main gym and an auxiliary gym.
- ★ Access to turf baseball and softball fields for all high schools (e.g., Franklin, Marshall).

Career Technical Education

High Priority

- ★ Implement interim CTE upgrades at Jefferson, Cleveland, Ida B. Wells-Barnett, and Alliance to increase the usability of career technical spaces until these facilities can be fully modernized.
- ★ Upgrade dust collection systems in all district wood shops to meet latest safety standards.

Multiple Pathways to Graduation

High Priority

- ★ Identify a location for the Virtual Scholars program, as well as a PPS Virtual School.

★ Construction of new MPG building at Benson.

Physical Education

High Priority

★ For the nine (9) elementary schools without dedicated gyms, add or re-purpose space for a structured movement room (2,000 SF). Prioritize Title I schools in the order of construction. Currently, of the nine (9) schools without a dedicated gym, two (2) are Title I schools: Boise Eliot K-5 and Vestal K-5. If space for a structured movement area is unavailable, consider a covered play structure even if one already exists.

★ Incorporate the recommendations of the PPS All Gender Task Force with regard to locker rooms (once finalized).

Playspaces

High Priority

★ Playspace improvements aligned with district standards at all Title I, TSI, and CSI elementary schools.

Security Services

High Priority

★ Complete all 2020 bond-funded security projects including installation of new classroom door locks, as well as new or expanded security camera systems and intrusion alarm systems in non-modernized schools.

Special Education

High Priority

★ Conduct an analysis to determine enrollment and capacity impacts of fully implementing an inclusion model while accommodating most students with disabilities within their neighborhood schools.

★ All buildings must support a continuum of services for students with disabilities

★ Evaluate spatial impacts of adopting a SPED inclusion model as part of the PPS Middle School Redesign and/or Educational Specifications processes.

★ Add a dedicated sensory motor support room to every PPS school building (where not already present).

★ Provide a minimum of one (1) multipurpose SPED focus classroom at every elementary school in the district, equipped with a sink (where possible) as well as a restroom per district Ed Specification.

★ SPED focus classroom renovations and/or additions at the middle and high schools to create a dedicated series of multipurpose spaces that can be adapted to serve a range of needs and services per district Ed Specification.

Visual & Performing Arts

High Priority

- ★ One (1) music classroom configured and equipped per current Ed Specifications at every elementary school.
- ★ One (1) visual arts space configured and equipped per current Ed Specifications with a working, properly ventilated kiln at every elementary school.
- ★ Addition of art exhibition space or area at every elementary, middle and high school.
- ★ Black box theater or flexible performance space in every middle school.
- ★ Centralized VAPA storage facility to house art equipment and supplies, consumables, class sets of musical instruments, theater costumes and props, and other items.

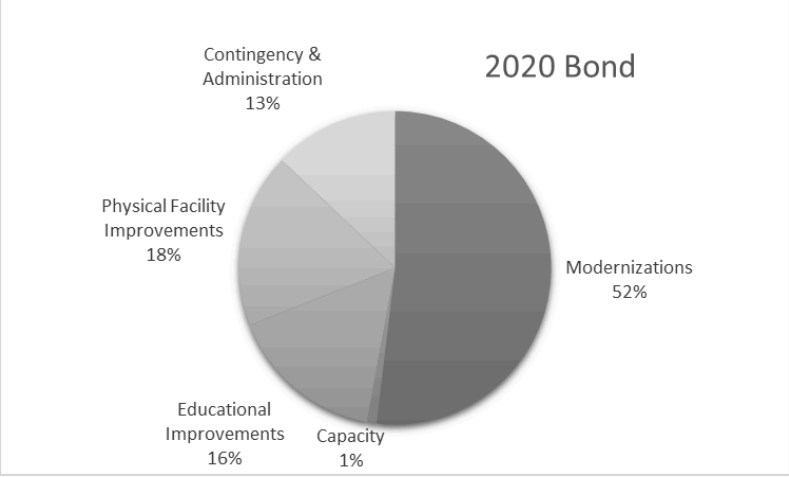
It is important to note that the LRFP does not make commitments that will require future Board action or make specific recommendations for future bonds, and not all of the LRFP priorities can be included in the 2024 bond. Rather these facility priorities provide the foundation for dialogue around bond package development and the District's vision for the built environment.

The LRFP includes high-level information on enrollment forecasts and school utilization. Current school utilization rates are approximately 60%, indicating that PPS (at a high-level at least) has adequate existing space for District educational needs.

Scope of Bond-Funded Projects

General obligation bonds often consist of a mix of scope and projects. Bonds often include five categories of work:

- Physical Facility Improvements
- Educational Improvements
- Capacity
- Modernization
- Contingency and Administration



Physical Facility Improvements

Physical Facility Improvement often consists of repairing or replacing building systems that are beyond their useful life. Examples include roof replacements, asbestos remediation, accessibility (ADA) improvements, etc. There is not always a bright line between Physical Facility Improvements and Educational Facility Improvements, but one can think of this category as more akin to fixing broken things (such as replacing a leaking roof) or making building system improvements (such as adding an elevator).

Critical Systems / Deferred Maintenance

PPS's Capital Improvement Plan (CIP) is the first step in identifying and prioritizing data-driven capital needs to help guide future investment. FCI, or Facility Condition Index, is a ratio of documented repair costs to facility replacement costs; the most current collective FCI score of District (based on the 2021 FCA) assets is 0.13 or "Poor".

Staff estimates the cost to address all noted FCA deficiencies over a 10-year period would cost $992 million; about $100 million per year. Staff estimate that to reduce the FCI from "poor" to "fair" or .074 (the midpoint of FCI "fair" range .05 to .1), over a ten-year period, would require a total investment of approximately $700 million, or $70 million per year. These calculations are based solely on the deficiencies identified in the FCA and do not account for additional asset failures or other increases in the deferred maintenance backlog after completion of the FCA.[8]

Additional needs for building maintenance which are not captured in the FCA include exterior improvements such as asphalt repair or renewal and exterior mechanical and site utilities; projects in these areas may include drive aisle replacement, and stormwater system repairs. Schoolyard play equipment replacements, outdoor covered play areas, and turf system refresh work are not captured in the FCA.

Play equipment replacement is anticipated to cost $37 million over 10 years. Outdoor covered play areas are anticipated to cost $33 million over ten years. Synthetic turf systems require a surfacing system refresh every eight years which is anticipated to cost approximately $65 million for the current high school fields; an additional $65 million is needed for the middle school fields turf refresh over a ten year period once those are implemented.

Seismic system structural work such as improving roof diaphragms and structural supports, as well as building lateral system strengthening are also excluded from the FCA. Current roofing replacement work has included the related seismic retrofit work for that portion of the buildings' structural system. Planning for the remainder of seismic retrofit work is currently underway and includes schools in the City of Portland's Unreinforced Masonry (URM) database, as well as those not addressed through the roofing replacement work. Both mechanical and seismic information is anticipated to be complete in early 2024.

[8] The deferred maintenance calculations include roof repairs and building mechanical systems. Staff are in the process of completing detailed roof and mechanical assessments which will update these assumptions.

Capital Asset Renewal

As noted above the in the Facility Capital Improvement Plan section, the APPA benchmark for annual investment into maintenance and refurbishment is 3% of CRV for a ten-year total investment of $2.4 billion[9], with an average expenditure of $171 million per year.

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 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 seismic 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.

2012 Expected Seismic Performance (EPR) Ratings were compiled by James G. Pierson, Inc. Consulting Structural Engineers in spring 2012 and are modeled on the University of California at Berkeley classification system. These classified Portland Public School facilities, by campus, into general groupings to describe their expected performance in an earthquake, using Good, Fair, and Poor. The ratings were used in 2012 bond development and planning as a general seismic guide for expected performance and prioritization. All “Poor” EPR schools in operation during bond planning were scheduled to receive seismic improvements as part of the 2012 school construction bond.

The performance rating system takes into account seismic risk score, previous seismic improvement work, the building class, age of construction, vertical and horizontal irregularities, building site, number of stories and any documented condition of the structural materials. It should be noted that school facilities are often a combination of additions and different building types that have been constructed over many years. Many schools have more than one building class/construction type.

Since the seismic performance ratings were completed in 2012, PPS has passed three bond measures that have provided funds for a range of incremental and full seismic improvements. This work has been focused on school buildings that are on the City of Portland's list of Unreinforced Masonry (URM) buildings. While the presence of a building on the URM list is not a singular predictor of its performance in a seismic event, various code requirements and grant opportunities have been tied to a building's presence on the list. PPS has been using bonds, grants and other funds to bring its URM-listed buildings up to the current seismic code.

[9] This estimated investment includes both capital costs and non-capital routine maintenance.

PPS is currently working on a complete seismic re-assessment of all District schools, including cost estimates to bring buildings to current seismic code where needed. Additional information will be provided here when the assessment is complete.

Accessibility - the PPS ADA Transition Plan

Title II of the Americans with Disabilities Act (ADA) requirements state that a public entity must reasonably modify its policies, practices, or procedures to avoid discrimination against people with disabilities. Developing a transition plan to remove barriers to program access is a proactive step to ensure PPS's compliance with the ADA. Taken together with Portland Public Schools Racial Educational Equity Policy 2.10.010-P LINK, the PPS ADA Transition Plan LINK defines scope for barrier removal and multi-level access throughout the District.

The transition plan's primary purpose is to provide an actionable and coordinated work plan for removing architectural barriers across the district's buildings and grounds. Prioritization criteria were developed through a thorough stakeholder engagement and review process which identified the order of importance for barrier removal across the district. The process identified the first priority as main level barrier removal across the district; that work is currently being implemented through the 2020 bond. The second tier of barrier removal will include the installation of elevators at the multi-story schools which have not been modernized, as well as barrier removal in restrooms that are on upper and lower levels of the multi-story schools.

Implementation costs are estimated to range from approximately $138 million for 29 elevators and related restroom work to $57 million for those improvements at 12 schools.

Security

PPS takes a layered approach to minimizing risks and creating safe and secure learning environments. This approach includes both adopting new physical security measures and systems, as well as improving capacity of existing measures and systems. Through a system-based approach which includes equipment and technology, site and building design, personnel, policies and procedures, and a comprehensive training program PPS can address the unique circumstances and safety needs of our campuses. The CYBERSECURITY AND INFRASTRUCTURE SECURITY AGENCY | K-12 SCHOOL SECURITY GUIDE | 3rd Edition identifies four main layers that schools should consider when planning for physical security measures:

- Ground perimeter layer - the outer boundary of a school campus
- School ground layer - fields, playgrounds, and parking lots
- Building perimeter - walls enclosing the inside of the school building
- Building interior layer - all spaces inside the school building

The following security improvements have been identified for PPS schools: secured vestibules, perimeter fencing, opaque interior and exterior window blinds, and improved surveillance camera coverage.

Secured vestibules provide protection by adding a secured space at the main entrance to a school and slow the entrance of people into the school. To add secured vestibules to 73 schools is anticipated to

cost approximately $158 million. Focusing improvements on 45 schools will cost approximately $96 million. In each case, site configuration is unique and the design of the secured vestibule will be adapted in order to provide the preferred entry sequence and control. Ideally, fencing installation can be incorporated into vestibule work to provide a complete perimeter.

Fences provide access control, enable natural surveillance, and regulate foot traffic while establishing a school's perimeter. While fences help to establish the perimeters of school grounds, they have the additional benefit of creating a sense of community and belonging among students. 75,000 lf of fencing around all K-5, K-8 and Middle Schools $20.2 million; a more consolidated schoolyard layout would incorporate 50,500 linear feet of fencing around 58 campuses at a cost of approximately $10 million.

Unprotected or uncovered windows that allow for line of sight into a classroom can make classrooms an easy target. If an intruder is unable to see occupants in a room they are less likely to attempt to breach the room to cause harm. Costs to upgrade all schools to have opaque window coverings at both exterior and interior windows is anticipated to be approximately $25 million; updating only lower level exterior windows to opaque shades would cost approximately $16 million.

2020 Bond security work is implementing surveillance updates in all schools, however additional camera views are needed and some of the older camera equipment is outdated which impedes clear image rendering. Costs for these improvements include a full update, adding cameras to each non-modernized school for approximately $10 million; alternatively, adding cameras and adjusting existing equipment in order to ensure full coverage will cost approximately $6 million.

It is vital to our District's security of our schools that the 2k legacy card readers are upgraded. Some locations are currently using physical keys which get expensive each time the lock needs to be re-keyed when the physical keys are lost. This project would include school-wide card readers, cabling, new panels, as well as the card readers for the server rooms. Not only does upgraded card reader access allow for easy access and re-programming when a new card is needed, it allows the security team to see the historial entrance and exists with a timestamp across the district's schools. In addition, it also allows the school to lock-down access to specific areas of the school by the security department. This project implementation is supported by multiple different departments including OTIS and the physical security team. In addition the implementation would positively impact FAM, and the custodial staff, and on-site school staff. This project would need to be overseen by a project manager and would require approximately 1 year for implementation. This implementation cost would be approximately $12.6 million.

Outdoor Spaces (Schoolyards)

Across the district there are schoolyards which include a diverse array of features, from covered play structures to playground equipment, gardens, trees, and sports courts. Wear and tear is especially prevalent with play equipment which should generally be on a 20-year replacement cycle. Currently, 74 of the 107 play equipment zones are over 10 years old.

Along with aging equipment, one characteristic shared by the majority of schoolyards across the district is the extensive use of asphalt surfacing. The total asphalt area across the District is approximately 127 acres; asphalt in schoolyards across the district accounts for 44%, or 59 acres, of that total.

Asphalt areas lack the essential tree canopy and vegetation that can offer shade and natural cooling. Currently, schoolyards only have a 10% tree canopy, which is significantly lower than The City of Portland's overall tree canopy goal of 33%. Furthermore, there is a substantial volume of stormwater runoff generated by asphalt covered area; each year district asphalt generates approximately 49 million gallons of runoff that flows into local creeks and drainageways.

District schoolyards are composed of a diverse array of elements, and bond funding can play a crucial role in fulfilling District objectives. To effectively tackle environmental challenges and make a significant community impact, investment would be directed towards fundamental schoolyard components. This targeted allocation will serve as a catalyst for securing future grants and fundraising opportunities to further enhance schoolyards. Fundamental components for investment include:

- Covered Play Structures - 23 of the 59 K-5 and K-8 schoolyards across the district have a covered play area greater than 3,000 square feet. The remaining 35 (61%) schoolyards are in need of a covered play structure.
- Play Equipment Replacement - Incorporating inclusive and ADA-compliant play equipment is a key element of a complete schoolyard. Across the district play equipment has a range of ages. Typically, the safe maintenance of playgrounds requires play equipment to be managed on a twenty-year replacement cycle. Coordinating this life cycle with a ten year investment period, replacement of equipment that is currently ten years or more old is the minimum standard included in the scenarios below.
- Asphalt Replacement - Asphalt surfacing is necessary in some areas of PPS schoolyards to support operations and safe circulation for students as well as vehicles as well as some parts of play areas. Currently the condition of district asphalt is highly variable in quality and condition, with the majority of it being under-engineered for typical uses which in turn creates the need for more repairs.
- Schoolyard Reclamation (asphalt removal, aka “depaving”) - Currently there is an average of 116 square feet of asphalt per student in K-5 and K-8 schoolyards in the district. An extensive examination of national schoolyard standards reveals that numerous districts maintain a standard asphalt area closer to 50 square feet per student. Using this benchmark as a planning goal, PPS could potentially eliminate more than 33 acres, or 56% of the total asphalt area in K-5 and K-8 schoolyards.
- Vision and Planning - Schoolyard projects are unique and require both program level and project level vision planning. The right process provides an opportunity to shape the schoolyard in collaboration with the community in order to direct investment where it is most needed in support of equitable student learning and play.

These elements are combined into “good”, “better”, and “best” scenarios for bond investment within PPS K-5 / K-8 schoolyards and middle school campuses. Following is a summary of improvement scenarios:

Scenario 1: $103 million

- Construction of all (35) covered play structures
- Replacement of all Title 1A playground equipment older than 5 years and non-Title 1A that is older than 5 years (Total - 30 Title 1A and 52 Non-Title 1A)
- Replacement of 22 acres of asphalt
- Reclamation of 27 acres of schoolyard
- Vision plans for all schoolyards

Scenario 2: $82 million

- Construction of all (35) covered play structures
- Replacement of all Title 1A playground equipment older than 5 years and non-Title 1A that is older than 10 years (76 total - 30 Title 1A and 46 Non-Title 1A)
- Replacement of 12 acres of asphalt
- Reclamation of 18 acres of schoolyard
- Vision plans for 28 schoolyards

Scenario 3: $68 million

- Construction of all Title 1A and 8 Non-Title 1A (20) covered play structures
- Replacement of all playground equipment older than 10 years. (72 playgrounds, 26 Title 1A and 46 Non-Title 1A)
- Replacement of 12 acres of asphalt
- Reclamation of 14 acres of schoolyard
- Vision plans for 20 schoolyards

Athletics

Currently, both youth and high school sports regularly practice on non-PPS sites. Even with projected declining enrollment, which was incorporated into the Long Range Facility Plan (LRFP) issued in 2021, the scheduling need for student athletics exceeds PPS field capacity. The LRFP identified three PPS sites, Jackson, Whitaker, and Marshall, as athletic hubs which would support projected program need and relieve scheduling challenges. The LRFP also identified eight middle schools for field and facility improvements which would further reduce scheduling on non-PPS sites.

Implementation of three hubs over ten years would require an investment of $114,000,000 and implementation of eight middle school facility improvements over ten years would require an investment of $92,000,000 for a total of $206,000,000. This approach realizes the full intent for program support identified in the Long Range Facility Plan.

Alternatively, implementation of two hubs over ten years would require an investment of $76,000,000

and implementation of six middle school facility improvements over ten years would require an investment of $69,000,000 for a total of $145,000,000.

Finally, implementation of one hub over ten years would require an investment of $38,000,000 and implementation of four middle school facility improvements over ten years would require an investment of $46,000,000 for a total of $84,000,000.

All Gender Restrooms

In order to improve equity and inclusion at Portland Public Schools, staff identified the need for a pilot project to add all-gender restrooms to schools that do not have them and which also do not have existing single-occupancy restrooms which could be used to support the need on an interim basis. To support this, PPS established an All-Gender Restroom Task Force during the 2020/2021 school year. This group included school-based staff members, central office staff, parents and students, as well as members of the larger LGBTQ2SIA+ communities. The culmination of this work was the Restroom Equity Plan LINK which was presented to Operations and Student Support during summer 2021.

Options for implementation range from $15 million to $2.6 million as follows:

- $15,000,000 - Staff estimates this amount would support implementation of all gender restrooms District-wide as described in each of the prioritization categories above. The advantage of this option is the implementation would be District-wide and in full alignment with the PPS Restroom Equity Plan.
- $6,000,000 - Staff estimates this amount would allow the District to implement all gender restrooms in middle schools and K-8s and the locations with zero all gender restrooms.
- $2,600,000 - Staff estimates this amount would support the implementation of all gender restrooms in the priority locations which currently have zero all gender restroom facilities.

Other potential physical facility scopes of work

- Decarbonization - PPS is currently developing a decarbonization plan that will lead us on a path to improve student and staff health, building efficiency, and campus resilience with the intent of reducing our carbon footprint, operating costs, and disruptions from school days. The PPS Climate Crisis Response, Climate Justice and Sustainable Practices Policy sets PPS on a trajectory to reduce the greenhouse gas emissions of our district's critical infrastructure by 50 percent by 2030, using the 2018-2019 school year baseline, and reach net zero emissions by 2040. Working with a diverse team led by PAE Consulting Engineers, PPS is developing a district-wide decarbonization road map. This road map will help PPS understand how to effectively allocate resources and prioritize projects over the next 20 years by answering the question: "How can PPS most efficiently implement GHG emissions reduction measures to give us the best chance of meeting our emissions goals, given financial, industry, and facility constraints, while considering historic inequities in the distribution of resources across PPS?"

- Emergency Capital - PPS occasionally faces unanticipated emergency circumstances that require immediate response. Funds could be set aside to respond to unplanned instances that are not otherwise included in the bond language.

Educational & Technology Improvements

Educational improvements typically focus on improvements to classrooms and other dedicated learning spaces. The goal of Educational Improvements is to bring dated classroom or teaching instruments up to modern standards.

Technology Improvements

- The ERP system is the backbone of the HR and all financial systems for the district. In Bond 2020 the ERP was earmarked for the planning stages, but did not have enough funding for the full implementation costs. This request includes the additional funding for the purchase and the staff for implementation of that system as well as transitioning the district off of the previous ERP system.
    - ERP Software and 7 PPS Staff for Implementation $40.5 Million (no inflation costs, but includes 10% contingency)
- Staff and student device refresh: Currently, there are no funds for a district-wide device replacement for students and staff since the original deployment in 2020-2021. We would like to ensure staff and students have up to date technology for usage in classrooms and for homework assignments.
    - Device replacement students and staff with 1 dedicated PM staff overseeing deployment $65 Million (includes 25% inflation costs and 10% contingency on hardware costs)
- As we know K-12 cyber attacks are unfortunately extremely common across the country and therefore there needs to be updated systems in place to prevent cyber security attacks for our district.
    - Cyber Security Improvement Systems and 1 dedicated PM $5.5 Million (includes 25% inflation costs and 10% contingency on hardware costs)
- Currently the PPS Data Center is earmarked for end of life in 2025 and will need funds to keep it running. The data center is critical and is the central hub to our infrastructure across the district.
    - Data Center Maintenance (end of life replacement for chiller and UPS) and 1 dedicated PM $685,900 (includes 25% inflation costs and 10% contingency on hardware costs).
- Bond 2020 did not include scope for replacing classroom tech or infrastructure in any of the Bond 2012 or 2017 schools. The Bond 2012 schools technology is now outdated and will need to be replaced to be inline with the District's tech standards. Although Bond 2017 schools technology is relatively new in comparison to Bond 2012 the Wifi system will be at the end of life between 2025-2027 and therefore needing additional funds for replacement.
    - End of life Classroom Tech and Infrastructure Replacement for Bond 2012 schools, asbestos abatement for 4 schools is estimated at $31.1 Million (includes 25% inflation costs and 10% contingency on hardware costs)

    - End of life Wireless Infrastructure in the 3 oldest (Kellogg, Lincoln, McDaniel) Bond 2017 schools plus LV contractors: $3.5 Million (includes 25% inflation costs and 10% contingency on hardware costs).
- Wireless for boiler rooms: The facilities team has asked OTIS to provide an estimate on how much it would cost for the boiler rooms in each school to have wifi installed, including asbestos abatement. This would allow the facilities team to use their ipads in the boiler rooms and also for future maintenance equipment to be Smart enabled in the future for remote tracking and pre-sets.
    - This is estimated at $10.5 Million (includes 25% inflation costs and 10% contingency on hardware costs).
- Project management costs to oversee the end of life gear projects in the data center and also Bond 2012 and 2017 schools. In addition, the wireless for boiler room project.Scope would include project schedule, PM oversight during implementation with LV contractors for updated infrastructure and classroom technology, project documentation and subject matter experts in electrical and design backgrounds would be an estimated $3.3 Million.

HVAC and Energy Sustainability

Server room HVAC System Installation:

Currently there are 403 server rooms and 325 of those server rooms do not have a mini-split cooling system in place which resulted in server room temps over the accepted range (80 degrees and over 100 degrees) during a 2 week window of testing in 2023. When equipment temperatures stray outside the accepted ranges, stressful situations can occur for the entire school and other district departments. For instance, when the environment is too warm, overheating can occur, which can result in unexpected server downtime as well as the school's physical cameras and other critical infrastructure systems. It is possible for servers to be too cool, as well. While this may not result in any server downtime, data center managers may not want to look at their electricity bill if they're keeping their computing rooms at certain chillier temperatures. The environmental impact of keeping servers this cool is also certainly not negligible. Keeping server rooms below the maximum temperature and above the minimum is important for business continuity and efficiency in the long run. The installation of mini-splits is more energy efficient which connects back to the district's energy and sustainability goals. This project implementation has the approval from OTIS, the physical security team, and FAM since it directly impacts school-wide operations. The installation will cost approx $12.6 Million and currently some of that would be eligible for the Federal Infrastructure Plan rebate for mini-splits. This is proposed as a 2 year project and would include project management oversight.

Physical education (e.g., covered play areas)

Physical Education instructional spaces are in need of improvement and expansion of teaching stations. This includes the addition of outdoor covered play spaces for 35 schools and the conversion of interior school space to Movement Labs in 26 schools.

The total anticipated need for Outdoor Covered Play Spaces is approximately $33 million for 35 schools; 12 of those, or just over $11 million in costs, are identified as Title 1 schools.

The total anticipated need for Movement Labs is approximately $44 million for 35 schools. At least 6 sites, or approximately $10 million in costs, are identified as Title 1 schools.

Other potential scopes of work

- Curriculum - The 2020 Bond included $53M for the adoption of comprehensive and current instructional materials, across core subject areas, including language arts, math, science, the arts and social emotional learning.

- Performing Arts - PPS Visual and Performing Arts programming includes a full arts education across grade ranges. Significant instructional space needs are in performing arts including theater front and back of house spaces and instructional spaces for music and dance.

- Career Technology Education - Typical CTE facility upgrades include significant additions to building mechanical system capacity and the installation of dust hazard control systems. In addition these instructional spaces require additional electrical design and service, unique plumbing systems, and larger interior spaces for curriculum support.

Capacity

Growing school districts regularly categorize new schools as “capacity” investments. Capacity can also include improvements to support enrollment changes. The 2020 bond PPS set aside $10 million to respond to student relocation needs stemming from the South East Guiding Coalition. An additional $2 million was allocated for future expansion of Roosevelt High School.

Potential Capacity scope of work includes:

- Roosevelt High School phase 5 (increase school capacity to 1700 students)
- Support of future enrollment changes

Modernizations

School modernizations are a mix of physical facility improvements, educational facility improvements and (in some cases) capacity. For facilities with high FCI scores, full modernization is the most cost-effective avenue to address all needs. The 2020 bond includes planning funds for Cleveland High School and Ida B Wells High School.

Potential modernization options include:

- Cleveland High School
- Ida B Wells High School
- Tubman Middle School relocation

Harriet Tubman Middle School

PPS is also planning for the relocation of Harriet Tubman Middle School. The State of Oregon has provided $120 million to support the relocation effort, however the most recent cost estimates forecast a total project budget ranging from $195 million to $238 million.[10]

K-5 Learning Lab

Contingency & Administration

Program contingency is a risk management tool used to buffer against unanticipated costs such as:

- Higher than anticipated escalation costs
- Building code or zoning code changes
- Emergency facility needs
- Or any other unanticipated cost; discretionary or nondiscretionary

Throughout the course of bond programs, contingency funds are transferred to other scores of work. Bond programs end with a zero dollar contingency balance. We do not recommend budgeting contingency below 10% of total bond principal.

Administration funds the resources needed to carry out the bond work, including staff, bond issuance costs, insurance, etc.

Bond Implementation Constraints

Bond planning takes into account the communities priorities as assessed against real-world constraints, including District bonding capacity, market capacity, implementation capacity, and community support.

The majority of bond work required physical construction and the ability to complete capital construction projects work has limits. Market capacity and operational capacity must be considered when planning for GO bonds.

Often the ability to complete the work in a specific timeline is dependent on the type of work. Since 2016 PPS has averaged about $200M in capital spending per year. Annual spending fluctuates with some years closer to $100M, and another year that exceeded $250M. When the District is in the construction phase on multiple large projects (such as modernizations) the annual spending is closer to the top end of this range, when active projects are smaller in scale (and can only be completed in summer months) the annual spending is closer to the lower end of the range. Acknowledging anticipated future cost escalation, for planning purposes estimating a total capital outlay between $150 million and $250 million annually is reasonable.

[10] The current Tubman relocation option includes construction of a new middle school and K-5 learning lab.

Note: PPS will have approximately $650M available funds remaining of the 2020 bond in November 2024. Staff anticipates completing all 2020 bond work in 2028.

Maintenance Considerations

Per Oregon statute, ordinary maintenance and repair costs can not be funded by GO bonds. Therefore an important consideration when planning GO bond projects are expected ongoing costs that must be absorbed by the District's general fund, or other fund source. Sample scopes of work that require non-GO bond funds include new technology or additional square footage.

Resources

- Long-Range Facilities Plan - Vol. 1 - LINK
- Long-Range Facilities Plan - Vol. 2 - LINK
- Long-Range Facilities Plan Presentation - F&O Committee - 04 15 2021 - LINK
- Long-Range Facilities PlanPresentation - F&O Committee - 10 27 2021 - LINK
- Long-Range Facilities PlanPresentation - Board Work Session - 11 09 2021 - LINK
- Bond Planning Introduction - F&O Committee - 08 21 2023 - LINK