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School District of Philadelphia Facility Condition Assessment



January 2017

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January 23, 2017

William R. Hite, Jr., Ed.D.
School District of Philadelphia
440 North Broad Street
Philadelphia, Pennsylvania 19130-401

Subject: School District of Philadelphia – Facility Condition Assessment

Dear Dr. Hite,

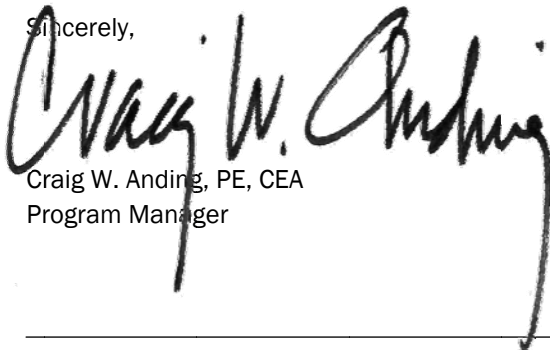
Parsons Environment & Infrastructure Group Inc. (“Parsons”) is pleased to submit this summary report for the Facility Condition Assessment.

The findings in this report are based on nationally recognized facility condition assessment approaches, methods and techniques, and best practices used to evaluate and assess the physical condition of educational and support facilities. Included in these assessments were the permanent educational and teaching buildings, site and ground features, athletic fields, athletic facilities, and annexes owned by The School District of Philadelphia. The assessments required the use of specially-trained personnel and distinctive methods and approaches to the work. Parsons personnel and sub-consultants conducted the physical condition assessment of the buildings and grounds and prepared the overall findings in this report. In addition, Parsons incorporated the local knowledge and expertise of the Project Managers in the SDP Office of Capital Programs, District maintenance and operations division representatives and input from Principals, Building Engineers and District estimators to assist in the set up of the database management tool and in the development of the individual facility assessment reports and findings in this document.

Parsons used our proprietary software called eCOMET™ (Energy and Condition Management Estimation Technology) to gather and process the data within this report. We offer the software for continued use by SDP as a facility asset management tool. The assessment teams worked closely with the staff at SDP to collect the information input into the database. Parsons recommends that SDP update assessment data every 3 to 5 years. The update process should capture and archive deficiencies that have been retired, incorporate new/replaced facilities or components and collect any new repair items that have become deficient since the last visit. In this survey, we assessed the various school facilities in the spring/summer/fall of 2015. Assessing all of the facilities at once maintains the integrity of the database and allows tracking performance over time. The eCOMET software tracks deficiencies by the date created and the date retired, so the District can print reports to substantiate progress by the number and value of deficiencies retired over a selected period. In addition, individual users can analyze performance on retiring deficiencies over time based on the date of the deficiency and the time elapsed before retirement. This information would be useful in documenting the positive results generated by appropriate funding of the portfolio and in supporting future funding requests.

We look forward to the opportunity to assist you in further development of your capital program, as needs evolve.

Sincerely,



Craig W. Anding, PE, CEA
Program Manager

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Introduction

As part of a two-year Operations Strategic Plan, the School District of Philadelphia (SDP) Office of Capital Programs was identified as the Project Sponsor to implement a comprehensive Facility Condition Assessment (FCA). SDP selected Parsons Environment & Infrastructure Group, Inc. (Parsons) to perform the assessment of the District's portfolio of educational facilities per requirements of the RFP, which include Pre-K, Elementary, Middle, High School and Alternative Schools. The objective of the FCA for the SDP is to accomplish the following goals:

- Calculate Facility Condition Index (FCI) Scores for buildings including FCI scores for individual systems.
- Prioritize building systems based on need, observed deficiencies, remaining useful life, and classify each system based on a recommended timeframe for when these systems should be replaced.
- Determine the District's overall outstanding capital need and a recommended annual investment plan to address deferred maintenance.
- Use data gathered from the FCA to develop a multiyear capital improvement plan beginning in 2018.
- Create one central depository of data on critical building systems, life expectancy, and capital investments.

The findings in this report are based on nationally recognized facility condition assessment approaches, methods and techniques, and best practices used to evaluate and assess the physical condition of educational and support facilities. Included in these assessments were the permanent educational and teaching buildings, site and ground features, athletic fields, athletic facilities, and other permanent administrative, maintenance, warehouse or other ancillary buildings such as storage or equipment buildings; not including temporary or portable buildings or garages. The assessments required the use of specially-trained personnel and distinctive methods and approaches to the work. Parsons personnel and sub-consultants conducted the physical condition assessment of the buildings and grounds and prepared the overall findings in this report. In addition, Parsons incorporated the local knowledge and expertise of the Project Managers in the SDP Office of Capital Programs, District maintenance and operations division representatives and input from Principals, Building Engineers and District estimators to assist in the set up of the database management tool and in the development of the individual facility assessment reports and findings in this document.

The items and issues identified in the FCA could have the potential to impact current operations and future growth or expansion capabilities. The result of the FCA survey is a database that catalogs system deficiencies with estimated project costs. It provides analysis and reporting tools that support SDP's institutional planning and decision making process by making accurate facility information readily accessible. The software also enables the user to generate multi-year capital spending plans to implement the proposed upgrades and replacements. A 10-year capital spending plan is presented in this report as an example, which should be thoughtfully considered by SDP leadership regarding the disposition of funds.



Image 1 - Science Lab at John Bartram High School

Parsons used our proprietary software called eCOMET™ (Energy and Condition Management Estimation Technology) to gather and process the data within this report. We offer the software for continued use by SDP as a facility asset management tool. The assessment teams worked closely with the staff at SDP to collect the information input into the database.

Approach

Beginning in May 2015, Parsons assessors invested 15,228 labor hours performing comprehensive assessments of 308 educational facilities and large athletic fields owned by SDP, of which four are closed, totaling 26,068,627 SF. Parsons supplied four (4) assessment teams each with an architect, a mechanical engineer and an electrical engineer. Parsons also assisted SDP with a transfer process to store and maintain all facility data collected from the FCA in their ARCHIBUS database. Information resulting from this project will be used by the Office of Capital Programs facility professionals as a guide for making funding recommendations to leadership involved with their construction program. The project results also provide a baseline assessment of current deferred maintenance and capital renewal funding needs that should prove useful in making informed planning decisions and considering future reinvestment in SDP facilities.

Field Survey/Inspection

Parsons conducted all field surveys included in the scope of work for the project in May 2015 through January 2016. The team visited the facilities to collect data on the condition and life cycle of major systems. The information was compiled in the field and then loaded to the main eCOMET™ database. From this information, the assessors edited the cost models created using R.S. Means published methodologies and cost information. In addition, the assessors were able to confirm cost information for certain components and systems by using cost data taken from information provided by the Office of Capital Programs staff or from similar regional Parsons projects under construction or recently completed.

The SDP Project Manager was the primary point of contact for Parsons during the project. Parsons worked closely with the District facilities staff who made arrangements for escort for the assessors and often joined in the field survey tours.

The assessment teams reviewed drawings and other facility information provided by SDP staff. The assessors interviewed the school-based staff to document non-visible and ongoing component problems. The assessment team then conducted site visits to verify data already gathered as well as to record additional information found during the inspection. Based on visual observations and on-site discussions with facility representatives and school-based staff, the assessors acquired a general understanding of the conditions of the building and site components. Parsons then developed a written description of each facility including an overview of the construction, building systems and general condition.

The team obtained information in this report through field observations, equipment inspection, review of available existing documentation, and interviews with SDP staff. Publications used as references for the anticipated service life of the building systems include the Building Owners and Managers Association International (BOMA) “Building Systems Useful Life” and the American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) Applications Handbook” as a reference for the service life of systems and equipment. In many instances, actual experience may indicate a longer service life for a particular system, but these are the best available recognized standards for the anticipated service life of capital assets typically found in educational and support facilities.

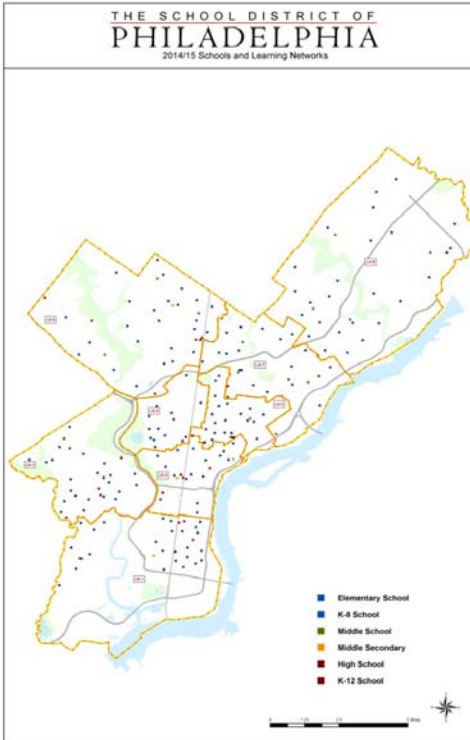


Image 2 - Map of District with Building Locations

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Cost Estimating

The populated database includes cost models for each facility that generate a forecast of future capital funding required to address system renewal. The Parsons Certified Cost Estimator compared the costs models for different types of buildings against a selection of actual costs for recent SDP construction projects (see Appendix for more information on cost modeling). Applying an accurate replacement cost and an anticipated service life to each component enables the model to forecast the respective cost and year for renewal. The software also applies an escalation factor for work in future years. Together, this information resource becomes a strategic tool that allows facility managers to quickly identify and capture deferred maintenance and capital renewal items when composing their capital budget plans.



Image 3 - West Philadelphia High School

The FCA performed for SDP included a visual survey of the various facilities included in the scope of work. The result of the field survey is a catalog of current deficiencies with associated budget costs. The budget estimates were developed by the assessors using RS Means 2015 cost information embedded in the database with factors applied by the software to account for the additional cost of managing the implementation project (refer to the Appendix for more information on Additional Costs). Note that other costs for project financing or downtime (i.e. lost revenue, operational inefficiency, etc.) are not included.

The Parsons Certified Cost Estimators prepared detailed line item estimates for the series of corrections defined in the database. The assessors used their field observations combined with the experience of their respective consultant team to apply the available corrections to the deficient conditions observed in the field. They modified the line item costs provided by the Estimators to match the conditions associated with the individual deficiencies represented in the database. These estimates attempt to describe all costs reasonably associated with performing the prescribed work and typically include related costs for demolition, modifying piping and conduit to match a variety of possible equipment suppliers, removing and replacing other components (such as sprinkler heads) affected by the installation, and repairing finishes. In some cases, these estimates may exceed the replacement value for the respective system driving the condition index for that system over 100%. It is important to remember that the intent is to provide estimated costs as approximations for budgeting purposes, only. Recognize that Parsons does not have control over the cost of labor or materials, nor over any contractors' methods of determining bids or prices. As a result, Parsons does not warrant that budgets will match the contractor or vendor's proposals.

Summary of Results

This section reports the results of the Facility Condition Assessment for the owned buildings and grounds of the School District of Philadelphia. The report is a planning tool to assist in making decisions needed to achieve their short and long term facility goals. The intent of the data tables and exhibits is to objectively describe the findings and summarize the results of this study using assessment best practices and standards. The costs presented in the tables found in this section of the report use the Facility Condition Index (FCI) as a key to summarize the information for each of the buildings included in the project scope.

THE FACILITY CONDITION INDEX

The Facility Condition Index (FCI) offers a relative scale on which to compare the facilities. It describes the physical condition of a building and its component systems against a cost model for a similar newly constructed building as if they were at the beginning of their service life. For each system in the cost model, the Condition Index (CI) measures the estimated cost of the current deficiencies and compares it to the projected Replacement Value for that system. The total cost of the repairs for all the systems is divided by the current Replacement Value resulting in the FCI. This approach can also be applied to a group of buildings forming a portfolio. The FCI calculation is shown in the following formula:

$$FCI = \frac{\text{Cost of Assessed Deficiencies}}{\text{Replacement Value}}$$

For example, if the Replacement value of the systems for a particular building is \$10,000,000 and the cost of correcting its assessed deficiencies is \$1,000,000, the building's FCI is $\$1,000,000 \div \$10,000,000 = 0.10$, or we might say the facility is 10 percent deficient. A higher FCI means the facilities are in poorer condition and in need of greater repair. This key indicator helps to identify the need for renewal or replacement of specific parts of the facility. The FCI is particularly useful when comparing similar facilities or campuses within the same portfolio.

FCI % Range	Recommended Action
<15 %	Minimal Capital Funding Required
15 to 25%	Refurbish Systems
25 to 45%	Replace Systems
45 to 60%	Building should be considered for major renovation
> 60%	Building should be considered for closing/replacement

The table at the left is provided to help interpret the results of this survey by establishing a relationship between FCI and the general building condition. The FCI% Ranges listed are derived from Parsons experience performing assessments of billions of square feet for clients across the country and are based on national standard guidelines widely used as resources for interpreting FCI information. The recommended ranges presented in the table have been found by Parsons to be useful at the planning level in

establishing budgets for work that is not well defined at the time of the estimates.

PRIORITY, CATEGORY AND DISTRESS

SDP prefers an approach to prioritizing deferred maintenance based on a 5-year time scale to establish a relative sense of urgency for addressing deficient conditions. The selection of response time periods also allows for recommended corrections to deficient conditions that may be accomplished beyond the initial five years. The chart below displays the repair costs for each of the recommended response time periods.

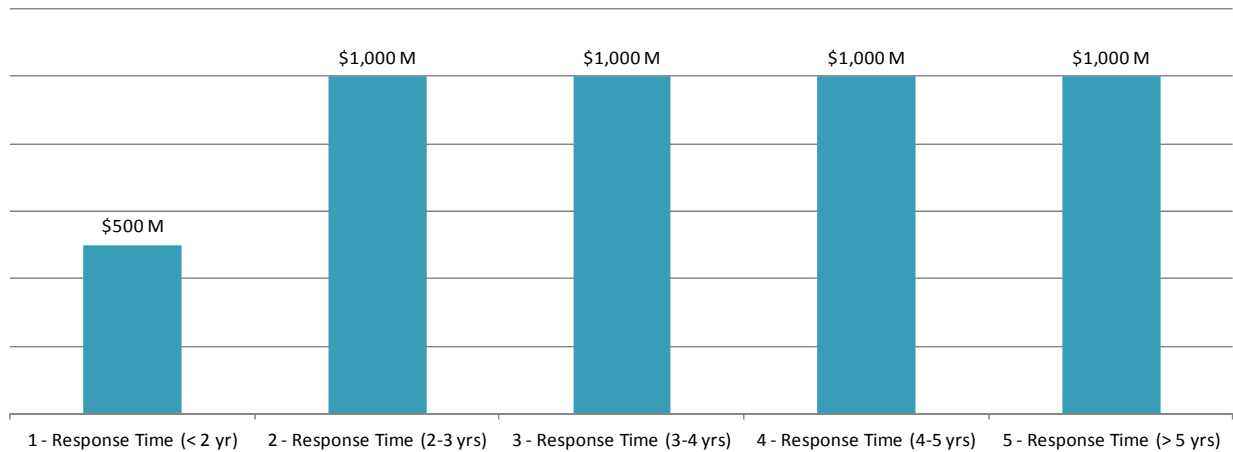


Figure 1 - Chart of Repair Costs by Response Time
[see appendix for definitions]

The Parsons team leadership worked closely with SDP project managers to develop categories that align with typical classifications of work found in their recent capital plans. This group gave careful consideration to how to align the categories with the appropriate distress assigned to the various deficiencies. The chart below provides a visual reference of the Distress designations shown in the dark blue boxes (not in order of priority) associated with each Category.

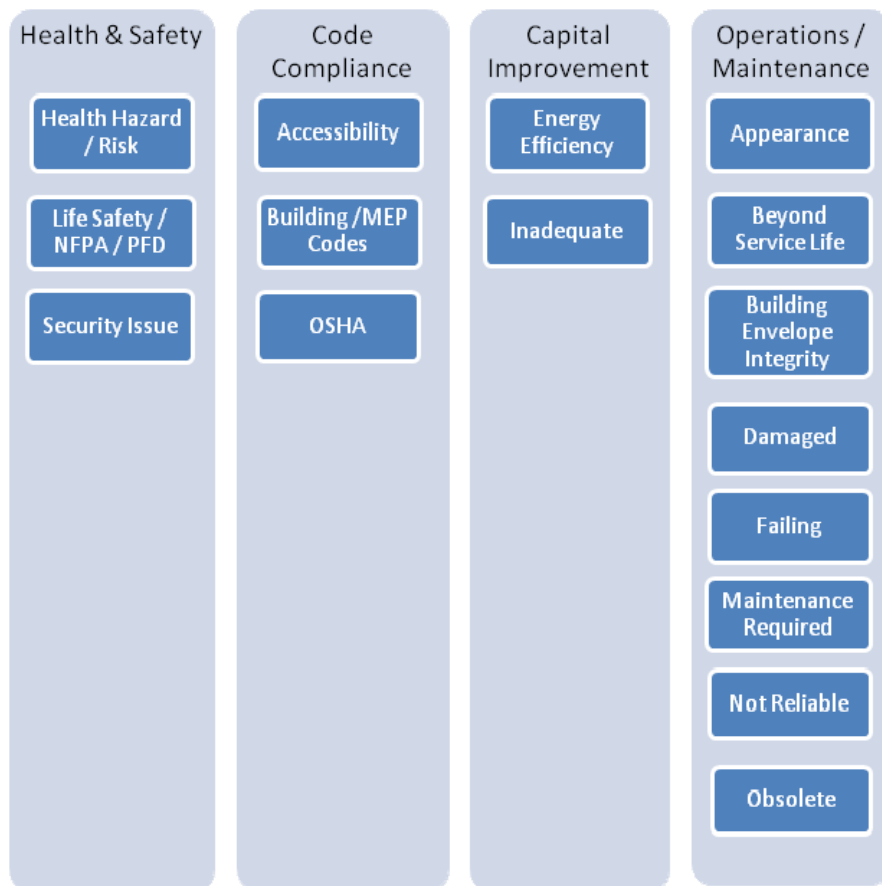


Figure 2 - Grouping of Distress by Category
[see appendix for definitions]

The summary data presented in *FIGURE 3* (below) provides a breakdown of current deferred maintenance needs by Category and Distress.

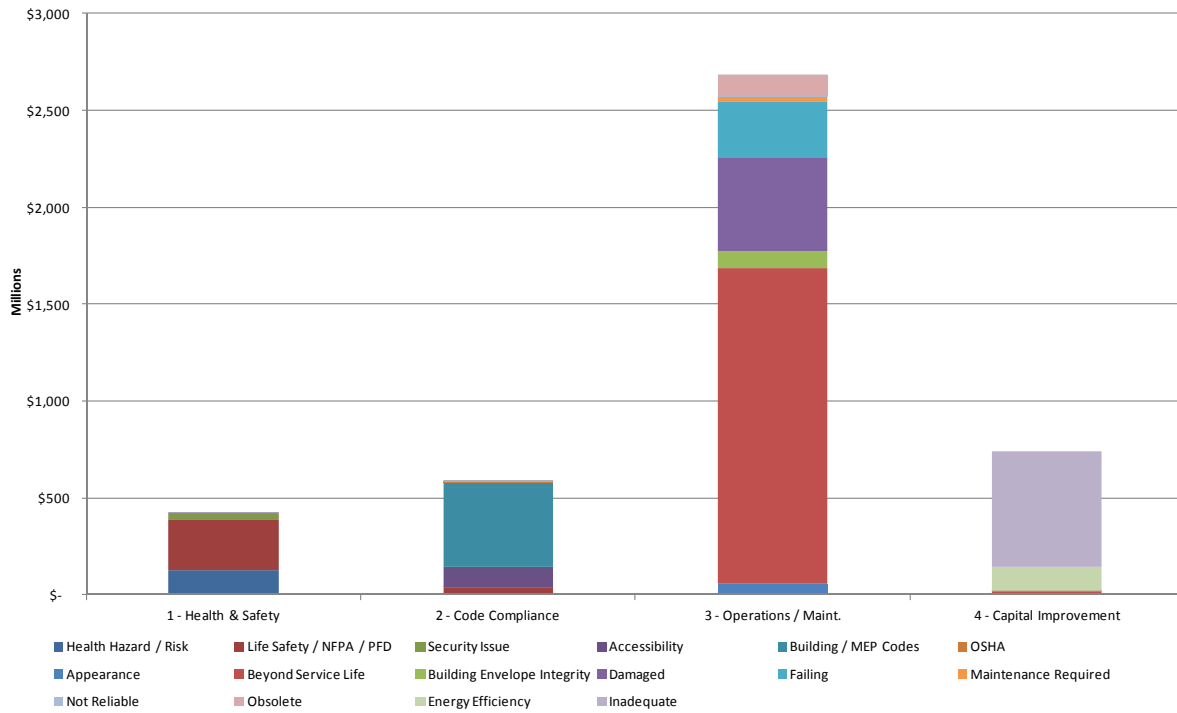


Figure 3 - Repair Costs Grouped by Category & Distress

CURRENT AND FORECAST NEEDS

The facilities in the SDP portfolio have been in service anywhere from less than 5 years to nearly 150 years. The newer facilities have few immediate needs for repair or reinvestment. The older facilities have aged components that are beyond their service life, obsolete or no longer energy efficient. SDP performs scheduled maintenance and undertakes reconstruction projects to replace or repair components at the facilities. Many of the facilities have received at least partial reconstruction since they were initially put into service.

The teams recorded information on 1,619 pieces of equipment worth \$163M. They composed 11,480 deficiencies worth \$4.5B. In addition, they were successful in interviewing 88% of the School Principals and Building Engineers as part of these inspections. And, Parsons estimators input cost models to establish the Replacement Value of the facilities portfolio at over \$14B. Edits to those models by the assessors based on their field observations forecast Capital Renewal funding requirements (2018-2027) of over \$3.2B.

The data presented in *TABLE 1* (below) provides the results for the assessment of the various classes of school facilities. The cost information listed in the table includes the total cost for all buildings. The table lists total costs without regard to priority of particular deficiencies. Please refer to the Appendix for more information on how these values were determined.

TABLE 1 – FCI BY ASSET CLASS

Asset Class	Building Count	Area (Sq. Ft.)	Cost (\$/Sq. Ft.)	Repair Costs	Replacement Value	FCI
High School /CTE / Alternative Ed Ctr / CAPA	44	8,127,866	\$ 548.44	\$ 1,146,571,195	\$ 4,457,637,956	25.7%
Middle / Middle Secondary	32	4,277,526	\$ 536.40	\$ 670,385,618	\$ 2,294,447,703	29.2%
Elementary School /LSH / PEC / Spec Ed	183	12,559,235	\$ 530.02	\$ 2,483,177,084	\$ 6,656,592,872	37.3%
Admin / Annex / Fieldhouse / Pool / Stands / Storage	45	740,149	\$ 552.90	\$ 130,536,922	\$ 409,231,321	31.9%
Closed Schools	4	363,851	\$ 522.62	\$ 71,758,949	\$ 190,155,424	37.7%
Totals	308	26,068,627	\$537.35	\$4,502,429,767	\$14,008,065,276	32.14%

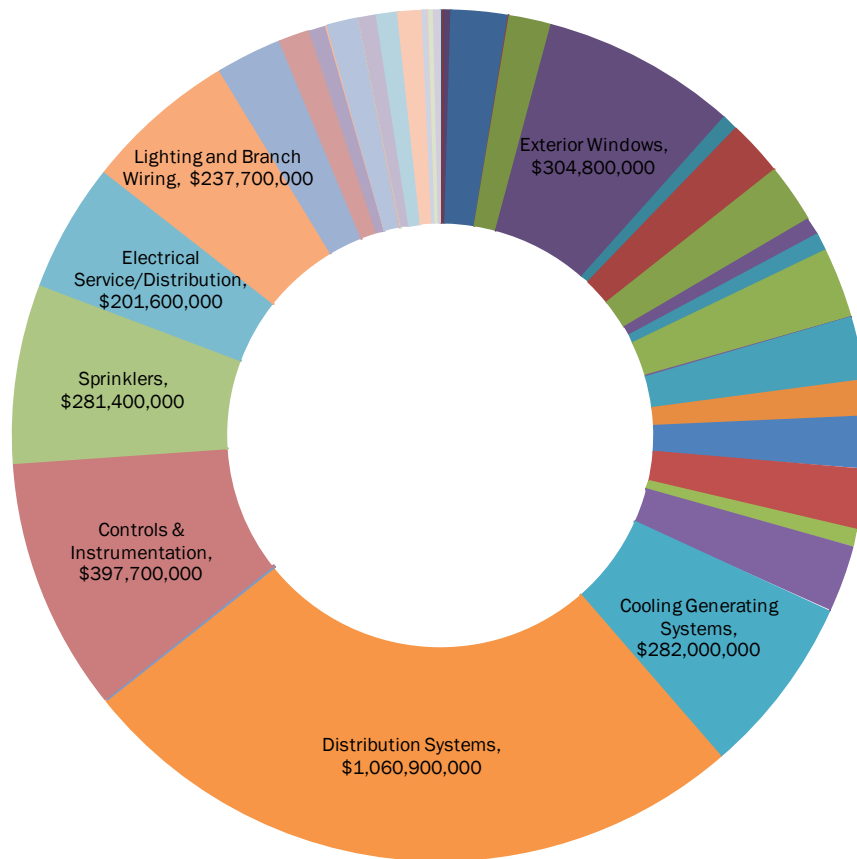
The summary data presented in *TABLE 2* (below) provides a quick reference of the total needs including current costs for all deficiencies at the various school facilities and the forecast need for the renewal period.

TABLE 2 – SUMMARY OF NEEDS

Asset Class	Building Count	Area (Sq. Ft.)	Replacement Value	FCI	Repair Costs	Capital Renewal (2020-2027)	Total Needs
High School /CTE / Alternative Ed Ctr / CAPA	44	8,127,866	\$ 4,457,637,956	25.7%	\$ 1,146,571,195	\$ 1,097,281,702	\$ 2,243,852,897
Middle / Middle Secondary	32	4,277,526	\$ 2,294,447,703	29.2%	\$ 670,385,618	\$ 630,062,551	\$ 1,300,448,169
Elementary School /LSH / PEC / Spec Ed	183	12,559,235	\$ 6,656,592,872	37.3%	\$ 2,483,177,084	\$ 1,382,722,102	\$ 3,865,899,186
Admin / Annex / Fieldhouse / Pool / Stands / Storage	45	740,149	\$ 409,231,321	31.9%	\$ 130,536,922	\$ 110,338,267	\$ 240,875,189
Closed Schools	4	363,851	\$ 190,155,424	37.7%	\$ 71,758,949	\$ 66,366,216	\$ 138,125,165
Totals	308	26,068,627	\$14,008,065,276	32.14%	\$ 4,502,429,767	\$3,286,770,838	\$ 7,789,200,605

The summary data presented in *FIGURE 4* (below) provides a breakdown of current deferred maintenance needs by Uniformat system.

Figure 4 - Repair Costs by Uniformat System



2018-2027 Capital Funding Scenarios

The overall FCI of the facilities is 32.14%, which indicates that SDP should be actively replacing systems at these facilities per the Recommended Action table (above). It is important to note that eighty-five (85) of the facilities in the District portfolio have an FCI between 45% and 60%, which indicates that those school facilities should be considered for major renovation. Another twenty-one (21) facilities have an FCI greater than 60%, of which one (1) is closed.

Referring to the facility assessment summary, the total Current Period (2018-2019) and 7-Year Forecast Period (2020-2027) funding needs are about \$7,789,200,605. In the analyses shown below, Parsons used the facility condition data developed during the SDP assessment to produce five funding scenarios:

- Scenario 1: The red line and associated bars demonstrate required capital renewal funding over the next 10 years. Under this scenario, SDP would apply no funding toward paying down the current deferred maintenance and forecasted system renewal needs. This scenario results in a significant rise in the FCI from 32.14% to 55.61%, a level at which the overall portfolio of buildings should be considered for major renovation.
- Scenario 2: The bars indicate the proposed annual funding over the next 10 years at a rate roughly equal to the current annual Capital-Spending Plan investing about \$100 million in the first year of the plan with level funding in consecutive years escalated at an annual rate of 3.0%. The capital reinvestment in this scenario amounts to \$1,146,387,937, which is only about 15% of the needs estimate for the period 2018-2027. In this scenario, the proposed annual investment does not keep pace with forecast future funding requirements resulting in a significant rise in the FCI from 32.14% to 47.42%, a level which would indicate the overall portfolio of buildings should be considered for major renovation.
- Scenario 3: Invest at the minimum recommended rate of 1.5% of Replacement Value in the first year of the plan with level funding in consecutive years escalated at an annual rate of 3.0%. The capital reinvestment in this scenario amounts to \$2,481,065,592, which is about 32% of the needs estimate for the period 2018-2027. In this scenario, the proposed annual investment does a better job of keeping pace with forecast future funding requirements resulting in a modest rise in the FCI from 32.14% to 37.89%, a level which would require only replacement of major systems for the overall portfolio of buildings.
- Scenario 4: Funding to improve the SDP facilities' condition from an FCI of 32.14% to the target FCI of 25.0%, a level that requires only refurbishment of major systems for the overall portfolio of buildings. The capital reinvestment in this scenario amounts to \$4,287,184,286, which is nearly 55% of the needs estimate for the period 2018-2027. In this scenario, the proposed annual investment exceeds the sustainable funding range. Refer to page 13 for a definition of the sustainable funding range.
- Scenario 5: Increase funding to offset the recurring system renewal costs plus fully pay down existing deferred maintenance to improve the SDP facilities' condition from an FCI of 32.14% to an FCI of 15%, a level level that requires minimal annual capital funding. The capital reinvestment in this scenario amounts to \$5,687,990,813, which is nearly 73% of the needs estimate for the period 2018-2027. In this scenario, the proposed annual investment exceeds the sustainable funding range.
- Scenario 6: Increase funding to offset the recurring system renewal costs plus fully pay down existing deferred maintenance to improve the SDP facilities' condition from an FCI of 32.14% to an FCI of 0%, a level considered to be excellent (like new) condition. The dark line tracks the annual FCI over the funding cycle. The capital

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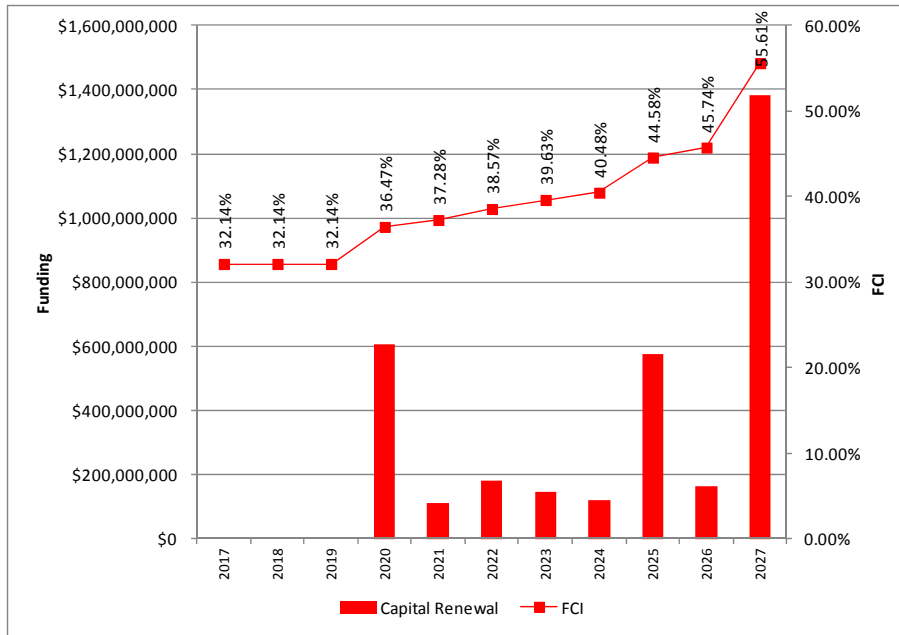
reinvestment in this scenario amounts to \$7,789,200,605, or 100% of the needs estimate for the period 2018-2027. In this scenario, the proposed annual investment exceeds the sustainable funding range.

The charts that follow combine the funding needed for repairs with the predicted capital renewal requirements. The annual funding requirements (bars) are read from the left axis and FCI% (colored lines) from the right axis. The table below each of the chart shows the actual values for proposed annual capital funding requirements. The charts illustrate the 10-year total funding requirements for the SDP facilities for the six different scenarios.

SCENARIO 1 – DEFICIENCIES AND CAPITAL RENEWAL WITHOUT CAPITAL INVESTMENT

The red line and associated bars demonstrate required capital renewal funding over the next 10 years. Under this scenario, SDP would apply no funding toward paying down the current deferred maintenance and forecasted system renewal needs. This scenario results in a significant rise in the FCI from 32.14% to 55.61%, a level at which the buildings should be considered for major renovation.

Figure 5 - Deficiencies and Capital Renewal without Capital Investment

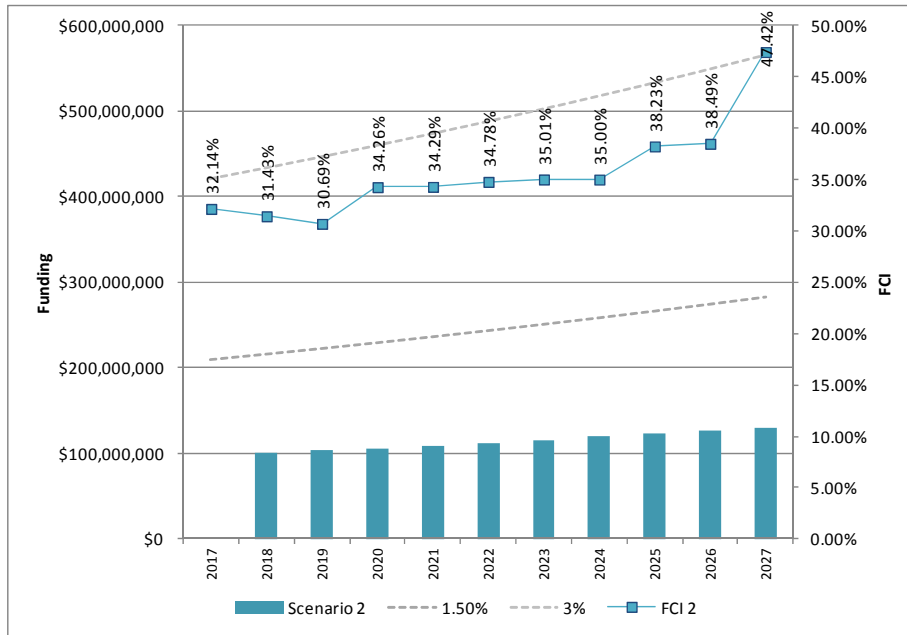


Year	Capital Renewal	Net Deficiencies	Funding Needs	FCI
2017	\$0	\$4,502,429,767		32.14%
2018	\$0	\$4,502,429,767	\$0	32.14%
2019	\$0	\$4,502,429,767	\$0	32.14%
2020	\$606,420,886	\$5,108,850,653	\$0	36.47%
2021	\$112,977,907	\$5,221,828,560	\$0	37.28%
2022	\$180,877,863	\$5,402,706,423	\$0	38.57%
2023	\$148,349,855	\$5,551,056,278	\$0	39.63%
2024	\$118,712,424	\$5,669,768,702	\$0	40.48%
2025	\$574,821,736	\$6,244,590,438	\$0	44.58%
2026	\$162,830,235	\$6,407,420,673	\$0	45.74%
2027	\$1,381,779,932	\$7,789,200,605	\$0	55.61%
Total	\$3,286,770,838		\$0	

SCENARIO 2 – MAINTAIN CURRENT FUNDING

The bars indicate the proposed annual funding over the next 10 years at a rate roughly equal to the current annual Capital-Spending Plan investing about \$100 million in the first year of the plan with level funding in consecutive years escalated at an annual rate of 3.0%. The capital reinvestment in this scenario amounts to \$1,146,387,937, which is only about 15% of the needs estimate for the period 2018-2027. In this scenario, the proposed annual investment does not keep pace with forecast future funding requirements resulting in a significant rise in the FCI from 32.14% to 47.42%, a level which would indicate the overall portfolio of buildings should be considered for major renovation.

Figure 6 - Maintain Current Funding



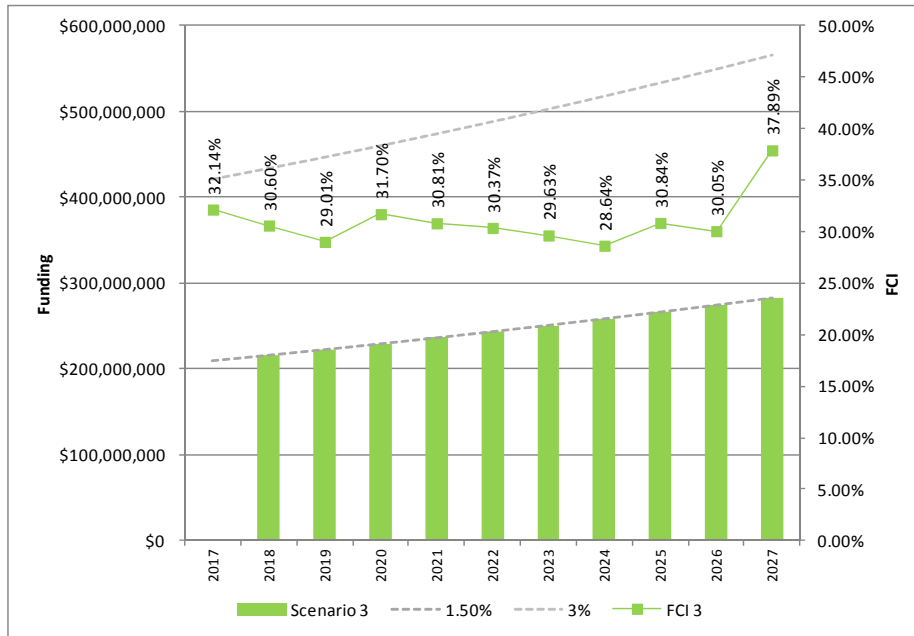
Year	Capital Renewal	Net Deficiencies	Scenario 2	FCI 2
2017		\$4,502,429,767		32.14%
2018	\$0	\$4,402,429,766	\$100,000,000	31.43%
2019	\$0	\$4,299,429,766	\$103,000,000	30.69%
2020	\$606,420,886	\$4,799,760,651	\$106,090,001	34.26%
2021	\$112,977,907	\$4,803,465,858	\$109,272,701	34.29%
2022	\$180,877,863	\$4,871,792,839	\$112,550,882	34.78%
2023	\$148,349,855	\$4,904,215,286	\$115,927,408	35.01%
2024	\$118,712,424	\$4,903,522,480	\$119,405,230	35.00%
2025	\$574,821,736	\$5,355,356,829	\$122,987,387	38.23%
2026	\$162,830,235	\$5,391,510,055	\$126,677,009	38.49%
2027	\$1,381,779,932	\$6,642,812,668	\$130,477,319	47.42%
Total	\$3,286,770,838		\$1,146,387,937	

The APPA guide on Capital Renewal and Deferred Maintenance Programs (2009; pg 10) recommends a range of 1.5% to 3% of Current Replacement Value (CRV) for the capital renewal component of annual funding; this is considered the sustainable funding range. The overall Replacement value is \$14,008,065,276, which translates into a range of \$216,424,609 to \$432,849,217 in 2018 the first fiscal year of the plan. The dotted lines in the chart show the boundaries of the sustainable range. Note that the lines and bars in the chart include a 3% annual escalation rate. The supporting data for these charts is also available in the eCOMET™ database.

SCENARIO 3 – INVEST AT 1.5% OF REPLACEMENT VALUE

Invest at the minimum recommended rate of 1.5% of Replacement Value in the first year of the plan with level funding in consecutive years escalated at an annual rate of 3.0%. The capital reinvestment in this scenario amounts to \$2,481,065,592, which is about 32% of the needs estimate for the period 2018-2027. In this scenario, the proposed annual investment does a better job of keeping pace with forecast future funding requirements resulting in a modest rise in the FCI from 32.14% to 37.89%, a level which would require only replacement of major systems for the overall portfolio of buildings.

Figure 7 - Invest at 1.5% of Replacement Value



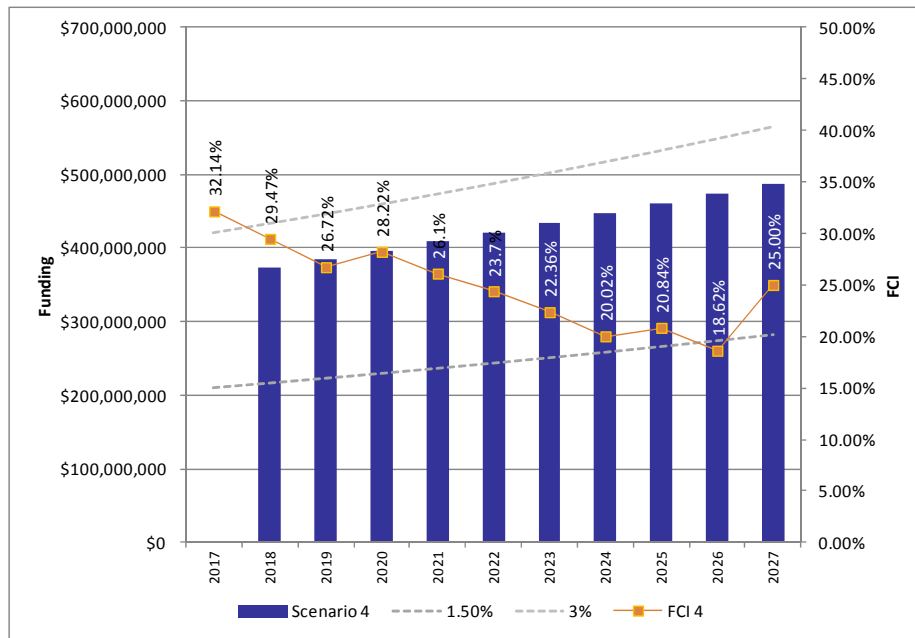
Year	Capital Renewal	Net Deficiencies	Scenario 3	FCI 3
2017		\$4,502,429,767		32.14%
2018	\$0	\$4,286,005,158	\$ 216,424,609	30.60%
2019	\$0	\$4,063,087,812	\$ 222,917,347	29.01%
2020	\$606,420,886	\$4,439,903,830	\$ 229,604,867	31.70%
2021	\$112,977,907	\$4,316,388,724	\$ 236,493,013	30.81%
2022	\$180,877,863	\$4,253,678,784	\$ 243,587,804	30.37%
2023	\$148,349,855	\$4,151,133,201	\$ 250,895,438	29.63%
2024	\$118,712,424	\$4,011,423,324	\$ 258,422,301	28.64%
2025	\$574,821,736	\$4,320,070,090	\$ 266,174,970	30.84%
2026	\$162,830,235	\$4,208,740,106	\$ 274,160,219	30.05%
2027	\$1,381,779,932	\$5,308,135,013	\$ 282,385,026	37.89%
Total	\$3,286,770,838		\$2,481,065,592	

The APPA guide on Capital Renewal and Deferred Maintenance Programs (2009; pg 10) recommends a range of 1.5% to 3% of Current Replacement Value (CRV) for the capital renewal component of annual funding; this is considered the sustainable funding range. The overall Replacement value is \$14,008,065,276, which translates into a range of \$216,424,609 to \$432,849,217 in 2018 the first fiscal year of the plan. The dotted lines in the chart show the boundaries of the sustainable range. Note that the lines and bars in the chart include a 3% annual escalation rate. The supporting data for these charts is also available in the eCOMET™ database.

SCENARIO 4 – FUNDING TO TARGET FCI OF 25.0%

Scenario 4: Funding to improve the SDP facilities’ condition from an FCI of 32.14% to the target FCI of 25.0%, a level that requires only refurbishment of major systems for the overall portfolio of buildings. The capital reinvestment in this scenario amounts to \$4,287,184,286, which is nearly 55% of the needs estimate for the period 2018-2027. In this scenario, the proposed annual investment exceeds the sustainable funding range.

Figure 8 - Improve FCI to 25.0%



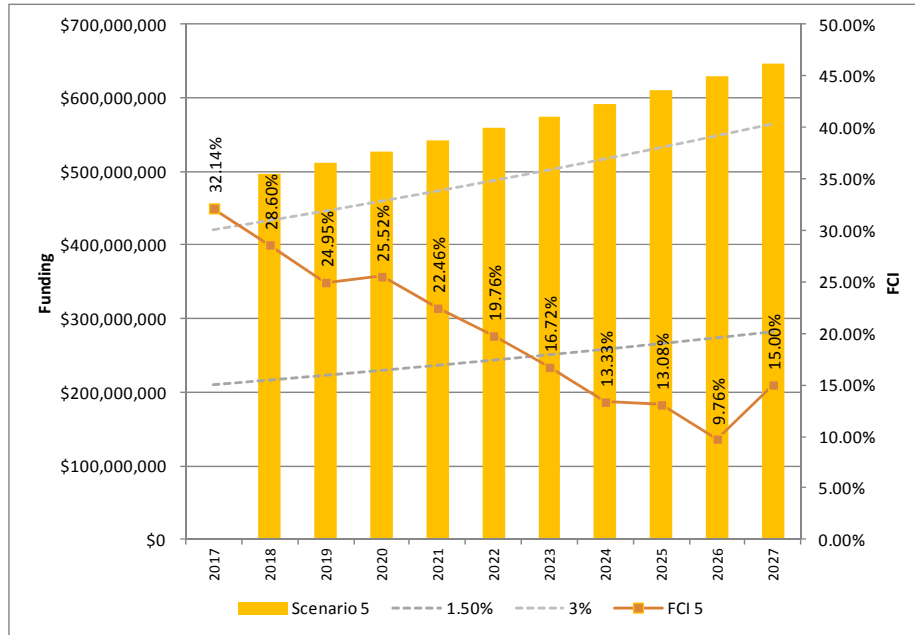
Year	Capital Renewal	Net Deficiencies	Scenario 4	FCI 4
2017		\$4,502,429,767		32.14%
2018	\$0	\$4,128,456,510	\$373,973,257	29.47%
2019	\$0	\$3,743,264,055	\$385,192,455	26.72%
2020	\$606,420,886	\$3,952,936,712	\$396,748,229	28.22%
2021	\$112,977,907	\$3,657,263,944	\$408,650,675	26.11%
2022	\$180,877,863	\$3,417,231,611	\$420,910,196	24.39%
2023	\$148,349,855	\$3,132,043,965	\$433,537,502	22.36%
2024	\$118,712,424	\$2,804,212,762	\$446,543,627	20.02%
2025	\$574,821,736	\$2,919,094,563	\$459,939,935	20.84%
2026	\$162,830,235	\$2,608,186,664	\$473,738,133	18.62%
2027	\$1,381,779,932	\$3,502,016,319	\$487,950,277	25.00%
Total	\$3,286,770,838		\$4,287,184,286	

The APPA guide on Capital Renewal and Deferred Maintenance Programs (2009; pg 10) recommends a range of 1.5% to 3% of Current Replacement Value (CRV) for the capital renewal component of annual funding; this is considered the sustainable funding range. The overall Replacement value is \$14,008,065,276, which translates into a range of \$216,424,609 to \$432,849,217 in 2018 the first fiscal year of the plan. The dotted lines in the chart show the boundaries of the sustainable range. Note that the lines and bars in the chart include a 3% annual escalation rate. The supporting data for these charts is also available in the eCOMET™ database.

SCENARIO 5 – FUNDING TO TARGET FCI OF 15.0%

Funding to improve the SDP facilities’ condition from an FCI of 32.14% to the target FCI of 15.0%, a level that requires minimal annual capital funding. The capital reinvestment in this scenario amounts to \$5,687,990,813, which is nearly 73% of the needs estimate for the period 2018-2027. In this scenario, the proposed annual investment exceeds the sustainable funding range.

Figure 9 - Improve FCI to 15.0%



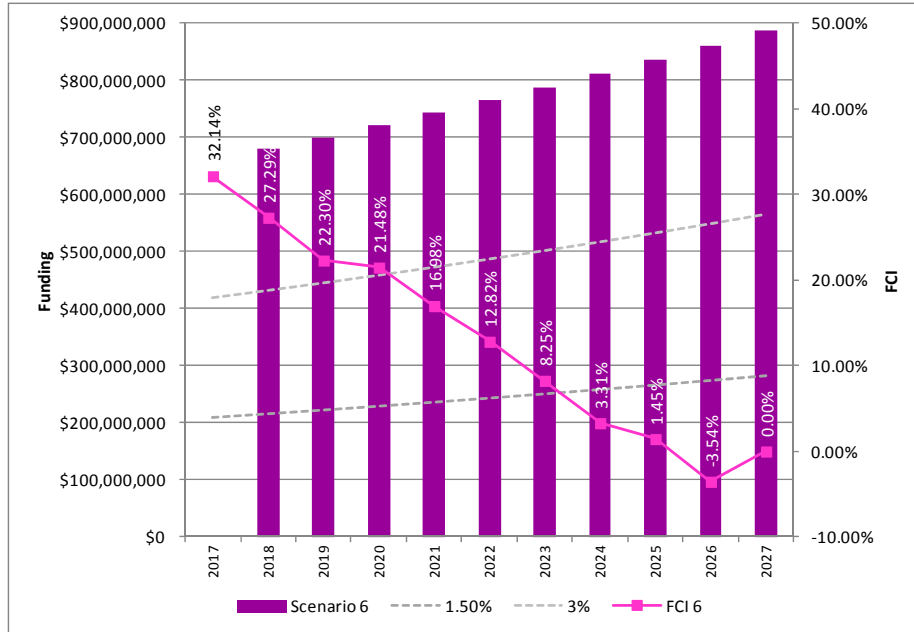
Year	Capital Renewal	Net Deficiencies	Scenario 5	FCI 5
2017		\$4,502,429,767		32.14%
2018	\$0	\$4,006,263,447	\$496,166,320	28.60%
2019	\$0	\$3,495,212,137	\$511,051,310	24.95%
2020	\$606,420,886	\$3,575,250,174	\$526,382,849	25.52%
2021	\$112,977,907	\$3,146,053,746	\$542,174,335	22.46%
2022	\$180,877,863	\$2,768,492,044	\$558,439,565	19.76%
2023	\$148,349,855	\$2,341,649,148	\$575,192,752	16.72%
2024	\$118,712,424	\$1,867,913,038	\$592,448,534	13.33%
2025	\$574,821,736	\$1,832,512,784	\$610,221,990	13.08%
2026	\$162,830,235	\$1,366,814,369	\$628,528,650	9.76%
2027	\$1,381,779,932	\$2,101,209,791	\$647,384,509	15.00%
Total	\$3,286,770,838		\$5,687,990,813	

The APPA guide on Capital Renewal and Deferred Maintenance Programs (2009; pg 10) recommends a range of 1.5% to 3% of Current Replacement Value (CRV) for the capital renewal component of annual funding; this is considered the sustainable funding range. The overall Replacement value is \$14,008,065,276, which translates into a range of \$216,424,609 to \$432,849,217 in 2018 the first fiscal year of the plan. The dotted lines in the chart show the boundaries of the sustainable range. Note that the lines and bars in the chart include a 3% annual escalation rate. The supporting data for these charts is also available in the eCOMET™ database.

SCENARIO 6 – IMPROVE THE FCI TO ZERO DEFICIENCIES (FCI= 0%)

Increase funding to offset the recurring system renewal costs plus fully pay down existing deferred maintenance to improve the SDP facilities’ condition from an FCI of 32.14% to an FCI of 0%, a level considered to be excellent (like new) condition. The dark line tracks the annual FCI over the funding cycle. The capital reinvestment in this scenario amounts to \$7,789,200,605, or 100% of the needs estimate for the period 2018-2027. In this scenario, the proposed annual investment exceeds the sustainable funding range.

Figure 10 - Improve FCI to 0%



Year	Capital Renewal	Net Deficiencies	Scenario 6	FCI 6
2017		\$4,502,429,767		32.14%
2018	\$0	\$3,822,973,852	\$679,455,915	27.29%
2019	\$0	\$3,123,134,260	\$699,839,592	22.30%
2020	\$606,420,886	\$3,008,720,366	\$720,834,780	21.48%
2021	\$112,977,907	\$2,379,238,449	\$742,459,823	16.98%
2022	\$180,877,863	\$1,795,382,694	\$764,733,618	12.82%
2023	\$148,349,855	\$1,156,056,923	\$787,675,627	8.25%
2024	\$118,712,424	\$ 463,463,451	\$811,305,895	3.31%
2025	\$574,821,736	\$ 202,640,115	\$835,645,072	1.45%
2026	\$162,830,235	\$ (495,244,075)	\$860,714,425	-3.54%
2027	\$1,381,779,932	\$ -	\$886,535,857	0.00%
Total	\$3,286,770,838		\$7,789,200,605	

The APPA guide on Capital Renewal and Deferred Maintenance Programs (2009; pg 10) recommends a range of 1.5% to 3% of Current Replacement Value (CRV) for the capital renewal component of annual funding; this is considered the sustainable funding range. The overall Replacement value is \$14,008,065,276, which translates into a range of \$216,424,609 to \$432,849,217 in 2018 the first fiscal year of the plan. The dotted lines in the chart show the boundaries of the sustainable range. Note that the lines and bars in the chart include a 3% annual escalation rate. The supporting data for these charts is also available in the eCOMET™ database.

Table of Findings

As with most of America’s large urban school districts, SDP is coping with aging facilities, increasing or decreasing numbers of students in its school clusters, and changing educational programs. Some are experiencing growth in all or some of their schools due to new student in-flow and demographic migration from one area to another. New technologies and initiatives that envision the evolving relationship between school facilities and student performance and behavior are profoundly impacting school facilities and curriculums. Addressing facility condition needs is critical to meet the SDP Strategic Plan.

FINDING 1: FCI DISTRIBUTION BY FACILITY TYPE

A typical school campus includes academic facilities: school grounds, classrooms, libraries, and other teaching-learning spaces, and may also include ancillary facilities such as storage, temporary modular classrooms, and other support facilities. In addition to school campuses, SDP facilities also include Athletic complexes and Administration and Operation Support facilities. The following table indicates distribution by gross square feet (GSF) and FCI condition.

Asset Class	FCI	< 15%		15 to 25%		25% to 45%		45 to 60%		> 60%		Count	Area
		Count	Area	Count	Area	Count	Area	Count	Area	Count	Area		
High School / CTE / Alternative Ed Ctr / CAPA	25.72%	15	2,267,611	6	1,065,648	19	4,275,126	4	519,481	0	0	44	8,127,866
Middle / Middle Secondary	29.22%	6	936,369	6	1,038,970	12	1,514,128	8	788,059	0	0	32	4,277,526
Elementary School / LSH / PEC / Spec Ed	37.30%	29	1,672,226	8	788,700	70	5,028,252	64	4,354,564	12	715,493	183	12,559,235
Admin / Annex / Fieldhouse / Pool / Stands / Storage	31.90%	15	238,340	2	49,100	11	239,383	9	138,208	8	75,118	45	740,149
Closed Schools	37.74%	0	0	0	0	3	287,221	0	0	1	76,630	4	363,851
	32.14%	65	5,114,546	22	2,942,418	115	11,344,110	85	5,800,312	21	867,241	308	26,068,627

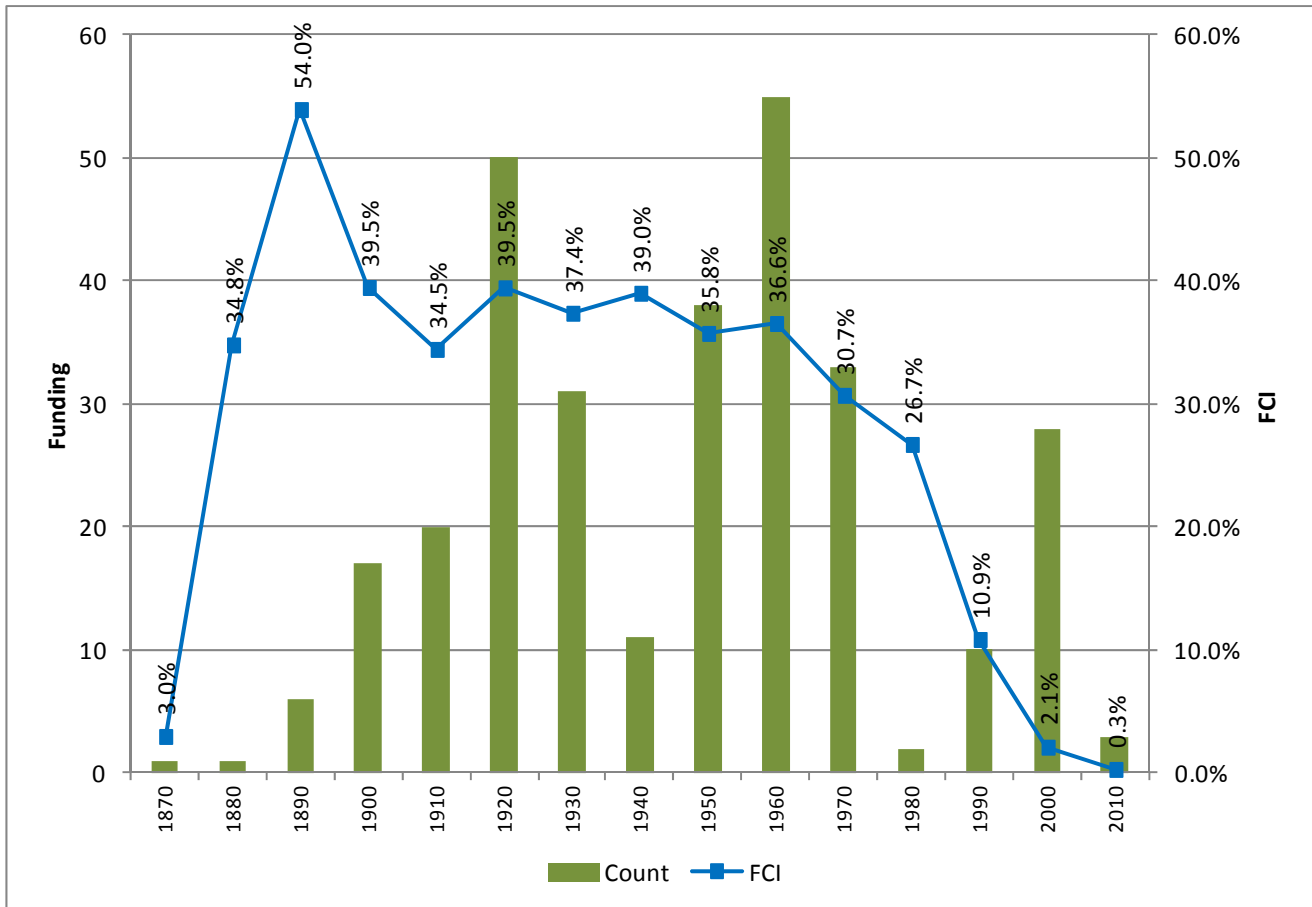
FINDING 2: FACILITY AGE

According to the National Center for Education Statistics (NCES), the average public school building in the United States is 42 years old. The mean age ranged from 46 years in the Northeast and Central states to 37 years in the Southeast. The following table compares SDP to NCES statistics.

School Characteristics	SDP	NCES
Average Age in years	66	42
Median Date Built	1955	NA
Built before 1950	44.8%	28.0%
Built between 1950 and 1969	30.3%	45.0%
Built between 1970 and 1984	11.11%	17.0%
Built after 1985	13.7%	10.0%

Facilities by Decade Built and Corresponding FCI

The following chart illustrates the number of facilities built per decade and the calculated FCI per decade.



FINDING 3: CONDITION NEEDS BY ASSET CLASS

The following table summarizes Facility estimates for Current Period condition deferred maintenance needs documented in the assessment:

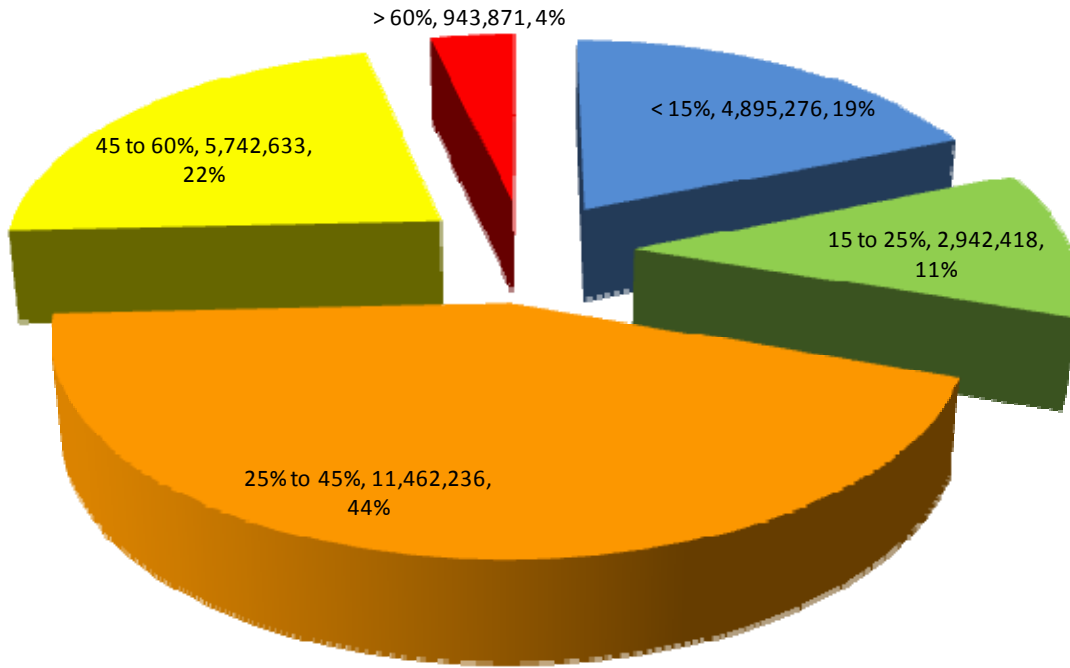
Asset Class	Building Count	Area (Sq. Ft.)	Cost (\$/Sq. Ft.)	Repair Costs	Replacement Value	FCI
High School /CTE / Alternative Ed Ctr / CAPA	44	8,127,866	\$ 548.44	\$ 1,146,571,195	\$ 4,457,637,956	25.7%
Middle / Middle Secondary	32	4,277,526	\$ 536.40	\$ 670,385,618	\$ 2,294,447,703	29.2%
Elementary School /LSH / PEC / Spec Ed	183	12,559,235	\$ 530.02	\$ 2,483,177,084	\$ 6,656,592,872	37.3%
Admin / Annex / Fieldhouse / Pool / Stands / Storage	45	740,149	\$ 552.90	\$ 130,536,922	\$ 409,231,321	31.9%
Closed Schools	4	363,851	\$ 522.62	\$ 71,758,949	\$ 190,155,424	37.7%
Totals	308	26,068,627	\$537.35	\$4,502,429,767	\$14,008,065,276	32.14%

The current needs are combined with the forecasted capital renewal needs through 2019 to create the Current Period needs. Forecast Period capital renewal needs in the range of 2020-2027 are included for long term planning purposes. The results are as follows:

Asset Class	Building Count	Area (Sq. Ft.)	Replacement Value	FCI	Repair Costs	Capital Renewal (2020-2027)	Total Needs
High School /CTE / Alternative Ed Ctr / CAPA	44	8,127,866	\$ 4,457,637,956	25.7%	\$ 1,146,571,195	\$ 1,097,281,702	\$ 2,243,852,897
Middle / Middle Secondary	32	4,277,526	\$ 2,294,447,703	29.2%	\$ 670,385,618	\$ 630,062,551	\$ 1,300,448,169
Elementary School /LSH / PEC / Spec Ed	183	12,559,235	\$ 6,656,592,872	37.3%	\$ 2,483,177,084	\$ 1,382,722,102	\$ 3,865,899,186
Admin / Annex / Fieldhouse / Pool / Stands / Storage	45	740,149	\$ 409,231,321	31.9%	\$ 130,536,922	\$ 110,338,267	\$ 240,875,189
Closed Schools	4	363,851	\$ 190,155,424	37.7%	\$ 71,758,949	\$ 66,366,216	\$ 138,125,165
Totals	308	26,068,627	\$14,008,065,276	32.14%	\$ 4,502,429,767	\$3,286,770,838	\$ 7,789,200,605

FINDING 4: FACILITY FCI PER GSF

The following chart indicates facility FCI per GSF.

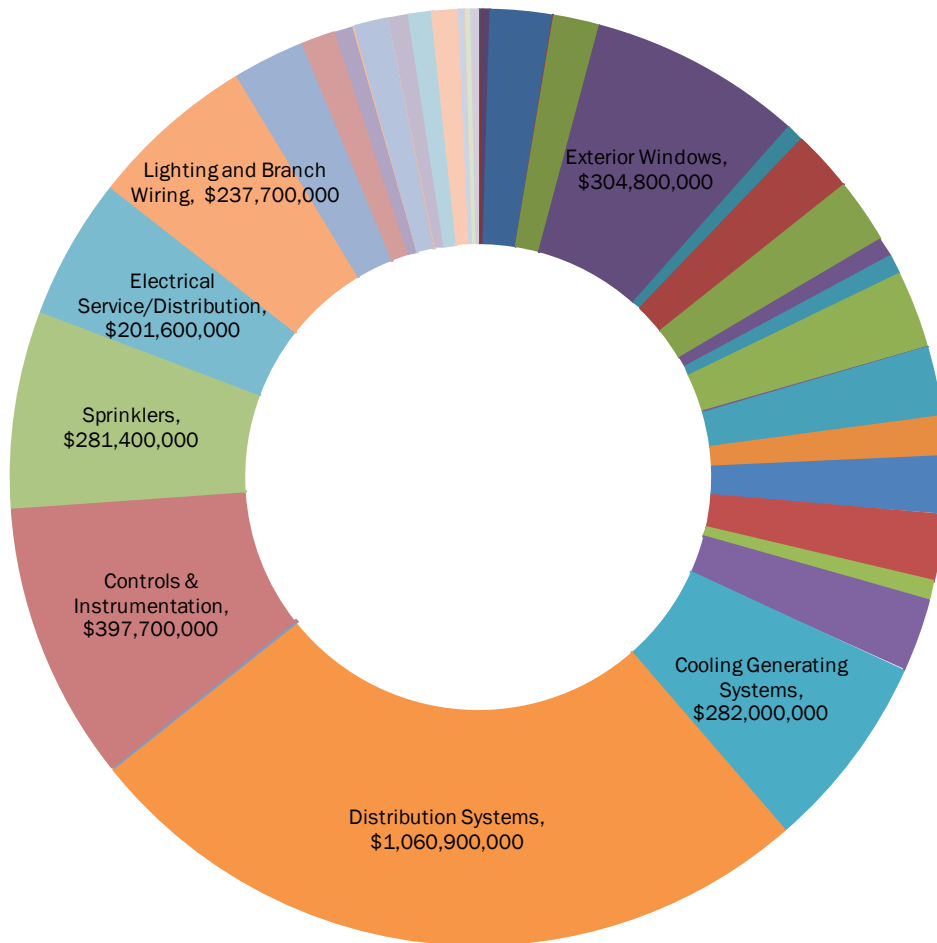


■ < 15% ■ 15 to 25% ■ 25 to 45% ■ 45 to 60% ■ > 60%

FCI % Range	Recommended Action
< 15 %	Minimal Capital Funding Required
15 to 25%	Refurbish Systems
25 to 45%	Replace Systems
45 to 60%	Building should be considered for major renovation
> 60%	Building should be considered for closing/replacement

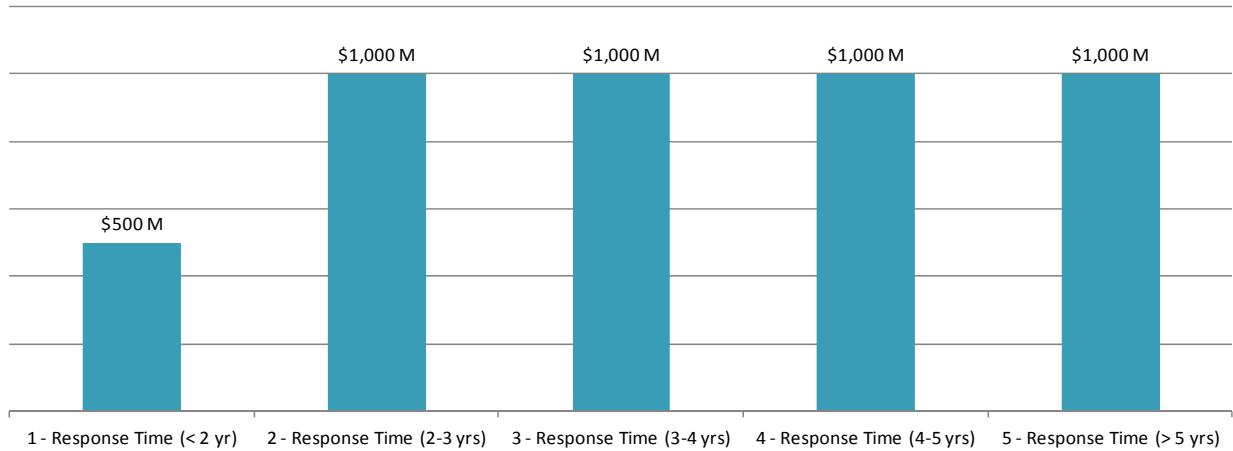
FINDING 5: FACILITY CONDITION NEEDS BY FACILITY SYSTEM

The following chart indicates facility condition needs by facility system in the assessment, ordered by repair estimate cost.



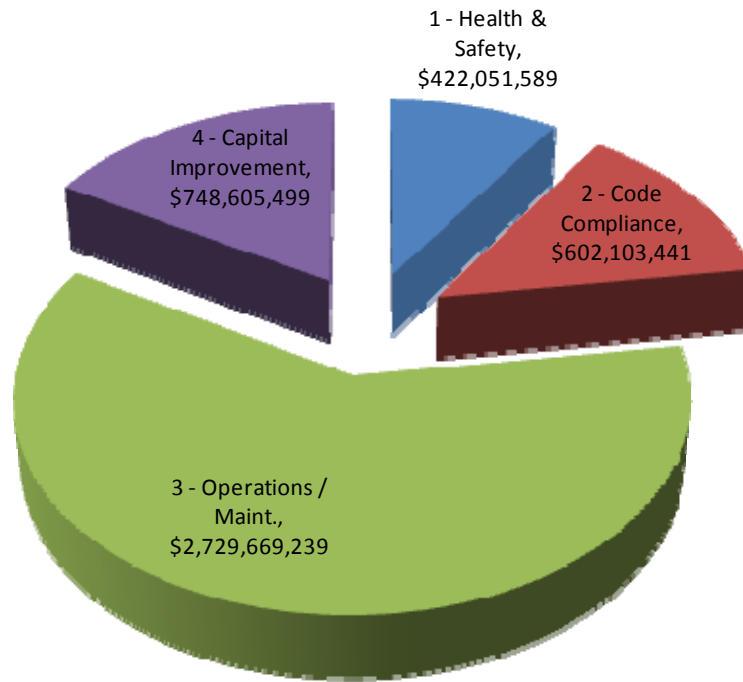
FINDING 6: FACILITY CONDITION NEEDS BY DEFICIENCY RESPONSE TIME

The following chart indicates facility condition needs by recommended response time periods found in the assessment. Priority was determined by assessor and school staff observations. Priorities do not reflect the *affordability* of needed repairs within the District, nor do they reconcile facility needs with a district’s master plan priorities or educational program objectives.



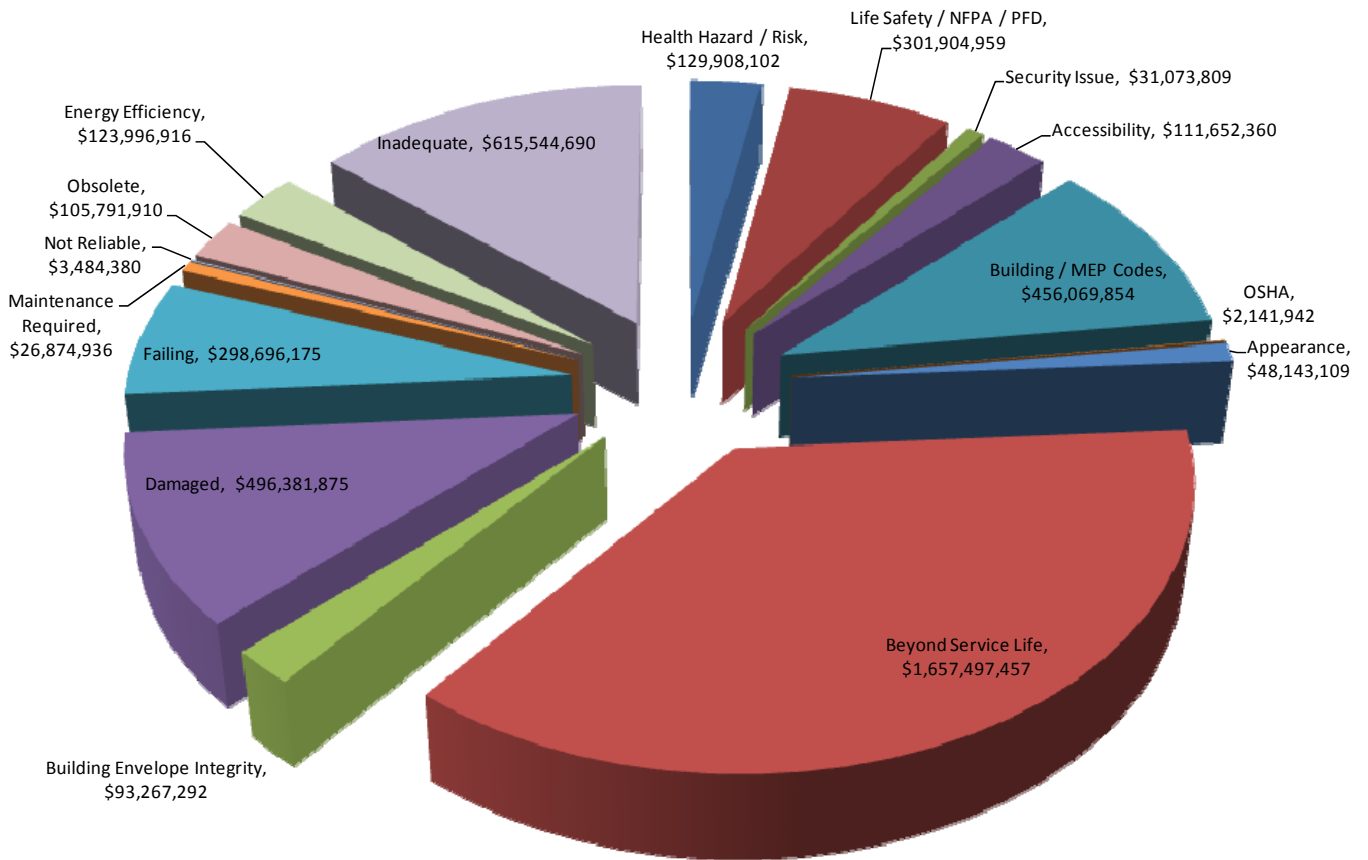
FINDING 7: FACILITY CONDITION NEEDS BY DEFICIENCY CATEGORY

The following chart indicates facility condition need by deficiency category. Categories do not reflect the *affordability* of needed repairs within the District, nor do they reconcile facility needs with the District’s master plan priorities or educational program objectives.



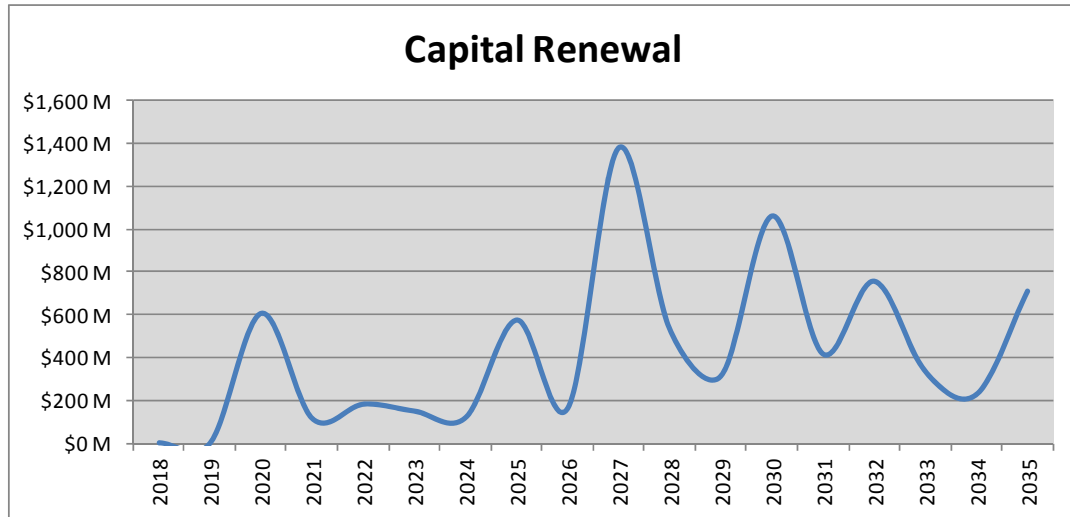
FINDING 8: FACILITY CONDITION NEEDS BY DEFICIENCY DISTRESS

The following chart and table indicate facility condition needs by deficiency distress. Distress does not reflect the *affordability* of needed repairs within the District, nor does it reconcile facility needs with the District’s master plan priorities or educational program objectives.



FINDING 9: FACILITY CONDITION CAPITAL RENEWAL FORECAST SPIKE

The chart below plots future capital renewal needs based on the current facility inventory's installed or built dates and their systems' projected expected lives. About 75% of SDP schools were built before 1969. Because of this, significant capital renewal needs will occur as their systems expire, with a major spike around 2027 of about \$1.3 billion. The spike can be partially mitigated through renewal programs in earlier and later years.



DEFICIENCY PRIORITIES

To prioritize the order in which items should be addressed, we establish a recommended response time period for each deficiency. The recommended response time periods are applied manually as deficiencies are reviewed and evaluated according to the descriptions below:

PRIORITY 1 – Response Time (< 2 Yrs)

These deficiencies require immediate action to:

- a) Return a facility to normal operation
- b) Stop accelerated deterioration
- c) Resolve an urgent compliance issue (codes, regulations)
- d) Correct a cited health or life safety concern

PRIORITY 2 – Response Time (2 to 3 Yrs)

Deficiencies include improvements that will:

- a) Enhance general safety/security of staff or patrons
- b) Diminish the likelihood of further rapid deterioration
- c) Resolve potential safety hazards
- d) Repair systems that are observed to be malfunctioning

PRIORITY 3 – Response Time (3 to 4 Yrs)

These are important repair items that are not immediately necessary, but will require attention in the near future.

PRIORITY 4 – Response Time (4 to 5 Yrs)

Projects in this category include conditions requiring appropriate attention to preclude predictable deterioration or potential downtime and the associated damage or higher costs if deferred further.

PRIORITY 5 – Response Time (> 5 Yrs)

These items are not required for the most basic function of a facility. However, Priority 4 projects will either improve overall usability and/or reduce long-term maintenance.

DEFICIENCY CATEGORIES

To enhance reporting, each deficiency is assigned a general category that is applied manually as deficiencies are reviewed and evaluated based on the structure below.

1. **Health & Life Safety** includes items considered as health hazards. It also refers to items that have a direct benefit by improving life safety for staff and patients.
2. **Code Compliance** refers to items documenting code compliance issues.
3. **Operations / Maintenance** refers to systems or equipment identified as unsightly, beyond their anticipated service life, damaged or failing, no longer reliable, or obsolete. It also applies to component systems that

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require significant maintenance including conditions that may compromise the integrity of the building envelope.

4. **Capital Improvement** refers to items identified as inadequate and in need of improvement as well as potential low cost or no-cost energy savings opportunities.

DISTRESS

To enhance reporting, each deficiency is assigned a distress that is applied manually as deficiencies are reviewed and evaluated based on the structure below.

1. **Accessibility** refers to compliance with the Americans with Disabilities Act.
2. **Appearance** refers to unsightly conditions that compromise the experience of patrons and staff.
3. **Beyond Service Life** includes equipment or systems considered for replacement simply because they have reached the end of their service life.
4. **Building / MEP Codes** refers to conditions that violate building codes.
5. **Building Envelope Integrity** includes conditions that compromise the integrity of the building envelope.
6. **Damaged** equipment or systems for which observed damage is significant and likely to compromise performance or integrity.
7. **Energy Efficiency** includes improvements that have the potential to reduce energy consumption.
8. **Failing** refers to equipment or systems that have failed or are failing.
9. **Health Hazard / Risk** includes items considered as health hazards. It also refers to items that have a direct benefit by improving life safety for staff and students.
10. **Inadequate** missing elements and/or conditions that do not support the mission and don't meet the criteria of other listed Distresses.
11. **Life Safety / NFPA / PFD** refers to conditions that violate Fire code (PFD)/Life Safety Code (NFPA).
12. **Maintenance Required** refers to components or systems where significant routine maintenance is necessary to improve performance.
13. **Not Reliable** includes equipment or systems that have demonstrated reliability issues.
14. **Obsolete** refers to equipment no longer manufactured for which replacement parts have become difficult to obtain.
15. **OSHA** compliance issues with OSHA standards.
16. **Security Issue** refers to conditions that threaten security of occupants or property.

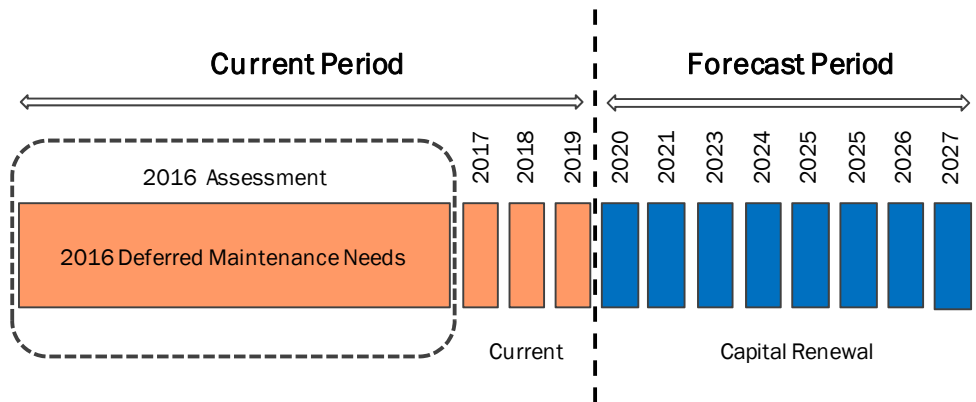
FACILITY CONDITION INDEX

The Facility Condition Index (FCI) represents the relative physical condition of facilities. The FCI measures the estimated cost of the current year deficiencies including recommended improvements and compares it to the projected Replacement cost of the various systems. The total cost of the repairs is divided by the current Replacement cost for the

systems resulting in the FCI. The higher the FCI the poorer the relative condition of the facility. For example, if the building systems have a Replacement value of \$1,000,000 with \$100,000 of existing deficiencies, the FCI is $\$100,000/\$1,000,000$ or 0.10, which can be thought of as 10% deficient.

CURRENT PERIOD VS. FORECAST PERIOD

The current period is defined as the sum of the current deficiencies and the forecast capital renewal for the next three years. Extending the current period creates a buffer during which the overall costs in the database won't change due to the accumulation of capital renewal. The forecast period starts in 2020, at which time we begin to accumulate capital renewal. This approach allows the initial cycle of funding, design, and construction to occur prior to the end of anticipated service life of a facility system or element.



This seven-year capital renewal window helps to mitigate district expiring system renewal funding spikes by reporting facility system renewal needs forward of the current year as current deferred maintenance. For example, a boiler with a 30-year expected useful life installed in 1988 represents a significant capital renewal need in 2018. Using a rolling 3-year window forward of the current year, capital renewal needs are identified in time to initiate the funding process and to proactively plan, design and construct capital renewal items.

COST MODELS

As part of the set up of the cost models for the software database, a comparison was made between the available RS Means models and the construction cost estimate provided by the District for other similar buildings and sites. In addition, Parsons applied a table of additional costs including a City cost Index and the District estimators advise that a significant contingency factor should be applied to account for pricing anomalies to account for variations. The table below provides estimated cost in dollars per square foot for a partial list of facilities. The Cost in dollars per square foot listed in the last column of the table applies these additional costs to the amounts in the Raw Cost column.

Description	Raw Cost (\$/ft ²)	Cost (\$/ft ²)
Elementary School	\$308.87	\$503.68
Middle School	\$317.09	\$517.09
High School	\$322.91	\$526.58
Career Technical Education Ctr	\$326.26	\$532.05

Description	Raw Cost (\$/ft2)	Cost (\$/ft2)
Field House	\$320.53	\$522.69
Storage Building	\$198.79	\$324.17
Grandstands	\$213.75	\$348.58
Administrative Building	\$315.96	\$515.24
Grounds	\$9.46	\$15.44

Figure 1 - Model Costs (Avg) by Facility Type

CITY COST INDEX

The R.S. Means data used to develop the cost models is a national average. As such, we modified the costs using a standard index (CCI) published by the R.S. Means Corporation. The current index for the nearest location is listed in the table below as a percentage of the national average.

ZipCode	Location	CCI %
190	Philadelphia, PA	114.0%
191	Philadelphia, PA	114.0%

ADDITIONAL COSTS

Contractor costs and Soft costs are additional costs that are necessary to accomplish the corrective work, but are not directly attributable to a deficient system. Soft costs must be added to the R.S. Means unit costs used in our estimates to show the true cost of the corrections. When applied using the table structure within the eCOMET software these factors compound mathematically into an overall multiplier. The additional cost factors used in our assessments are listed in the table below. The table provides an example that demonstrates the compounding effect for the SDP Additional Cost template starting with a Total Assembly Cost (or Raw Cost) of \$100,000 and calculating the Contractor Costs and Soft Costs with the combined total listed at the end.

Contractor costs can include: general conditions, overhead and profit, bonds and insurance, construction management fees, and permit costs. Soft costs can include: contingency, design fees, geotechnical investigations, environmental impact analysis, hazardous material remediation, program management fees (whether in-house or through a consultant), and various administrative fees.

TABLE OF ADDITIONAL COSTS

Code	Parameter Name	Value %	Applies To	Equals
TAC	Total Assembly Cost			\$100,000.00
CC	Contractor Costs			
GC	General Conditions	10.0%	TAC	\$ 10,000.00
ST	Sales Tax (Mat'ls & Equipt Rental)	4.0%	TAC	\$ 4,000.00
PT	Permits	1.0%	TAC	\$ 1,500.00
OP	Overhead & Profit	20.0%	TAC+GC+ST+PT	\$ 23,100.00
BI	Bonds & Insurance	2.0%	TAC+GC+ST+PT+OP	\$ 2,772.00
	CC Subtotal	41.37%		\$41,372.00
DC	Design & Estimating Contingency	20.0%	TAC	\$ 20,000.00
	Construction Cost	61.37%	TAC+CC+DC	\$161,372.00
SC	Soft Costs			
AE	A/E Fees	10.0%	TAC+CC+DC	\$ 16,137.20
CM	Construction Management Fees	0.0%	TAC+CC+DC	\$ 0.00
CC	Construction Contingency	10.0%	TAC+CC+DC	\$ 16,137.20
	SC Subtotal	20.00%		\$ 32,274.40
	Total Cost	93.65%	TAC+CC+DC+SC	\$193,646.40

As a result, a Contractor Cost factor of 29.94% and a Soft Cost factor of 25.50% were added to all deficiencies identified in the clinical buildings. It is important to note that these costs may vary once plans for executing the work are created.

REFERENCE ORGANIZATIONS

Several organizations referenced throughout the document and include:

Acronym	Organization
APPA	APPA - LEADERSHIP IN EDUCATIONAL FACILITIES: International organization focused on providing excellence in educational environments by transforming facilities and member institutions and elevating the recognition and value of educational facilities.
ASTM	ASTM INTERNATIONAL: International standards organization that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems, and services.
BOMA	BUILDING OWNERS AND MANAGERS ASSOCIATION: National organization of public and private facilities focused on building management tools and maintenance techniques. Comet reference: building and component system effective economic life expectancies
RSMeans	RSMEANS: Primary national company specializing in construction cost data. Comet reference: cost models and deficiency pricing
CSI	CONSTRUCTION SPECIFICATIONS INSTITUTE: Primary national organization specializing in construction materials data and data location in construction documents. Comet reference: Unifomat II materials classification
NIST	NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY: Agency in the US federal technology

Acronym	Organization
	administration that makes measurements and sets standards as needed by industry or government programs
A4LE	ASSOCIATION FOR LEARNING ENVIRONMENTS: Worldwide professional 501 (c)(3) non-profit association whose mission is improving the places where children learn.
NACUBO	NATIONAL ASSOCIATION OF COLLEGE AND UNIVERSITY BUSINESS OFFICERS: Non-profit organization focusing on higher education facilities management best practices.
NCES	NATIONAL CENTER FOR EDUCATIONAL STATISTICS: Non-profit organization focusing on public education facilities and management best practices.

SYSTEMS CLASSIFICATIONS

In this report, we’ve used the UNIFORMAT II, which is a format for classifying building elements and related site work. Elements, as defined here, are major components common to most buildings and facilities. Elements usually perform a given function, regardless of the design specification, construction method, or materials used. Using UNIFORMAT II ensures consistency in the economic evaluation of building projects over time and from project to project, and it enhances project management and reporting at all stages of the facilities life cycle—planning, programming, design, construction, operations, and disposal.

The report uses four hierarchical levels of definition. Starting from Level 1, the largest element grouping, it identifies Major Group Elements such as the Substructure, Shell, and Interiors. Level 2 subdivides Level 1 elements into Group Elements. The Shell, for example, includes the Superstructure, Exterior Closure, and Roofing. Level 3 breaks the Group Elements further into Individual Elements. Exterior Closure, for example, includes Exterior Walls, Exterior Windows, and Exterior Doors. Level 4 breaks the individual elements into yet smaller sub-elements. Standard Foundation sub elements, for example, include wall foundations, column foundations, perimeter drainage, and insulation. A major benefit of performing an economic analysis based on an elemental framework instead of on a product-based classification is the reduction in time and costs for evaluating alternatives at the early design stage. This encourages more economic analyses and more economically efficient choices among facilities and building elements. Other UNIFORMAT II benefits include providing a standardized format for collecting and analyzing historical data to use in estimating and budgeting future projects; providing a checklist for the cost estimation process as well as the creativity phase of the value engineering job plan; providing a basis for training in cost estimation; facilitating communications among members of a project team regarding the scope of work and costs in each discipline; and establishing a database for automated cost estimating. The COMET software automates access to the benefits of applying UNIFORMAT II in design specifications, cost estimating, and cost analysis. It provides summary sheets for presenting facility and site work elemental costs with cost analysis parameters in one efficient tool for communicating economic information to decision makers in a quickly understood, concise format that helps them make project choices. Construction managers, architects and engineers, operating and maintenance staff will find the classification useful.

The table below lists the anticipated service life in years for systems used in this report. The information listed in the table is based on our interpretation of Chapter 6 – Building Systems Useful Life of the very popular 1996 publication “How to Design and Manage Your Preventive Maintenance Program” offered by the Building Owners and Managers Association International (BOMA). The BOMA guide assumes regular preventive maintenance properly performed occurs at prescribed frequencies.

The BOMA “Building Systems Useful Life” publication was used as a reference for the service life of the building systems. The “American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) Applications Handbook” was also used as a reference for the service life of HVAC systems and equipment. It should be noted that in many instances

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the service life estimates are conservative, but these are the best available recognized standards for the anticipated service life of capital assets typically found in healthcare and research facilities.

The table also divides the facility into component Systems and System Groups organized alphabetically by the Uniformat coding sequence and lists the expected life cycles we typically use for each system in a survey.

System	System Group	Life	%Ren
Foundations	A1010 Standard Foundations	100	100
	A1020 Special Foundations	100	100
	A1030 Slab on Grade	100	100
Basement Construction	A2020 Basement Excavation	100	100
	A2020 Basement Walls	100	100
Superstructure	B1010 Floor Construction	100	100
	B1020 Roof Construction	100	100
Exterior Enclosure	B2010 Exterior Walls	100	100
	B2020 Exterior Windows	40	120
	B2030 Exterior Doors	25	110
Roofing	B3010 Roof Coverings	15	120
	B3020 Roof Openings	30	120
Interior Construction	C1010 Partitions	100	100
	C1020 Interior Doors	40	60
	C1030 Fittings	25	80
Stairs	C2010 Stair Construction	100	100
Interior Finishes	C3010 Wall Finishes	10	50
	C3020 Floor Finishes	15	60
	C3030 Ceiling Finishes	20	50
Conveying	D1010 Elevators and Lifts	25	65
	D1090 Other Conveying Systems	20	90
	D2010 Plumbing Fixtures	30	60
Plumbing	D2020 Domestic Water Distribution	20	75
	D2030 Sanitary Waste	25	90
	D2040 Rain Water Drainage	30	80
	D2090 Other Plumbing Systems	30	90
	D3010 Energy Supply	35	70
HVAC	D3020 Heat Generating Systems	25	85
	D3030 Cooling Generating Systems	25	80
	D3040 Distribution Systems	30	75
	D3050 Terminal & Package Units	20	95
	D3060 Controls & Instrumentation	15	100
	D3090 Other HVAC Systems/Equip	30	100
Fire Protection	D4010 Sprinklers	30	60
	D4020 Standpipes	30	90
Electrical	D5010 Electrical Service/Distribution	30	90
	D5020 Lighting and Branch Wiring	25	80
	D5030 Communications & Alarm Systems	15	100
	D5090 Other Electrical Systems	20	105

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System	System Group	Life	%Ren
Equipment	E1020 Institutional Equipment	25	90
	E1030 Vehicular Equipment	30	100
	E1090 Other Equipment	40	100
Furnishings	E2010 Fixed Furnishings	40	60

BUILDINGS GROUPED BY FCI TIERS

BUILDINGS WITH FCI < 15%

65 buildings in SDP's facility portfolio have FCI less than 15%. Tables below categorize the buildings by facility type.

High School / CTE / Alternative Ed Ctr / CAPA (15 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B552001	Kensington CAPA	2010	88,915	\$15,941	\$48,816,357	0.03%
B280001	Audenried	2008	211,515	\$87,140	\$107,457,855	0.08%
B102002	West Philadelphia	2011	170,013	\$432,371	\$91,742,524	0.47%
B712001	Fels	2009	249,787	\$1,181,853	\$141,757,959	0.83%
B103001	School of the Future	2006	162,211	\$1,469,479	\$88,267,786	1.66%
B403001	Carver	1949	149,810	\$1,525,991	\$76,257,165	2.00%
B202001	CAPA	1878	166,630	\$3,014,116	\$100,697,529	2.99%
B503001	Alt Ed Center	1975	164,000	\$2,612,808	\$84,628,500	3.09%
B145001	Miller	1966	67,200	\$1,741,353	\$29,109,348	5.98%
B555001	Kensington Culinary	2001	56,394	\$1,799,306	\$29,919,077	6.01%
B801001	Lincoln	2009	260,200	\$8,495,816	\$141,243,380	6.02%
B241001	GAMP	1913	83,460	\$4,038,466	\$43,304,735	9.33%
B243001	Palumbo	1930	185,206	\$10,688,936	\$96,880,618	11.03%
B506001	Mastbaum	1929	221,000	\$14,396,327	\$122,366,220	11.76%
B102202	West Philadelphia Automotive	1968	31,270	\$2,734,342	\$19,546,730	13.99%

Middle / Middle Secondary (6 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B737001	Washington, Grover	2000	149,500	\$3,471,556	\$79,459,199	4.37%
B804001	Rush	1968	173,550	\$4,497,895	\$93,848,331	4.79%
B750001	Feltonville Arts	1960	113,391	\$7,001,887	\$58,173,287	12.04%
B773001	Clemente	1994	232,815	\$14,612,527	\$119,539,308	12.22%
B215001	Thomas	1921	82,000	\$5,282,652	\$41,261,690	12.80%
B816001	Baldi	1971	185,113	\$14,005,303	\$95,459,866	14.67%

Elementary School / LSH / PEC / Spec Ed (29 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B120001	Barry	2008	99,287	\$5,666	\$49,849,042	0.01%
B834002	Solis-Cohen PEC	2009	24,325	\$8,310	\$14,855,094	0.06%
B724002	Creighton LSH	1999	22,748	\$9,197	\$13,433,297	0.07%
B559002	Webster LSH	2001	24,380	\$11,242	\$13,386,023	0.08%
B825002	Forrest PEC	2008	25,390	\$29,675	\$15,104,652	0.20%
B544001	Willard	2010	97,261	\$160,786	\$50,256,330	0.32%
B432002	Lamberton LSH	2000	25,158	\$68,062	\$15,356,912	0.44%
B517001	deBurgos	2002	131,500	\$316,304	\$65,830,634	0.48%
B835002	Spruance LSH	2001	25,016	\$94,842	\$14,748,296	0.64%
B533001	Hunter	2004	98,500	\$421,517	\$49,904,524	0.84%
B831002	Moore PEC	2006	23,200	\$111,132	\$12,602,692	0.88%
B448001	Overbrook Ed Center	1915	55,128	\$243,766	\$27,439,245	0.89%
B715001	Juniata Academy	2007	102,300	\$600,081	\$52,035,596	1.15%

Elementary School / LSH / PEC / Spec Ed - Continued

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B429001	Bluford	2009	78,257	\$593,620	\$40,034,855	1.48%
B747001	Bridesburg	1958	126,440	\$1,136,598	\$62,840,275	1.81%
B144002	Penrose LSH	2000	25,158	\$405,035	\$14,824,649	2.73%
B128001	Penn Alexander	2002	84,357	\$1,471,841	\$42,971,230	3.43%
B550001	Marshall, T	1997	114,000	\$2,358,030	\$56,765,029	4.15%
B722002	Carnell LSH	1997	23,523	\$666,081	\$15,040,033	4.43%
B840002	Frank LSH	1998	25,016	\$829,265	\$14,746,656	5.62%
B730002	Hopkinson LSH	1998	16,008	\$555,675	\$9,519,898	5.84%
B727002	Finletter LSH	1997	23,523	\$870,951	\$13,902,135	6.26%
B237001	McDaniel	1935	61,000	\$2,061,504	\$32,285,135	6.39%
B620002	Day LSH	2000	25,158	\$1,042,434	\$14,857,712	7.02%
B135001	Longstreth	1970	85,350	\$3,227,758	\$43,668,785	7.39%
B144001	Penrose	1971	48,882	\$1,881,739	\$24,416,555	7.71%
B444001	Allen, Ethel	1971	83,197	\$3,757,425	\$41,291,437	9.10%
B733001	Lawton	1973	79,856	\$4,124,735	\$39,027,410	10.57%
B526002	Elkin LSH	1998	18,308	\$1,536,959	\$10,858,153	14.15%

Admin / Annex / Fieldhouse / Pool / Stands / Storage (15 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B602906	Germantown Field (Concessions)	2007	1,120	\$0	\$457,937	0.00%
B401902	Gratz Fieldhouse	2007	6,850	\$0	\$4,004,386	0.00%
B200901	South Philadelphia Field (Fieldhouse)	1956	16,500	\$0	\$9,108,660	0.00%
B601904	Germantown Field (HomeStands)	2006	9,754	\$0	\$4,177,834	0.00%
B200906	South Philadelphia Field (Storage)	2008	2,400	\$0	\$730,416	0.00%
B401903	Gratz Field (Stands)	2007	14,850	\$2,210	\$4,962,279	0.04%
B237301	St Edmond	1912	68,076	\$209,556	\$33,147,853	0.63%
B601903	Germantown Field (VisitorStands)	2006	4,460	\$25,570	\$1,910,307	1.34%
B602907	Germantown Field (Restrooms A)	2007	947	\$8,919	\$377,088	2.37%
B602905	Germantown Field (Restrooms B)	2007	947	\$12,709	\$377,088	3.37%
B803903	Washington - grandstands	1963	24,000	\$235,640	\$4,453,680	5.29%
B802903	Northeast - Stands and Field	1957	22,330	\$277,111	\$3,841,655	7.21%
B701902	Frankford Field (Fieldhouse Stands)	1969	14,000	\$379,747	\$5,122,740	7.41%
B125101	St Vincents	1937	38,261	\$1,848,936	\$19,204,006	9.63%
B804002	Rush Annex	1968	13,845	\$1,146,757	\$8,141,012	14.09%

BUILDINGS WITH FCI 15% to 25%

22 buildings in SDP's facility portfolio have FCI between 15% and 25%. Tables below categorize the buildings by facility type.

High School / CTE / Alternative Ed Ctr / CAPA (6 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B101001	Bartram	1939	270,000	\$29,958,779	\$142,826,034	20.98%
B603001	Roxborough	1924	240,000	\$26,351,584	\$120,425,050	21.88%
B852001	Bartram Business	1967	8,996	\$875,545	\$3,789,538	23.10%
B604004	Saul Annex	1975	58,730	\$7,521,102	\$32,559,985	23.10%
B809001	Swenson	1976	171,922	\$20,887,621	\$86,676,820	24.10%
B502001	Edison	1988	316,000	\$41,422,525	\$167,840,096	24.68%

Middle / Middle Secondary (6 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B615001	Pickett	1970	187,604	\$16,231,357	\$91,804,362	17.68%
B413001	Shoemaker	1927	132,000	\$15,836,843	\$78,356,060	20.21%
B110001	Sayre	1950	200,000	\$21,698,079	\$107,206,248	20.24%
B113001	Tilden	1927	181,273	\$18,648,942	\$89,048,117	20.94%
B211001	Barratt	1908	134,000	\$18,204,240	\$79,230,602	22.98%
B814001	Meehan	1970	204,093	\$22,080,782	\$90,641,722	24.36%

Elementary School / LSH / PEC / Spec Ed (8 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B549001	Cayuga	1916	49,422	\$4,208,679	\$24,346,768	17.29%
B521001	Brown, H A	1959	67,795	\$6,304,130	\$33,742,286	18.68%
B264001	Southwark	1909	138,000	\$12,700,626	\$67,684,642	18.76%
B746001	Ziegler	1957	59,025	\$6,065,285	\$30,750,681	19.72%
B568001	Munoz Marin	1997	119,250	\$11,869,775	\$59,874,292	19.82%
B640001	Widener	1953	143,000	\$19,907,298	\$84,309,866	23.61%
B147001	Locke	1964	77,000	\$10,748,563	\$44,228,436	24.30%
B725001	Edmunds, H	1924	135,208	\$16,321,516	\$65,938,529	24.75%

Admin / Annex / Fieldhouse / Pool / Stands / Storage (2 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B629002	Levering Annex	1895	7,500	\$664,488	\$4,158,960	15.98%
B534201	Ludlow Community	1970	41,600	\$2,618,299	\$11,502,142	22.76%

BUILDINGS WITH FCI 25% to 45%

115 buildings in SDP's facility portfolio have FCI between 25% and 45%, of which 3 buildings are closed. Tables below categorize the buildings by facility type.

High School / CTE / Alternative Ed Ctr / CAPA (20 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B802001	Northeast	1957	310,296	\$44,046,955	\$158,331,035	27.82%
B213001	Vaux (closed)	1937	194,325	\$28,900,188	\$103,869,084	27.82%
B401001	Gratz	1927	345,000	\$51,458,805	\$180,640,950	28.49%
B414001	Strawberry Mansion	1964	249,000	\$36,458,604	\$123,708,870	29.47%
B229001	Franklin Learning Center	1908	150,000	\$24,727,454	\$77,956,088	31.72%
B105001	Robeson	1960	40,000	\$6,867,331	\$21,384,303	32.11%
B604001	Saul	1950	104,018	\$17,646,583	\$54,951,116	32.11%
B803001	Washington HS	1963	346,000	\$61,058,451	\$184,014,097	33.18%
B701001	Frankford	1914	313,765	\$56,647,976	\$164,374,106	34.46%
B201001	Franklin HS	1958	242,293	\$50,933,326	\$147,084,952	34.63%
B601001	Central	1939	212,097	\$37,583,131	\$107,260,788	35.04%
B705001	Olney HS	1931	332,185	\$62,705,508	\$168,884,158	37.13%
B605001	Girls	1956	233,372	\$45,964,540	\$122,981,577	37.38%
B654001	Lankenau	1971	74,000	\$16,527,176	\$41,431,886	39.89%
B501001	Kensington HS	1917	108,000	\$23,177,875	\$57,628,876	40.22%
B200001	South Philadelphia HS	1957	331,440	\$71,287,936	\$176,436,912	40.40%
B406001	Dobbins	1938	312,395	\$62,271,427	\$152,789,263	40.76%
B216001	Furness	1912	145,000	\$32,344,644	\$77,470,217	41.75%
B231001	Boone	1963	56,265	\$13,653,608	\$32,258,817	42.33%
B606001	King	1970	370,000	\$79,132,710	\$184,609,230	42.86%

Middle / Middle Secondary (12 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B112001	Sulzberger	1924	120,000	\$14,772,358	\$58,940,304	25.06%
B415001	Rhodes, E W	1971	180,000	\$30,094,446	\$96,704,890	31.12%
B410001	Beeber	1931	139,000	\$22,941,639	\$73,269,838	31.31%
B713001	Wagner	1928	81,589	\$15,638,985	\$48,603,482	32.18%
B116001	Turner	1969	190,000	\$36,451,268	\$101,051,660	36.07%
B527001	Elverson	1930	74,557	\$14,681,483	\$39,969,148	36.73%
B214001	Masterman	1933	105,000	\$21,641,107	\$54,726,279	39.54%
B512001	Stetson	1917	140,000	\$28,355,337	\$71,215,130	39.82%
B711001	Harding	1924	129,264	\$26,518,041	\$66,037,388	40.16%
B646001	Hill-Freedman	1980	46,959	\$9,498,566	\$22,661,660	41.91%
B812001	Wilson, W	1928	139,500	\$29,995,424	\$71,285,230	42.08%
B610001	Leeds	1953	168,259	\$35,552,652	\$80,850,615	43.97%

Elementary School / LSH / PEC / Spec Ed (71 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B119001	T B Read at Penrose	1910	42,719	\$5,399,013	\$20,520,290	26.31%
B263001	Sharswood	1906	73,000	\$9,776,523	\$36,249,119	26.97%
B742001	Smedley	1927	71,500	\$11,679,942	\$41,573,922	28.09%
B138001	Morton	1971	87,000	\$12,190,810	\$43,053,141	28.32%

Elementary School / LSH / PEC / Spec Ed - Continued

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B456001	Kelley, William	1965	72,000	\$11,827,447	\$41,298,632	28.64%
B251001	Jackson	1925	58,000	\$7,342,115	\$25,243,350	29.09%
B149001	Blankenburg	1923	64,000	\$9,469,804	\$32,332,012	29.29%
B639001	Steel	1973	85,350	\$13,093,496	\$43,926,032	29.81%
B248001	Arthur	1963	46,375	\$6,871,458	\$22,941,265	29.95%
B638001	Shawmont	1928	83,510	\$12,580,066	\$41,893,314	30.03%
B238001	Meredith	1930	55,437	\$8,419,475	\$27,757,427	30.33%
B269001	Taggart	1916	66,000	\$11,738,571	\$37,831,540	31.03%
B252001	Jenks, Abram	1897	31,475	\$4,920,009	\$15,709,437	31.32%
B224001	Bregy	1923	66,000	\$10,479,964	\$33,091,312	31.67%
B126001	Comegys	1909	70,644	\$11,196,778	\$35,348,662	31.68%
B735001	Lowell	1913	101,507	\$16,378,220	\$50,707,420	32.30%
B146001	Anderson	1962	68,235	\$11,147,747	\$34,009,543	32.78%
B430001	Heston	1970	81,640	\$13,760,728	\$41,168,503	33.43%
B839001	Fitzpatrick	1960	85,550	\$16,425,848	\$47,576,086	34.53%
B437001	Overbrook ES	1907	31,000	\$6,257,784	\$18,074,775	34.62%
B137001	Mitchell	1915	90,000	\$15,770,876	\$45,352,938	34.77%
B254001	Key	1889	49,000	\$8,619,771	\$24,755,977	34.82%
B451001	Douglass, F	1940	109,651	\$19,630,624	\$56,337,735	34.84%
B273001	Washington ES	1935	68,000	\$12,238,759	\$35,051,109	34.92%
B633001	Pastorius	1964	75,318	\$12,682,674	\$36,104,668	35.13%
B749001	Prince Hall	1971	79,000	\$14,345,721	\$40,790,706	35.17%
B751001	Bethune	1970	99,420	\$17,683,145	\$50,085,981	35.31%
B258001	Kirkbride	1926	57,000	\$10,271,538	\$28,799,363	35.67%
B548001	Kearny	1921	77,300	\$15,962,621	\$44,573,273	35.81%
B645001	Dobson	1930	52,500	\$10,803,655	\$30,003,427	36.01%
B559001	Webster	1968	92,275	\$18,258,210	\$50,415,444	36.22%
B841001	Pollock	1962	73,000	\$14,982,493	\$41,265,792	36.31%
B245001	Stanton, E M	1925	40,000	\$7,514,715	\$20,633,634	36.42%
B539001	Potter-Thomas	1967	79,933	\$14,714,696	\$40,215,252	36.59%
B232001	Girard	1957	66,685	\$12,168,038	\$33,084,097	36.78%
B219001	Fell	1922	61,000	\$11,375,949	\$30,611,251	37.16%
B753001	Rowen	1938	56,400	\$12,803,357	\$34,321,171	37.30%
B530001	Hackett	1969	108,550	\$19,954,950	\$53,489,082	37.31%
B632001	Mifflin	1937	62,100	\$11,874,874	\$31,695,993	37.46%
B247001	Greenfield	1970	96,000	\$17,696,107	\$46,956,360	37.69%
B421001	Daroff	1972	85,080	\$15,592,665	\$41,252,952	37.80%
B236001	Martin (Bache-Martin)	1937	58,000	\$13,258,196	\$34,929,276	37.96%
B131001	Harrity	1913	71,907	\$13,977,388	\$36,382,306	38.42%
B140001	Patterson	1920	72,876	\$14,212,410	\$36,814,798	38.61%
B732001	Howe	1913	40,500	\$9,185,367	\$23,573,598	38.96%
B134001	Lea	1914	70,000	\$14,000,166	\$35,730,893	39.18%
B627001	Jenks, John	1924	54,000	\$10,706,833	\$27,259,303	39.28%
B522001	Clymer	1964	72,643	\$14,046,720	\$35,581,925	39.48%
B136001	McMichael	1963	100,000	\$19,889,274	\$50,320,449	39.53%
B125001	Catharine	1937	57,500	\$11,753,769	\$29,611,273	39.69%

Elementary School / LSH / PEC / Spec Ed - Continued

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B123001	Bryant	1903	94,235	\$18,796,497	\$47,304,730	39.73%
B818001	Hancock	1968	66,000	\$13,455,596	\$33,802,058	39.81%
B626001	Houston	1927	72,000	\$14,624,204	\$36,276,843	40.31%
B542001	Welsh	1966	71,000	\$14,226,602	\$35,130,012	40.50%
B731001	Feltonville Intermediate	1936	84,000	\$16,925,121	\$41,721,754	40.57%
B447001	Wright	1970	82,000	\$16,197,263	\$39,597,760	40.90%
B739001	Morrison	1924	83,894	\$17,230,331	\$41,814,868	41.21%
B731002	Feltonville	1908	25,600	\$6,053,888	\$14,670,057	41.27%
B621001	Edmonds, F	1948	80,500	\$16,905,082	\$40,875,348	41.36%
B528001	Fairhill (closed)	1969	75,800	\$14,983,820	\$36,224,271	41.36%
B553001	Sheridan	1899	64,767	\$13,876,552	\$33,249,124	41.74%
B647001	Kelly, John	1970	101,976	\$21,821,063	\$51,949,017	42.00%
B729001	Stearne	1968	76,150	\$15,973,555	\$37,972,253	42.07%
B728001	Franklin ES	1915	87,870	\$18,870,958	\$44,693,752	42.22%
B427001	Dick	1954	71,000	\$14,786,271	\$34,707,030	42.60%
B422001	Blaine	1966	88,317	\$18,226,642	\$42,762,983	42.62%
B644001	Lingelbach	1955	64,963	\$13,665,457	\$31,740,549	43.05%
B239001	Morris	1966	80,000	\$17,174,264	\$39,540,104	43.44%
B453001	Gideon	1952	67,000	\$14,728,531	\$33,426,720	44.06%
B532001	Hartranft	1968	85,000	\$18,869,645	\$42,392,474	44.51%
B625001	Henry	1908	65,400	\$14,902,581	\$33,191,581	44.90%

Admin / Annex / Fieldhouse / Pool / Stands / Storage (12 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B448002	Overbrook Ed Center Annex	1960	14,236	\$2,090,390	\$8,196,531	25.50%
B544101	Willard Annex	1996	9,510	\$1,461,784	\$5,725,446	25.53%
B523101	Conwell Annex	1972	51,392	\$9,089,321	\$31,700,707	28.67%
B528002	Fairhill Annex	1969	17,096	\$2,719,657	\$9,349,782	29.09%
B542101	Rivera	1966	60,464	\$10,903,742	\$31,787,680	34.30%
B751401	Trinidad	1968	14,640	\$2,692,461	\$7,640,127	35.24%
B801909	Lincoln Field - Stands, Toilet Facilities, Track, and Field	1955	16,700	\$1,582,746	\$4,463,846	35.46%
B701901	Frankford Field (Fieldhouses)	1969	12,700	\$2,403,517	\$6,673,880	36.01%
B839201	Fitzpatrick (Annex)	1968	12,500	\$2,279,466	\$6,158,036	37.02%
B102901	West Philadelphia Field (Fieldhouse)	1955	13,326	\$3,392,021	\$8,889,642	38.16%
B842003	Decatur Annex	1969	13,230	\$3,017,505	\$7,209,276	41.86%
B138101	Our Lady of Loreto	1959	20,685	\$5,083,781	\$12,022,338	42.29%

BUILDINGS WITH FCI 45% to 60%

85 buildings in SDP's facility portfolio have FCI between 45% and 60%. Tables below categorize the buildings by facility type.

High School / CTE / Alternative Ed Ctr / CAPA (4 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B609001	Randolph	1975	121,579	\$27,124,876	\$58,935,850	46.02%
B604005	Saul Annex	1975	15,586	\$3,979,084	\$8,550,285	46.54%
B402001	Overbrook HS	1926	323,316	\$85,836,175	\$172,113,276	49.87%
B515001	Bodine	1935	59,000	\$18,426,080	\$31,003,193	59.43%

Middle / Middle Secondary (8 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B510001	Jones	1924	118,000	\$26,363,318	\$57,842,410	45.58%
B511001	Penn Treaty	1928	144,000	\$35,229,520	\$73,953,178	47.64%
B212001	Vare, E H	1924	120,000	\$29,133,991	\$61,154,900	47.64%
B832001	La Brum	1974	44,500	\$11,214,195	\$22,271,058	50.35%
B514001	Stoddart-Fleisher	1925	108,393	\$29,310,620	\$56,633,348	51.76%
B523001	Conwell	1926	55,600	\$15,073,285	\$28,299,720	53.26%
B611001	Roosevelt	1924	135,315	\$39,483,831	\$67,422,351	58.56%
B543001	Martin, James	1894	62,251	\$18,691,568	\$31,561,318	59.22%

Elementary School / LSH / PEC / Spec Ed (64 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B629001	Levering	1929	69,475	\$15,854,918	\$35,179,323	45.07%
B835001	Spruance	1949	102,143	\$23,171,369	\$51,335,274	45.14%
B837001	Comly	1929	70,200	\$17,925,149	\$39,230,772	45.69%
B537001	Moffet	1973	40,000	\$9,312,367	\$20,360,696	45.74%
B439001	Pratt	1954	59,000	\$14,663,411	\$32,045,565	45.76%
B641001	Cook-Wissahickon	1969	73,100	\$16,078,007	\$35,092,580	45.82%
B141001	Rhoads, J	1960	70,000	\$15,958,296	\$34,817,613	45.83%
B830001	Mayfair	1949	72,000	\$16,865,885	\$36,731,869	45.92%
B620001	Day	1952	42,000	\$11,329,873	\$24,620,377	46.02%
B643001	Wister	1955	93,715	\$22,014,447	\$47,612,533	46.24%
B130001	Harrington	1927	66,500	\$15,466,645	\$33,424,654	46.27%
B831001	Moore	1952	67,701	\$17,390,769	\$37,467,886	46.42%
B529001	Ferguson	1922	99,864	\$22,956,071	\$49,397,261	46.47%
B249001	Waring	1956	46,000	\$10,619,655	\$22,708,770	46.76%
B259001	Nebinger	1924	59,000	\$13,828,964	\$29,066,473	47.58%
B220001	Alcorn	1932	63,000	\$15,063,688	\$31,606,235	47.66%
B824001	Disston	1924	67,842	\$16,224,956	\$33,749,725	48.07%
B534001	Ludlow	1927	70,230	\$16,734,340	\$34,668,921	48.27%
B631001	McCloskey	1956	42,000	\$11,306,234	\$23,411,210	48.29%
B139001	Powel	1961	18,000	\$4,979,149	\$10,297,412	48.35%
B628001	Kinsey	1916	89,200	\$21,757,454	\$44,876,616	48.48%
B827001	Holme	1950	73,000	\$17,842,431	\$36,559,203	48.80%
B710001	Cooke	1923	117,600	\$28,567,794	\$58,466,246	48.86%
B842001	Decatur	1964	89,247	\$21,507,735	\$43,984,477	48.90%
B434001	Mann	1924	64,200	\$15,591,566	\$31,810,162	49.01%
B838001	Farrell	1959	73,882	\$18,532,513	\$37,800,375	49.03%
B825001	Forrest	1929	63,250	\$15,626,963	\$31,675,791	49.33%

Elementary School / LSH / PEC / Spec Ed - Continued

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B720001	Barton	1925	72,200	\$17,844,364	\$36,159,365	49.35%
B431001	Kenderton	1962	91,008	\$20,993,488	\$42,521,981	49.37%
B821001	Brown, J H	1937	54,623	\$14,195,716	\$28,226,719	50.29%
B721001	Birney	1912	59,200	\$13,024,478	\$25,751,772	50.58%
B738001	McClure	1910	57,500	\$16,705,231	\$32,914,606	50.75%
B446001	Duckrey	1968	101,115	\$25,231,895	\$49,625,718	50.84%
B535001	McKinley	1970	74,314	\$16,519,855	\$32,490,715	50.84%
B426001	Cleveland	1908	81,841	\$20,799,488	\$40,192,807	51.75%
B840001	Frank	1962	74,500	\$19,068,056	\$36,794,206	51.82%
B730001	Hopkinson	1927	65,000	\$16,795,172	\$32,399,990	51.84%
B843001	Greenberg	1964	90,000	\$23,063,588	\$44,359,585	51.99%
B569001	Hunter (Old)	1909	30,500	\$9,284,938	\$17,827,484	52.08%
B836001	Rhawnhurst	1949	46,000	\$13,962,987	\$26,761,288	52.18%
B834001	Solis-Cohen	1946	91,000	\$24,653,934	\$47,026,216	52.43%
B844001	Loesche	1965	88,000	\$23,735,328	\$45,160,081	52.56%
B121001	Belmont	1927	87,000	\$22,072,223	\$41,795,790	52.81%
B826001	Fox Chase	1949	52,500	\$15,463,015	\$29,119,539	53.10%
B526001	Elkin	1973	53,200	\$13,910,478	\$26,046,114	53.41%
B736001	Marshall, J	1909	58,450	\$15,461,299	\$28,938,728	53.43%
B432001	Lamberton	1949	110,193	\$30,177,914	\$56,443,821	53.47%
B520001	Adaire	1957	49,890	\$13,555,311	\$25,217,224	53.75%
B724001	Creighton	1930	63,232	\$14,642,625	\$27,180,502	53.87%
B743001	Sullivan	1930	65,000	\$17,795,913	\$32,871,954	54.14%
B635001	Pennypacker	1930	62,600	\$17,107,141	\$31,534,408	54.25%
B727001	Finletter	1930	62,760	\$17,213,080	\$31,484,979	54.67%
B726001	Ellwood	1957	55,621	\$14,531,916	\$26,529,958	54.78%
B823001	Crossan	1924	30,428	\$8,361,398	\$15,050,924	55.55%
B744001	Taylor	1907	56,600	\$16,317,703	\$29,220,709	55.84%
B234001	McCall	1909	68,076	\$19,273,275	\$34,396,556	56.03%
B457001	Meade	1937	94,000	\$26,587,407	\$47,296,213	56.21%
B142001	Washington, Martha	1930	71,300	\$20,027,113	\$35,421,473	56.54%
B740001	Olney ES	1900	42,198	\$12,012,968	\$21,221,789	56.61%
B133001	Huey	1964	88,183	\$24,868,445	\$43,749,458	56.84%
B556001	Spring Garden	1931	43,000	\$11,879,124	\$20,292,131	58.54%
B722001	Carnell	1931	74,885	\$22,067,850	\$37,545,427	58.78%
B634001	Pennell	1927	70,498	\$20,247,599	\$34,366,582	58.92%
B428001	Gompers	1950	56,000	\$19,450,452	\$32,974,736	58.99%

Admin / Annex / Fieldhouse / Pool / Stands / Storage (9 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B601901	Central Field (Fieldhouse)	1956	11,223	\$2,736,658	\$6,044,296	45.28%
B130101	Harrington Annex	1948	15,000	\$3,863,085	\$8,422,299	45.87%
B802901	Northeast - Field	1957	16,452	\$4,754,017	\$10,183,756	46.68%
B702902	Olney Stands	1968	11,200	\$1,829,993	\$3,850,224	47.53%
B803902	Washington Field - Fieldhouses, Stands, Football Field and Track	1963	22,000	\$6,218,343	\$12,333,853	50.42%
B147901	Haverford Center	1966	19,000	\$5,640,039	\$10,578,836	53.31%
B237101	King of Peace	1952	21,224	\$6,249,394	\$11,307,659	55.27%
B801902	Lincoln Field - Locker Facility	1955	18,529	\$6,581,720	\$11,821,741	55.67%
B101901	Bartram Field (Fieldhouse)	1950	3,580	\$1,389,002	\$2,391,025	58.09%

BUILDINGS WITH FCI > 60%

21 buildings in SDP's facility portfolio have FCI greater than 60%, of which 1 building is closed.

Tables below categorize the buildings by facility type. This FCI tier does not include any building in Middle / Middle Secondary category.

High School / CTE / Alternative Ed Ctr / CAPA (1 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B240001	Peirce, WS (closed)	1929	76,630	\$23,960,422	\$37,771,456	63.44%

Elementary School / LSH / PEC / Spec Ed (12 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B525001	Dunbar	1932	53,200	\$13,855,861	\$22,916,164	60.46%
B438001	Peirce, T M	1908	62,000	\$18,843,451	\$30,380,560	62.02%
B129001	Hamilton	1970	89,500	\$28,328,697	\$44,906,143	63.08%
B547001	Cramp	1969	80,088	\$25,678,231	\$39,750,240	64.60%
B622001	Emlen	1926	74,500	\$23,863,790	\$36,832,655	64.79%
B820001	Allen, Ethan	1930	66,482	\$21,838,552	\$33,465,820	65.26%
B630001	Logan	1924	65,000	\$21,335,512	\$32,381,280	65.89%
B221001	Bache-Martin	1906	45,300	\$16,345,458	\$23,575,460	69.33%
B623001	Fitler	1898	38,000	\$13,989,789	\$19,207,000	72.84%
B541001	Sheppard	1898	34,000	\$13,236,239	\$17,275,280	76.62%
B540001	Richmond	1929	48,300	\$16,748,313	\$21,193,242	79.03%
B424001	Cassidy	1924	59,123	\$24,971,234	\$30,252,903	82.54%

Admin / Annex / Fieldhouse / Pool / Stands / Storage (8 total)

Bldg ID	Building Name	Year Built	Gross Area (S.F.)	Repair Cost	Replacement Value	FCI %
B603901	Roxborough Field (Fieldhouse)	1940	10,000	\$3,342,684	\$5,202,825	64.25%
B602901	Germantown Field (Fieldhouse)	1968	7,775	\$3,624,435	\$5,510,533	65.77%
B744101	Our Lady of Pompei	1963	14,737	\$5,807,847	\$8,608,615	67.47%
B603902	Roxborough Field (Stands)	1970	13,100	\$4,289,847	\$6,323,480	67.84%
B702901	Olney Fieldhouse	1968	5,580	\$1,879,767	\$2,722,056	69.06%
B522201	St Bonaventure	1915	13,250	\$5,805,374	\$7,558,967	76.80%
B801903	Lincoln Field - Pool House	1974	10,000	\$8,099,602	\$9,299,380	87.10%
B602902	Germantown Field (Restrooms Opponents)	1968	676	\$295,423	\$315,963	93.50%



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