

Executive Summary for Second Priority Projects (31-50 Years Old)

As part of a Prince George's County Public Schools (PGCPS) initiative, Parsons 3D/International (Parsons 3D/I), in association with three subcontractors, conducted a Level 1, General Facility Condition Assessment on 137 schools identified as Second Priority Projects (31-50 years old).

A Level 1, General Facility Condition Assessment is defined as an assessment of the various building systems that make up a facility; for example, foundation systems, structural systems, roofing systems, and HVAC systems. The work involves gathering information such as make, model, and installation dates of various systems. Deficiencies are generated at a systems level and are based on the system installation date and the expected useful life of the system.

The purpose of this assessment is to help PGCPS define deferred maintenance and capital renewal funding requirements. This assessment includes elementary schools, middle schools, high schools, and other facilities, totaling 11.87 million gross square feet with a replacement cost of \$3.05 billion dollars.

According to the assessment, PGCPS' Second Priority Schools have an average Facility Condition Index (FCI) of 55.53%, which represents the relative physical condition of facilities (cost of needed repairs divided by replacement value). An FCI greater than 75% is considered poor by industry standards.

Deferred Maintenance Funding Need: The total rough order of magnitude budget required to address the current backlog of repair and renovations to Priority 2 school facilities is approximately \$1.69 billion. This cost reflects, to a great extent, the aging condition of facilities.

Capital Renewal Funding Need: In addition to the current backlog, the future continuing aging of facilities and their systems will add approximately \$497.96 million in additional funding needed over the next 10 years. The current FCI of 55.53% would deteriorate to 71.83% if no funding was applied to renew expiring facility systems (as shown in Figure 7 below).

This summary report summarizes the findings of all the Priority 2 school facilities assessed in 2007-2008 with the following reports:

- Cost Model
- Facility Condition Index (FCI)
- Deficiency Summary by Assembly
- Capital Renewal Summary
- Multi-scenario 10-year Funding Projections for Priority 2 Schools



Cost Model

The summary of the cost models developed for the building systems is noted below (See Attachment 1 for details):

Figure 1: Cost Model Summary at UNIFORMAT Level 1 for Priority 2 School Facilities

Systems	Unit Prices (Raw)	Unit Prices	Unit of Measure	Qty	Renewal%	Renewal\$	Gen	Life	Installed	Calc Next Renewal	Next Renewal	CI%	Deficiency\$	Replacement Value	FCI%	Next Inspection
Total						\$3,160,487,302							\$1,695,787,510	\$3,127,776,918	54	
Substructure						\$190,967,881							\$144,033	\$191,107,488	0	
Shell						\$719,321,613							\$156,046,801	\$719,138,657	22	
Interiors						\$716,507,653							\$407,030,933	\$685,560,155	59	
Services						\$1,318,841,449							\$990,743,842	\$1,317,184,695	75	
Equipment & Furnishings						\$85,773,434							\$79,969,506	\$85,773,434	93	
Special Construction						\$5,706,703							\$27,428,246	\$5,706,703	481	
Building Sitework						\$123,368,569							\$34,424,149	\$123,305,786	28	

Figure 2: Cost Model Summary at UNIFORMAT Level 2 for Priority 2 Schools

Systems	Unit Prices (Raw)	Unit Prices	Unit of Measure	Qty	Renewal%	Renewal\$	Gen	Life	Installed	Calc Next Renewal	Next Renewal	CI%	Deficiency\$	Replacement Value	FCI%	Next Inspection
Total						\$3,160,487,302							\$1,695,787,510	\$3,127,776,918	54	
Substructure						\$190,967,881							\$144,033	\$191,107,488	0	
Foundations						\$186,102,522							\$144,033	\$186,230,746	0	
Basement Construction						\$4,865,359								\$4,876,742		
Shell						\$719,321,613							\$156,046,801	\$719,138,657	22	
Superstructure						\$275,370,101								\$275,370,101		
Exterior Enclosure						\$216,408,228							\$78,335,447	\$216,300,306	36	
Roofing						\$227,543,284							\$77,711,354	\$227,468,250	34	
Interiors						\$716,507,653							\$407,030,933	\$685,560,155	59	
Interior Construction						\$207,504,575							\$66,999,018	\$207,427,068	32	
Stairs						\$8,987,818								\$8,967,632		
Interior Finishes						\$500,015,260							\$340,031,915	\$469,165,455	72	
Services						\$1,318,841,449							\$990,743,842	\$1,317,184,695	75	
Conveying						\$6,198,042							\$4,061,654	\$6,184,396	66	
Plumbing						\$157,489,012							\$125,564,704	\$157,494,482	80	
HVAC						\$775,927,825							\$578,134,862	\$774,404,558	75	
Fire Protection						\$56,289,999							\$51,256,185	\$56,289,999	91	
Electrical						\$322,936,571							\$231,726,437	\$322,811,260	72	
Equipment & Furnishings						\$85,773,434							\$79,969,506	\$85,773,434	93	
Equipment						\$85,773,434							\$79,969,506	\$85,773,434	93	
Furnishings																
Special Construction						\$5,706,703							\$27,428,246	\$5,706,703	481	
Special Construction						\$5,706,703							\$27,428,246	\$5,706,703	481	
Selective Building Demolition																
Building Sitework						\$123,368,569							\$34,424,149	\$123,305,786	28	
Site Preparation																
Site Improvements						\$40,205,087							\$23,244,499	\$40,142,304	58	
Site Mechanical Utilities						\$83,163,482							\$11,179,650	\$83,163,482	13	

Facility Condition Index

Using Condition Management Estimation Technology (COMET) software, we have used Facility Condition Index (FCI) and Extended Facility Condition Indices (EFCI) to score or rate facilities. Comparisons of facility condition can be made between any of the facilities in the County because these scores are calculated in a consistent manner from a common database.

a) Facility Condition Index:

One of the useful results of the assessment process is the determination of the Facility Condition Index (FCI). The FCI is a simple measurement of a facility's condition represented by the ratio of the cost to correct a facility's deficiencies to the current replacement value of the facility as shown in the following formula:

$$\frac{\text{Current Cost of Repairs}}{\text{Replacement Value}}$$

For example, if a building's replacement value is \$10,000,000 and the cost of correcting its existing deficiencies is \$5,000,000, the building's FCI is $\$5,000,000 \div \$10,000,000$, or 50 percent. The FCI is particularly useful when comparing similar facilities or schools within the same portfolio. Parsons 3D/I has assessed over a billion square feet for institutional and government clients across the country and, based on our experience, we have developed the following table (Table 1) for interpreting FCI results for schools.

Table 1: Interpreting FCI Results

Assessed Condition	FCI (Parsons - 3D/I Experience)
Good	0 to 40%
Fair	40 to 75%
Poor	> 75%

Compared to other school districts in Parsons 3D/I's historical database, the 55.53% FCI score for Priority 2 school facilities is fair, but trending towards poor.

b) Extended Facility Condition Index:

The Extended Facility Condition Index (EFCI) is similar in nature to the FCI with one exception. Whereas the formula for computing the FCI is the current cost of repairs divided by the replacement value of the facility, the EFCI calculation uses the following formula:

$$\frac{\text{Current Cost of Repairs} + \text{Projected Capital Renewal} = \text{Total Deficiencies}}{\text{Replacement Value}}$$

The estimated cost to repair current deficiencies at Prince George's County Priority 2 school facilities is approximately \$1.69 billion while the estimated replacement value of the facilities is approximately \$3.05 billion. Table 2, Detailed Cost and FCI Analysis by Schools, provides an in-depth analysis of the assessment results by school type.

Table 2: Detailed Cost and FCI Analysis by Schools

Facility	Area	Deficiency	Replacement	FCI	EFCI
Grand Total	11,878,934	\$1,695,725,354	\$3,053,877,072	55.53%	71.83%
Priority 2 School Facilities (137 Facilities) Total	11,878,934	\$1,695,725,354	\$3,053,877,072	55.53%	71.83%
Priority 2 Elementary Schools (84 Schools) Total	4,556,100	\$692,800,223	\$1,165,370,107	59.45%	77.15%
Avalon Elementary	45,027	\$9,988,444	\$12,178,652	82.02%	86.08%
Henry G. Ferguson Elementary	47,931	\$10,150,934	\$12,447,385	81.55%	90.09%
Samuel Chase Elementary	42,624	\$9,001,990	\$11,134,318	80.85%	88.86%
Tulip Grove Elementary	42,275	\$8,373,762	\$10,940,809	76.54%	84.47%
Middleton Valley Elementary	45,123	\$8,922,840	\$11,757,323	75.89%	80.85%
Matthew Henson Elementary	57,857	\$11,312,974	\$15,206,992	74.39%	85.33%
Glenarden Woods Elementary	52,061	\$9,800,278	\$13,498,443	72.60%	89.15%
Rose Valley Elementary	56,252	\$10,631,196	\$14,682,368	72.41%	79.82%
Owens Road Elementary	36,493	\$6,873,928	\$9,514,196	72.25%	90.86%
Francis T. Evans Elementary	57,742	\$10,513,543	\$14,589,407	72.06%	85.44%
Fort Washington Forest Element	45,648	\$8,460,292	\$11,769,138	71.89%	79.63%
William Beanes Elementary	56,175	\$9,687,849	\$13,560,916	71.44%	87.21%
Calverton Elementary	58,322	\$10,348,012	\$14,497,559	71.38%	82.21%
Apple Grove Elementary	51,842	\$9,288,112	\$13,113,869	70.83%	88.33%
Berkshire Elementary	44,315	\$7,979,345	\$11,459,836	69.63%	86.49%
Deerfield Run Elementary	72,390	\$13,070,210	\$18,836,004	69.39%	87.73%
Mattaponi Elementary	48,912	\$8,581,221	\$12,526,000	68.51%	96.00%
Cherokee Lane Elementary	44,319	\$7,767,666	\$11,462,559	67.77%	86.23%
Lamont Elementary	53,247	\$8,797,759	\$13,012,553	67.61%	84.45%
Springhill Lake Elementary	70,993	\$12,316,712	\$18,237,511	67.54%	81.75%
Gaywood Elementary	42,416	\$7,462,064	\$11,141,559	66.98%	85.17%
Flintstone Elementary	47,010	\$7,859,740	\$11,751,510	66.88%	81.84%
Melwood Elementary	68,142	\$11,251,206	\$16,976,613	66.27%	81.73%
Pointer Ridge Elementary	61,978	\$10,935,273	\$16,652,169	65.67%	89.97%
Kenmoor Elementary	43,997	\$7,344,799	\$11,196,003	65.60%	72.01%
Baden Elementary	56,625	\$9,642,924	\$14,717,557	65.52%	73.73%
William Paca Elementary	54,868	\$9,149,369	\$14,007,849	65.32%	81.94%
Yorktown Elementary	47,855	\$7,822,504	\$11,993,942	65.22%	75.10%
Robert Frost Elementary	48,852	\$8,508,942	\$13,099,696	64.96%	75.53%
Seat Pleasant Elementary	42,888	\$7,224,248	\$11,174,446	64.65%	73.84%
Kenilworth Elementary	58,323	\$9,511,130	\$14,781,870	64.34%	78.79%
Fort Foote Elementary	46,559	\$7,793,598	\$12,158,281	64.10%	69.30%
Arrowhead Elementary	59,923	\$9,470,733	\$14,817,970	63.91%	79.90%
Longfields Elementary	52,565	\$8,890,008	\$13,950,428	63.73%	76.43%
District Heights Elementary	54,415	\$9,049,726	\$14,249,686	63.51%	71.08%
Montpelier Elementary	62,209	\$9,463,852	\$14,906,807	63.49%	73.38%
Marlton Elementary	60,270	\$9,609,415	\$15,145,569	63.45%	82.36%
Skyline Elementary	37,225	\$6,449,134	\$10,180,446	63.35%	78.84%
Catherine T. Reed Elementary	56,889	\$9,023,284	\$14,256,037	63.29%	80.19%

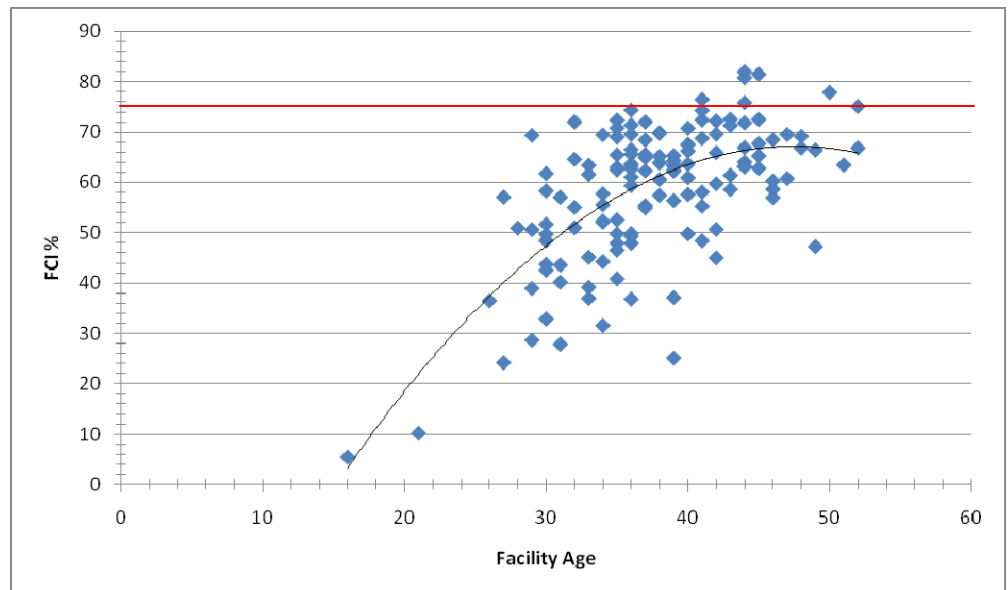
Facility	Area	Deficiency	Replacement	FCI	EFCl
High Bridge Elementary	54,643	\$9,773,025	\$15,481,988	63.13%	90.29%
John E. Howard Elementary	59,997	\$9,282,469	\$14,791,860	62.75%	71.06%
Concord Elementary	43,984	\$7,250,644	\$11,594,984	62.53%	75.32%
James R. Randall Elementary	70,891	\$11,228,597	\$17,964,158	62.51%	74.16%
Magnolia Elementary	54,506	\$8,619,614	\$13,987,457	61.62%	81.65%
Beltsville Elementary	110,597	\$16,410,894	\$26,691,288	61.48%	78.29%
Waldon Woods Elementary	56,829	\$8,508,997	\$13,948,328	61.00%	76.50%
Glenridge Elementary	109,197	\$17,415,424	\$28,634,930	60.82%	69.87%
Valley View Elementary	52,431	\$8,386,948	\$13,829,843	60.64%	70.74%
Glassmanor Elementary	35,928	\$5,530,838	\$9,164,813	60.35%	82.34%
Barnaby Manor Elementary	54,726	\$8,555,434	\$14,312,913	59.77%	80.70%
Princeton Elementary	41,337	\$6,756,896	\$11,514,408	58.68%	87.15%
Oxon Hill Elementary	63,729	\$9,523,706	\$16,317,194	58.37%	77.45%
Oakcrest Elementary	46,152	\$6,962,654	\$11,977,205	58.13%	90.99%
Thomas Claggett Elementary	61,175	\$8,749,273	\$15,138,528	57.79%	82.24%
James McHenry Elementary	53,162	\$7,766,239	\$13,472,485	57.65%	80.81%
Capitol Heights Elementary	44,764	\$6,868,975	\$11,949,965	57.48%	74.38%
Indian Queen Elementary	60,507	\$8,554,091	\$14,972,917	57.13%	69.44%
Rockledge Elementary	56,252	\$8,152,941	\$14,276,950	57.11%	83.42%
Woodmore Elementary	56,101	\$7,668,803	\$13,586,847	56.44%	86.32%
Kettering Elementary	57,651	\$8,182,935	\$14,716,959	55.60%	78.81%
Overlook Elementary	47,649	\$6,578,066	\$11,864,238	55.44%	69.40%
Cooper Lane Elementary	47,370	\$6,831,218	\$12,350,756	55.31%	79.09%
Patuxent Elementary	58,579	\$8,009,651	\$14,539,605	55.09%	66.25%
Allenwood Elementary	48,686	\$6,722,409	\$12,226,763	54.98%	72.09%
Oaklands Elementary	41,427	\$6,029,400	\$11,460,613	52.61%	96.01%
J. Frank Dent Elementary	39,236	\$5,205,630	\$9,979,309	52.16%	66.98%
Paint Branch Elementary	59,021	\$7,613,762	\$14,717,354	51.73%	64.70%
James H. Harrison Elementary	56,925	\$7,136,720	\$13,978,221	51.06%	85.26%
Laurel Elementary	59,444	\$7,452,009	\$14,613,916	50.99%	67.41%
John H. Bayne Elementary	49,779	\$6,346,398	\$12,735,972	49.83%	67.65%
Heather Hills Elementary	36,825	\$4,761,299	\$9,645,922	49.36%	69.84%
Carrollton Elementary	45,842	\$5,419,771	\$11,185,118	48.46%	65.03%
Bond Mill Elementary	58,325	\$7,248,003	\$15,107,392	47.98%	70.65%
Langley Park-McCormick Element	64,194	\$7,796,936	\$16,726,408	46.61%	61.17%
Rogers Heights Elementary	56,588	\$6,399,314	\$14,160,470	45.19%	69.53%
Ardmore Elementary	54,047	\$6,376,057	\$14,148,256	45.07%	70.51%
Benjamin Foulois Elementary	114,715	\$13,277,211	\$29,962,563	44.31%	65.45%
Templeton Elementary	63,432	\$6,899,450	\$15,808,982	43.64%	74.81%
John Carroll Elementary	56,505	\$5,937,725	\$13,935,525	42.61%	62.70%
Beacon Heights Elementary	26,742	\$2,660,353	\$6,822,532	38.99%	84.26%
Edgar Allan Poe Elementary	45,401	\$4,725,715	\$12,704,529	37.20%	76.87%
Dodge Park Elementary	50,499	\$3,011,874	\$12,423,507	24.24%	55.12%

Facility	Area	Deficiency	Replacement	FCI	EFCl
Berwyn Heights Elementary	45,387	\$1,171,820	\$11,440,035	10.24%	40.72%
Carmody Hills Elementary	52,366	\$711,019	\$12,921,825	5.50%	39.39%
Priority 2 Middle Schools (27 Schools) Total	3,236,088	\$498,878,413	\$832,220,547	59.95%	72.92%
Annex Bldg. at Suitland High	70,993	\$13,827,648	\$18,401,792	75.14%	82.84%
Charles Carroll Middle	114,778	\$21,031,274	\$28,986,655	72.56%	82.94%
Eugene Burroughs Middle	126,286	\$23,531,982	\$32,480,329	72.45%	79.67%
Oxon Hill Middle	106,801	\$19,647,240	\$27,721,496	70.87%	75.68%
Robert Goddard Middle	133,631	\$22,526,480	\$32,272,776	69.80%	77.91%
Kenmoor Middle	128,381	\$23,431,349	\$33,719,596	69.49%	82.35%
John Hanson Alt. Middle	110,413	\$20,823,239	\$30,092,657	69.20%	75.39%
Benjamin Tasker Middle	161,678	\$27,067,776	\$39,205,452	69.04%	80.55%
Gwynn Park Middle	129,348	\$21,711,670	\$31,704,005	68.48%	79.87%
Drew Freeman Middle	142,413	\$26,882,126	\$40,197,570	66.88%	75.19%
Thomas Johnson Middle	133,631	\$24,216,264	\$36,378,985	66.57%	74.95%
Thurgood Marshall Middle	120,192	\$20,820,596	\$31,569,294	65.95%	73.99%
Thomas G. Pullen Middle	110,422	\$17,705,449	\$27,080,391	65.38%	76.81%
G. Gardner Shugart Middle	100,018	\$17,156,213	\$26,936,477	63.69%	78.02%
Walker Mill Middle	129,348	\$20,566,360	\$32,629,156	63.03%	80.72%
Green Valley Alternative Middle	42,995	\$7,624,736	\$12,131,821	62.85%	66.43%
James Madison Middle	129,348	\$20,322,124	\$32,877,490	61.81%	69.97%
Samuel Ogle Middle	133,631	\$20,370,817	\$33,315,250	61.15%	79.09%
Stephen Decatur Middle	120,070	\$19,997,984	\$33,680,309	59.38%	70.65%
Benjamin Stoddert Middle	101,862	\$14,735,819	\$25,844,209	57.02%	70.73%
Dwight D Eisenhower Middle	139,951	\$20,395,757	\$38,929,820	52.39%	61.59%
Issac J. Gourdine Middle	136,707	\$18,849,571	\$37,183,450	50.69%	59.94%
William Wirt Middle	106,318	\$11,957,827	\$27,321,367	43.77%	56.14%
Andrew Jackson Middle	151,163	\$13,789,598	\$34,274,783	40.23%	70.97%
Nicholas Orem Middle	105,697	\$9,878,851	\$25,196,849	39.21%	58.60%
Buck Lodge Middle	122,497	\$11,007,126	\$29,837,396	36.89%	59.10%
Martin L. King Middle	127,516	\$9,002,537	\$32,251,172	27.91%	66.36%
Priority 2 High Schools (16 Schools) Total	3,571,282	\$409,854,263	\$917,438,029	44.67%	62.63%
Gwynn Park High	194,845	\$30,555,014	\$48,301,895	63.26%	77.64%
Potomac High	210,130	\$35,174,978	\$56,471,951	62.29%	76.16%
Tall Oaks High	39,361	\$6,420,491	\$10,949,409	58.64%	78.35%
Oxon Hill High	243,048	\$30,661,819	\$60,441,377	50.73%	58.23%
Crossland High	313,276	\$41,643,611	\$83,450,804	49.90%	75.88%
Bowie High	280,306	\$35,387,653	\$71,016,849	49.83%	59.77%
Friendly High	236,861	\$31,877,635	\$64,095,400	49.73%	58.67%
Eleanor Roosevelt High	327,458	\$39,388,905	\$81,246,402	48.48%	60.53%
Largo High	243,581	\$29,434,191	\$61,359,457	47.97%	65.24%
Laurel High	299,764	\$31,066,348	\$75,955,374	40.90%	73.54%
Duval High	214,360	\$20,119,714	\$54,317,734	37.04%	50.72%
Parkdale High	254,965	\$22,707,265	\$62,109,760	36.56%	49.43%

Facility	Area	Deficiency	Replacement	FCI	EFCI
Central High	168,366	\$14,665,860	\$44,538,348	32.93%	38.56%
Forestville High	193,222	\$15,480,167	\$48,934,620	31.63%	66.35%
Surrattsville High	167,322	\$12,637,007	\$44,010,910	28.71%	43.33%
Frederick Douglass High	184,417	\$12,633,605	\$50,237,739	25.15%	69.44%
Priority 2 Other Facilities (10 Facilities) Total	515,464	\$94,192,455	\$138,848,389	67.84%	81.48%
Thomas Addison Building Other	25,438	\$5,123,023	\$6,574,585	77.92%	85.76%
Margaret Brent Other	48,236	\$10,735,017	\$14,443,448	74.32%	81.86%
H. Winship Wheatley ECC Other	85,882	\$16,658,197	\$23,118,503	72.06%	89.05%
Jesse B. Mason Other	32,174	\$6,273,966	\$8,971,959	69.93%	77.92%
Chapel Forge Other	50,373	\$9,188,998	\$13,207,257	69.58%	88.89%
Bonnie S. Johns	44,083	\$8,028,006	\$11,540,244	69.57%	78.72%
Belair Annex (Part of Bowie HS	102,351	\$17,532,114	\$25,492,278	68.77%	77.21%
William Schmidt Center Other	38,146	\$6,659,281	\$10,017,751	66.47%	84.08%
Francis R. Fuchs ECC Other	46,633	\$8,033,962	\$12,884,238	62.35%	80.03%
Tanglewood Other	42,148	\$5,959,891	\$12,598,126	47.31%	70.32%

Table 2 shows that the FCI ranges from 5.50% to 82.02%, which according to Table 1, Interpreting FCI Results, indicates facilities range from good to poor condition. Also, from Figure 3, FCI by Building Age for Priority 2 School Facilities, it is evident that most of the schools lie in between 40% and 75% FCI range and are in fair condition. The FCI information shown above is consistent with our experience considering the ages of the facilities we have evaluated.

Figure 3: FCI by Building Age for Priority 2 School Facilities



The accepted practice within the assessment field is to consider replacing rather than repairing a building when the FCI approaches or exceeds the 75% range. For facilities with an FCI in or near this range,

the master capital planning process should carefully weigh issues such as:

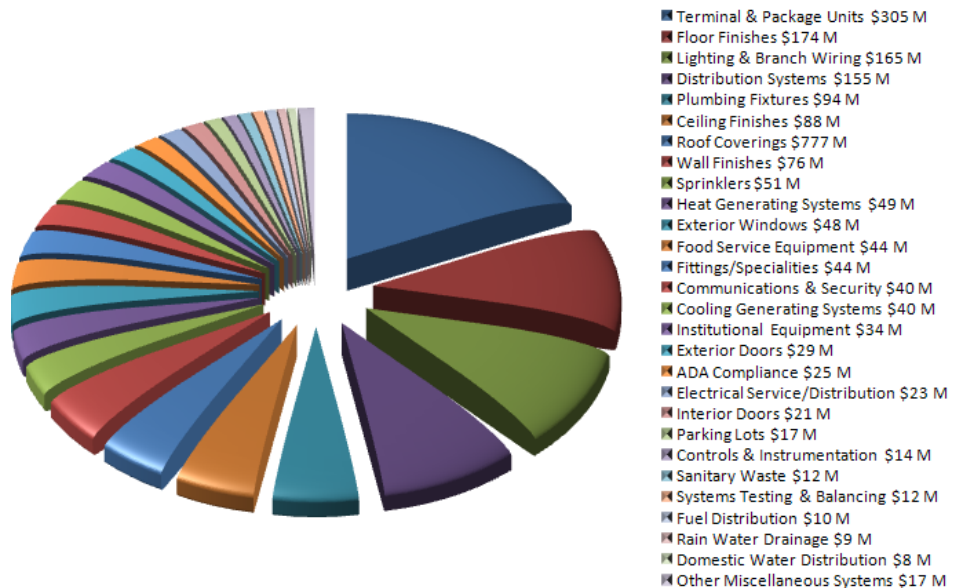
- Student population (current versus projected) of the school
- General condition of foundations and superstructures
- Needs for additional space
- Appropriateness of current location

According to the facility condition assessment, there are seven school facilities that lie above 75% range, i.e., Avalon Elementary, Samuel Chase Elementary, Middleton Valley Elementary, Henry G. Ferguson Elementary, Thomas Addison Building/Other, Annex Building at Suitland High, and Tulip Grove Elementary. The costs shown in Table 2 include upgrading all school building systems that are beyond their expected useful life and correcting current deficiencies.

Cost Estimate Summary by Building System

Much of the cost identified by this facility condition assessment is associated with **Mechanical and Electrical Systems**. Costs pertaining to mechanical systems such as Terminal & Package Units are typically for adding or replacing unit ventilators, unit heaters, radiant heaters, window or through-the-wall air conditioners, heat pumps, air handling units, furnace, and rooftop air conditioners. Figure 4, Cost Estimate Summary by Building System for Priority 2 School Facilities, shows the percentage by system for correcting the deficiencies representing most of the cost for the Priority 2 facilities.

Figure 4: Cost Estimate Summary by Building System for Priority 2 School Facilities



See Attachment 3 for Deficiency Estimates for each individual assembly. Other mechanical systems such as the heat generating systems include costs for repair or replacement of boilers, pipe insulation, and pumps; the cooling generating systems include chillers, cooling towers,

evaporative coolers, pipe insulation, and pumps. The deficiency dollars associated with distribution systems include costs for replacing supply and return air systems, air handling units, ductwork, and exhaust systems. The electrical system costs are typically associated with replacing service panels or branch circuit and replacing light fixtures.

In addition, **Food Service Equipment** is on average in poor condition and 65% of all food service equipment is beyond normal life expectancy, and most facilities do not comply with **ADA accessibility guidelines** due to their advanced ages.

Capital Renewal

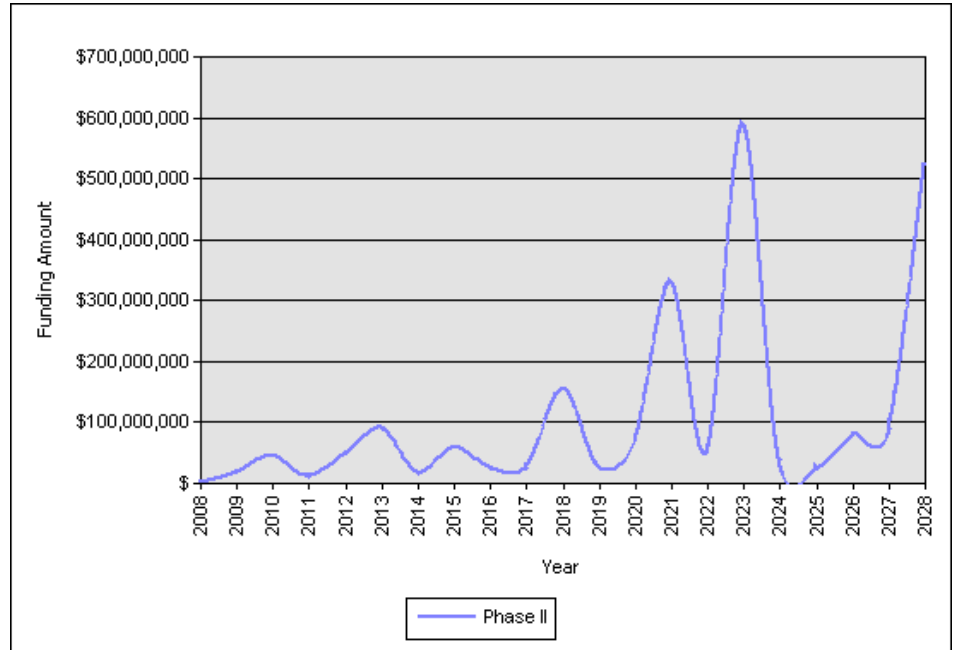
An integral part of this report is a look toward the future. Having identified today's needs, a forecast of future system depreciation was prepared. This forecast assists in the creation of budgets for future capital renewal requirements.

Future capital renewal requirements are estimated by taking the cost of a particular system renewal and forecasting the date of renewal by determining the expected life; we breakdown all building components in our cost models using this same logic. The information generated by the cost models allow us to assess the remaining life of each main system for every school and to forecast the expected time of replacement of those systems. Although the cost models do not provide perfect information, they do produce a reasonable approximation of the expected cost for system replacement. Figure 5, Capital Renewal Forecast for Priority 2 School Facilities, shows the 20 year projection for capital renewal funding, excluding current deficiencies.

This process results in defining replacement projects needed in order to eliminate deferred maintenance and restore functionally obsolete facilities to usable condition. Over the life of a building, there are spikes in capital renewal due to building systems expiring and the need to reinvest in the building's functionality.

See Attachment 4 for renewal costs of building component systems, e.g., roofs, walls, plumbing systems, and electrical systems for all the schools.

Figure 5: Capital Renewal Forecast for Priority 2 School Facilities

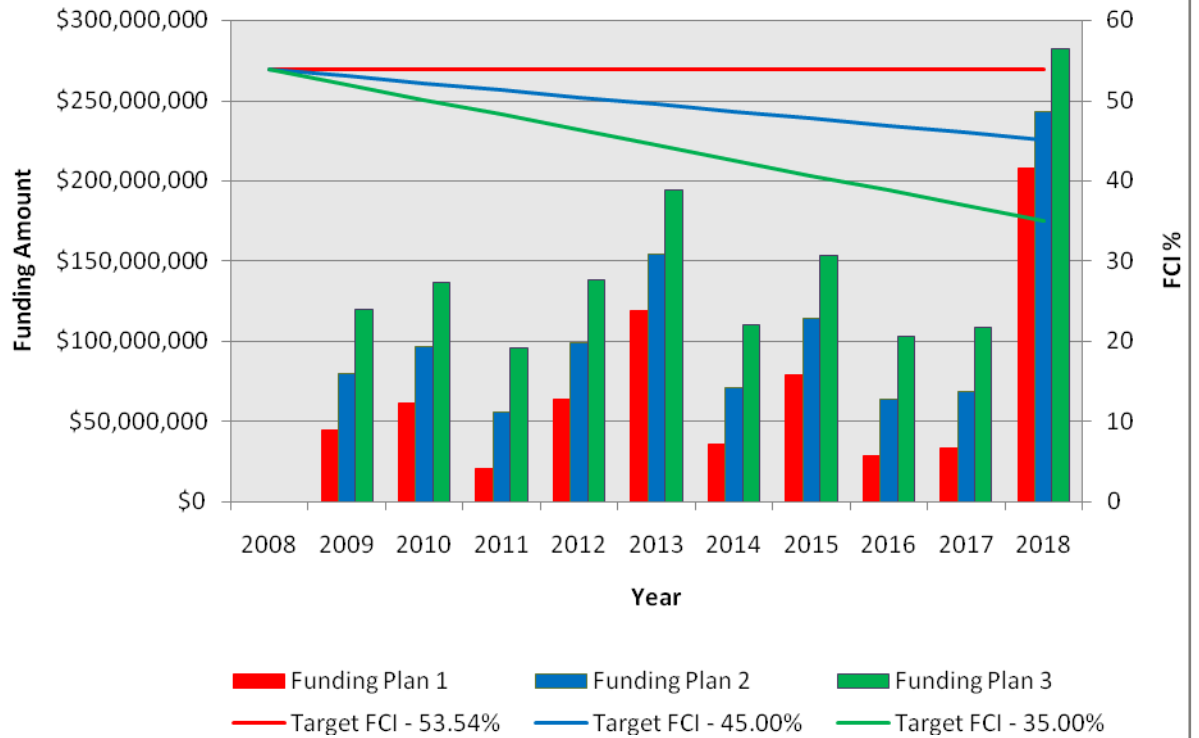


Because the forecast is based on the existing building systems, the above graph helps monitor the annual expenditures and improve the management of building conditions.

Multi-scenario 10-year Funding Projections for Prince George's County

Figure 6, Facility Funding vs. FCI for Prince George's County, shows the total funding requirements over the next 10 years for three funding scenarios. For example, Funding Plan 1 shows the annual funding needed to maintain the current FCI; Funding Plan 2 shows the annual funding needed to reduce the overall FCI to 45%; and Funding Plan 3 shows annual funding needed to reduce the overall FCI to 35%. Simple adjustments to the target FCI within the COMET software will allow Prince George's County decision makers to create multiple "what if" scenarios that will provide them with a graphic illustration of each possible funding decision. The table below list the values used to compile the chart.

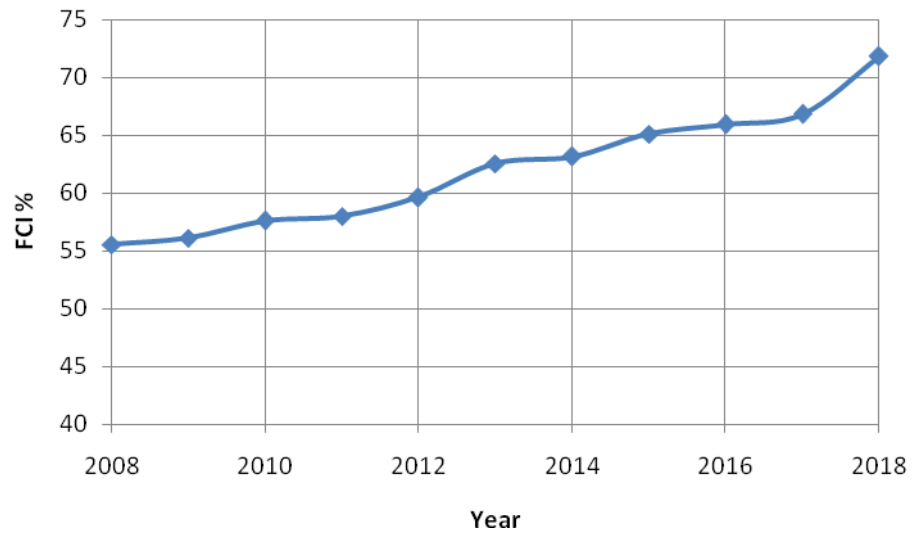
Figure 6: Facility Funding vs. FCI for Prince George's County



Year	Funding Plan 1 (FCI – 53.54 %)	Funding Plan 2 (FCI – 45 %)	Funding Plan 3 (FCI – 35 %)
2009	\$44,959,279	\$80,193,105	\$119,625,373
2010	\$61,868,023	\$97,101,849	\$136,534,117
2011	\$21,095,622	\$56,329,449	\$95,761,716
2012	\$63,982,976	\$99,216,803	\$138,649,070
2013	\$119,389,446	\$154,623,273	\$194,055,540
2014	\$35,811,546	\$71,045,373	\$110,477,640
2015	\$78,954,599	\$114,188,426	\$153,620,693
2016	\$28,736,811	\$63,970,638	\$103,402,905
2017	\$33,886,265	\$69,120,092	\$108,552,359
2018	\$207,922,355	\$243,156,182	\$282,588,449
Total:	\$696,606,923	\$1,048,945,191	\$1,443,267,863

If no money is spent on the schools to renew the expiring or failing systems for next 10 years, the FCI of the Prince George's County Priority 2 schools would deteriorate from 55.53% to 71.83%, as shown in the Figure 7.

Figure 7: Increase in the FCI of Schools if No Money is Spent in Next 10 Years



Attachments

- 1) Cost Model Summary (Facility Condition Report) for Priority 2 Schools
- 2) Facility Condition Index Report for Priority 2 Schools
- 3) Deficiency Estimate Report for Priority 2 Schools
- 4) Renewal Summary Report for Priority 2 Schools