FACILITIES & TRANSPORTATION

Fairfax County Public Schools

Capital Improvement Plan

August 7, 2013

Capital Improvement Plan

Purpose of the FCPS Capital Improvement Plan

FCPS annually develops a five-year Capital Improvement Program (CIP) to address future facility needs. Primary basis of the CIP:

- Current Capacity & Enrollment
- Projected Enrollment
- Renovation Cycle – 25 year cycle preferred
- Infrastructure Management – deferred major maintenance
- Cash Flow and Debt Service as established by the BOS

The CIP is reviewed annually with the School Board and adjusted as necessary.

Capital Improvement Plan

CIP Project Prioritization

The School Board in conjunction with FTS prioritize the projects contained within the CIP based upon sound standards and within the Capital Budget:

• **Capacity Enhancement** (additions & new schools) take precedence over all other work

• **Renovation Projects** – Comprehensive renewal of facilities; prioritized through the Renovation Queue which is evaluated and ranked by an independent 3rd Party

• **Infrastructure Management Projects** - (ADA, Roofing, HVAC) these projects exceed the ability of the operating fund to cover the costs; primarily due to the length of the renovation cycle

All Projects are predicated upon well defined Educational Specifications which ensure instructional parity across the system and allow a reasonable construction estimate and scope

CIP Project Methodology

Based upon methodologies which have been developed and enhanced for more than 40 Years:

- **Cost Effective** and **Space Efficient** buildings which support the program of studies (educational specifications) and enrollment

- **Sustainable** and **Energy Efficient** facilities which are conducive to learning – we believe our schools should be used as learning tools

- Projects developed **Collaboratively** with the **School Administration**, **PTA, FPAC, Chamber of Commerce** and interested **Community Partners**

Project Methodology Expansion

There have been multiple changes over the past 20 years which have added complexity to the project planning and ultimately the scope of any project:

- **Building Code** - The most dramatic impact of code changes is reflected in the building mechanical systems and the size of spaces.

- **Storm Water** – Federal ,State and Local requirements have added significant costs to most projects

- **Site Access** – All new and renovation projects attempt to construct kiss & ride lanes, separate cars and busses, include bus parking and mitigate school generated traffic in neighborhoods

- **ADA –** Although all of our buildings are accessible – the implementation of ADA leads to increased costs

- ***Sustainable Requirements –*** FCPS created a nationally recognized CHPS Criteria in accordance with SB policy

Why do we Renovate?

The Renovation Program is clearly the most efficient and responsible method to meet our needs:

• **Cost Effective-**Less costly to renovate than build new

•**Sustainability-** Adaptively re-using our buildings reduces our carbon footprint, reduces waste and preserves green space. It is often said that the greenest building is the one already standing

• **Capacity**– Each renovation project is designed to accommodate current and future capacity in the school and area

• **Parity**- Renovated schools are able to provide the full complement of program spaces necessary for Fairfax County students

• ***Extend the Useful Life of the Building***- Each Renovation includes the installation of high efficient mechanical and electrical systems, new fire protection, ADA upgrades, security upgrades, finishes within a reasonable budget

Capital Improvement Plan

How is the Money Spent in a Project?

Here is a breakdown of spending within a renovation project.

The majority of costs (75%) in a construction project are not readily visible.

While most people are only aware of the remaining (25%)

Edison High School Renovation	Construction Cost	Project SQ FT	Costs per SQ FT
	$ 48,501,000	351,000	$138

Infrastructure		Total Costs	% of Project Costs	Costs per SQ FT
Mechanical	$	8,612,617	17.8%	$25
Electrical	$	7,275,537	15.0%	$21
Site	$	5,837,079	12.0%	$17
Roofing	$	3,774,047	7.8%	$11
Plumbing	$	2,926,433	6.0%	$8
Electronic Systems	$	1,641,000	3.4%	$5
Sprinkler	$	950,500	2.0%	$3
Automatic Temperature Controls	$	998,500	2.1%	$3
Total Infrastructure	$	32,015,713	66.0%	$91

Exterior/Structural Systems		Total Costs	% of Project Costs	Costs per SQ FT
Structural Steel	$	2,052,600	4.2%	$6
Masonry	$	1,653,107	3.4%	$5
Concrete - Footings/Slabs	$	650,000	1.3%	$2
Total Exterior/Structural Systems	$	4,355,707	9.0%	$12

Interior Finishes		Total Costs	% of Project Costs	Costs per SQ FT
Finishes	$	3,880,000	8.0%	$11
Miscellaneous (Contingency/Other)	$	2,350,000	4.8%	$7
Doors	$	1,423,000	2.9%	$4
Furnishings	$	1,391,000	2.9%	$4
Equipment	$	1,040,400	2.1%	$3
Specialties	$	822,815	1.7%	$2
Windows	$	714,300	1.5%	$2
Wood & Plastics	$	350,000	0.7%	$1
Total Interior Finishes	$	11,971,515	24.7%	$34

Capital Improvement Plan

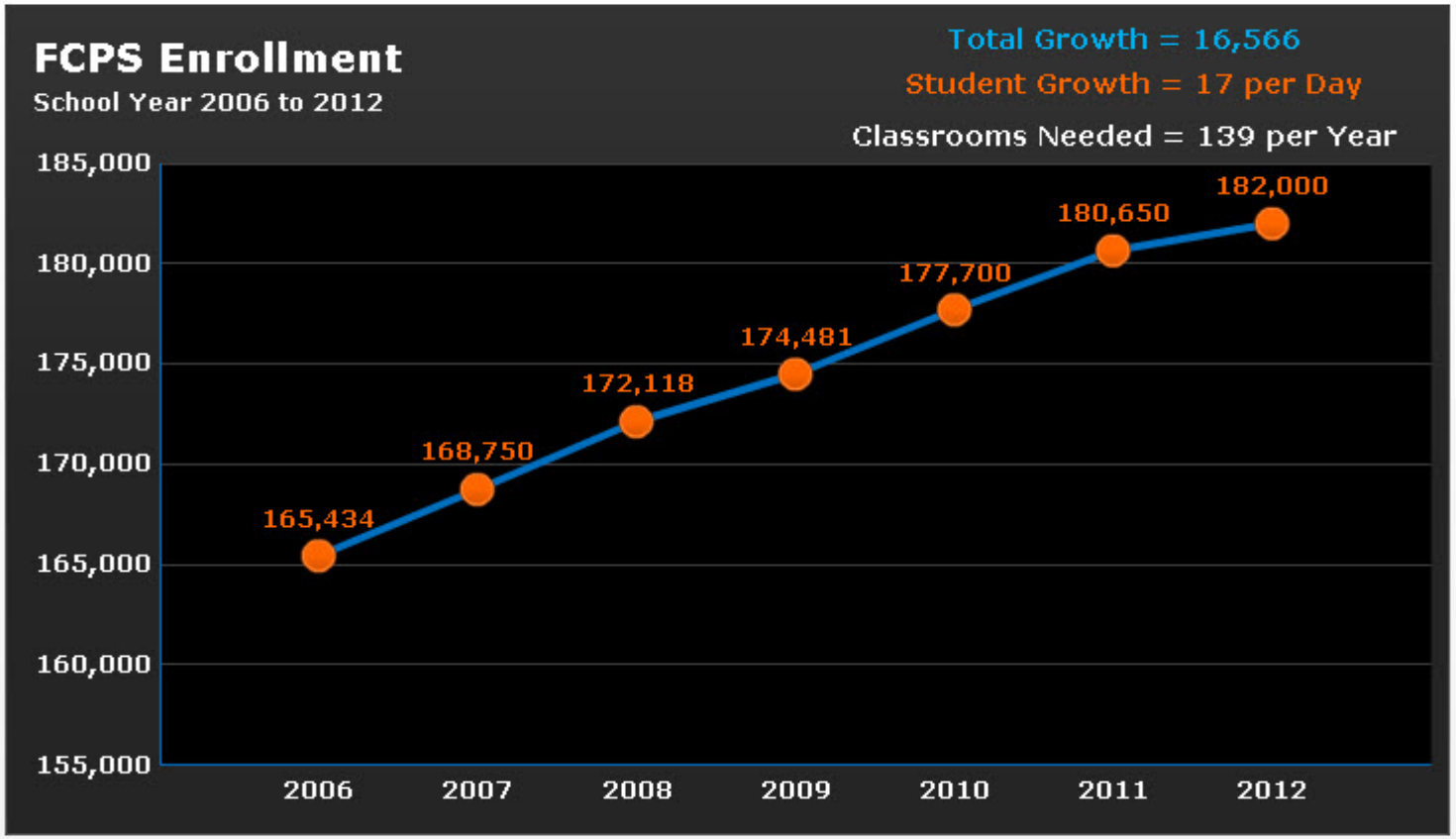
Capital Improvement Plan

Challenges and Requirements

Capital Improvement Plan

Our Primary Need– Additional Capacity

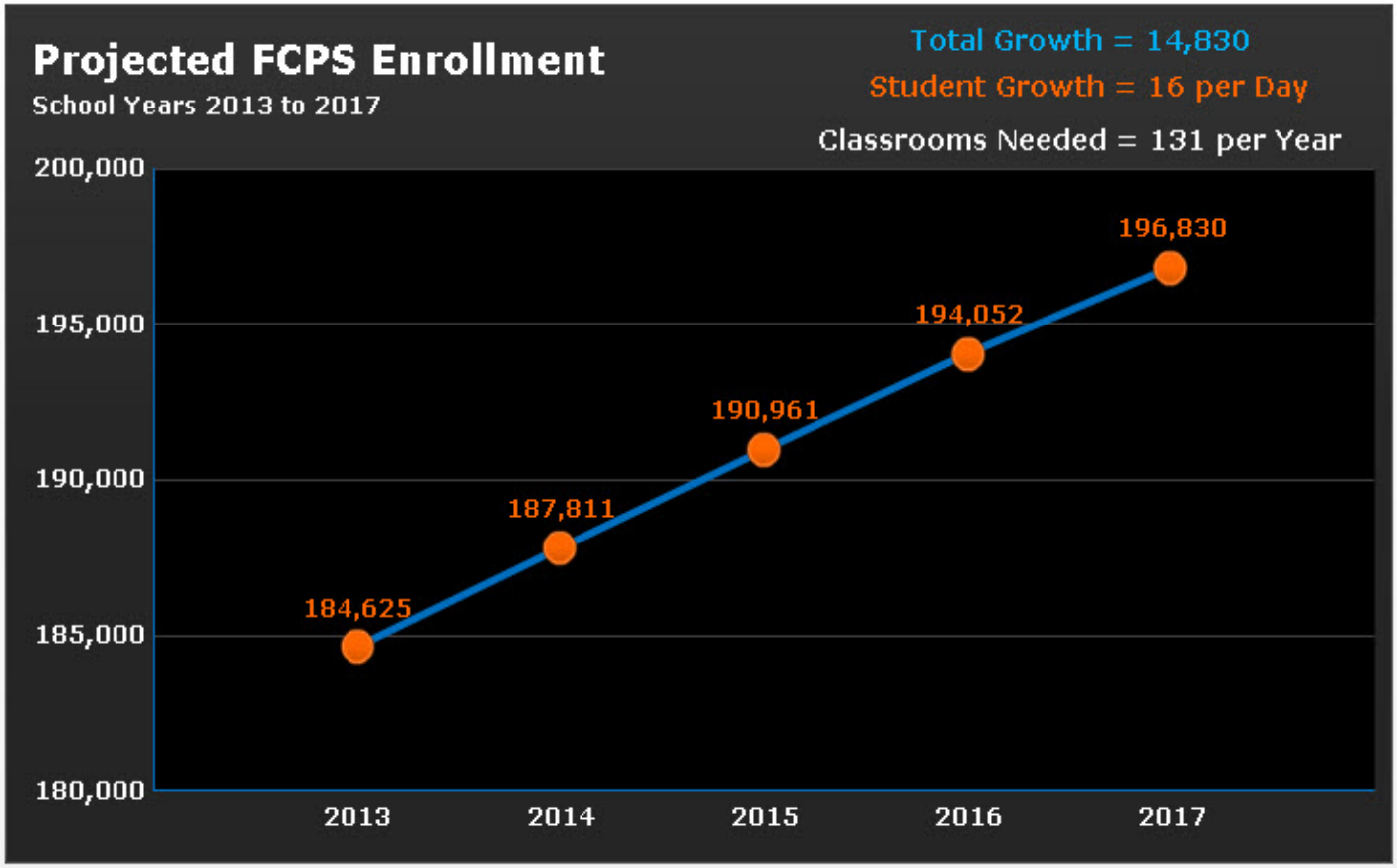
We previously indicated that over the past 7 years our enrollment increased by nearly 17,000 students for a total of 182,000 students.



Capital Improvement Plan

Future Requirements

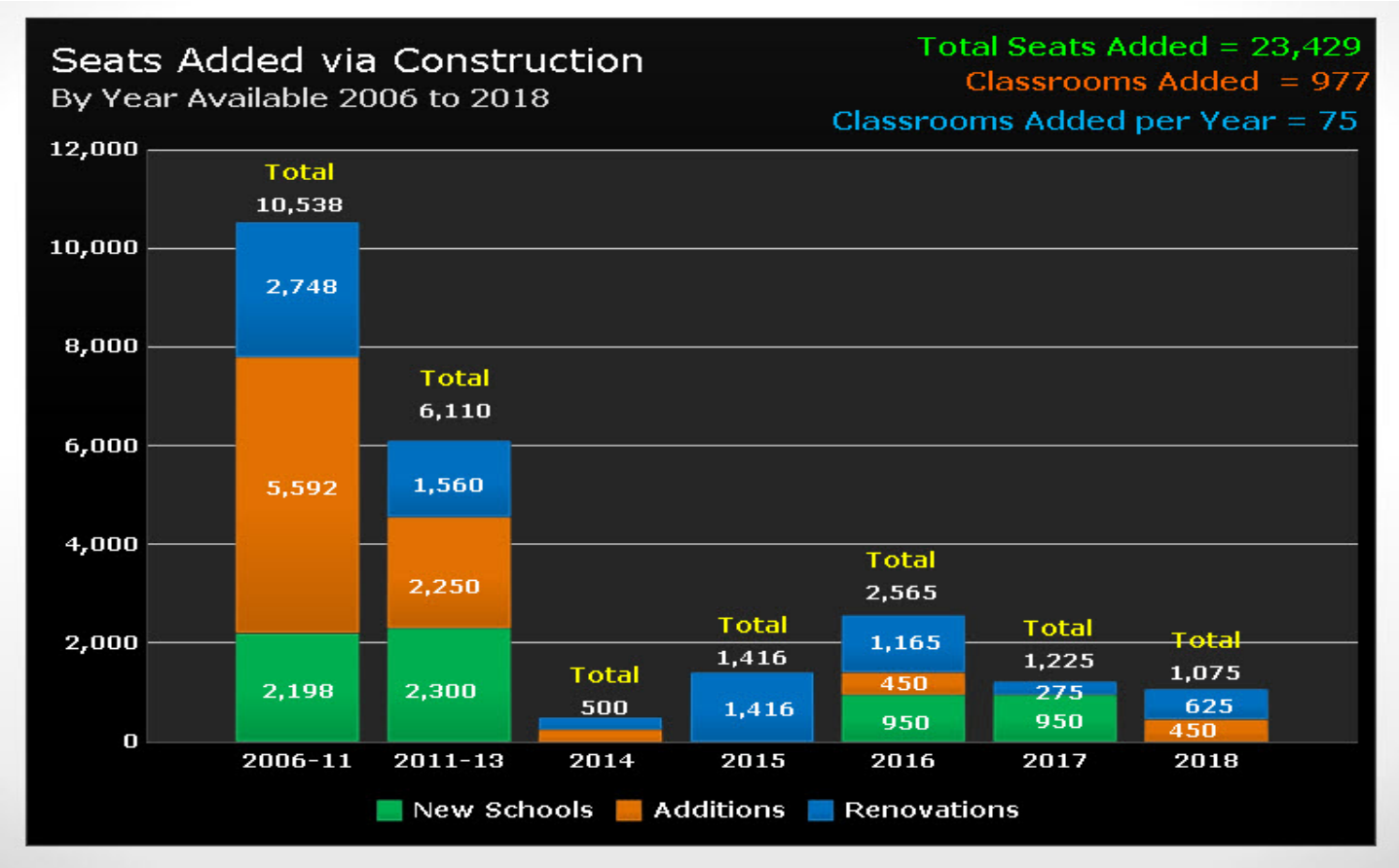
Our projections indicate that another 14,830 students can be expected over the next five years – resulting in a 10 year increase of 31,396 students.



Capital Improvement Plan

How are we Managing the Growth ?

We have been and expect to be able to create approximately 75 classrooms each year through the Capital Program. We do project adding 6,200 more classrooms from 2019 to 2023 maintaining the pace.



Long Range Planning

Upcoming Future Projects:

- Tyson's Area Elementary School in the next 10 years
- 4 Potential Elementary Schools in the Herndon/Reston area associated with the Silver Line over the next 15 years
- 2 New Elementary Facilities in the Bailey's area over the next 7 years
- 1 New High School associated with the Silver Line within the next 15 years
- 33 Renovation Projects as identified in the Renovation Queue

Renovation Cycle Length

The School Board has recognized that buildings should be renovated every **25** years – in alignment with industry standards

- Our current cycle is approximately **34** years

- If we were to renovate each of our schools every 25 years we would need approximately **$242,000,000** annually in today's dollars to achieve the goal (analysis is attached)

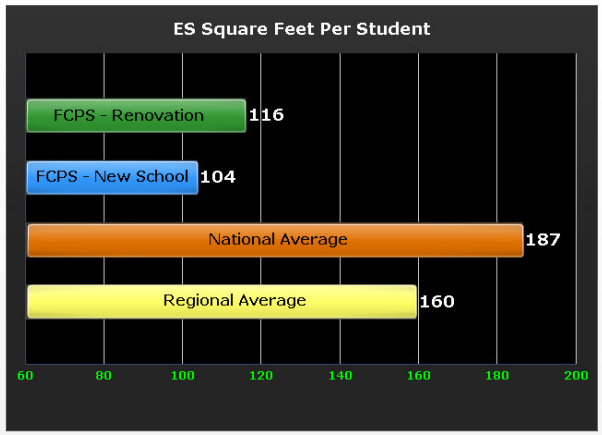
- We project that the increasing costs of construction coupled with the increasing enrollment the renovation cycle will increase to nearly **41** years over the next 5 years

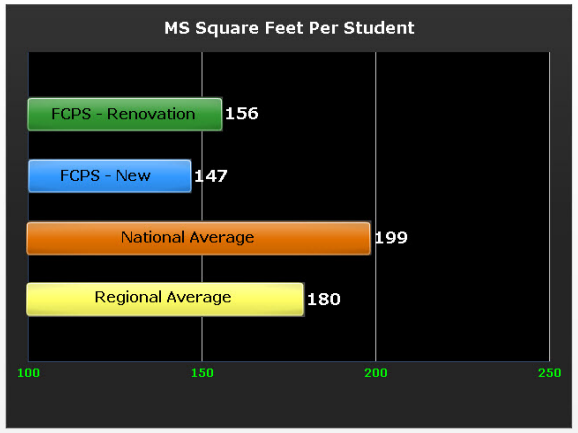
Capital Improvement Plan

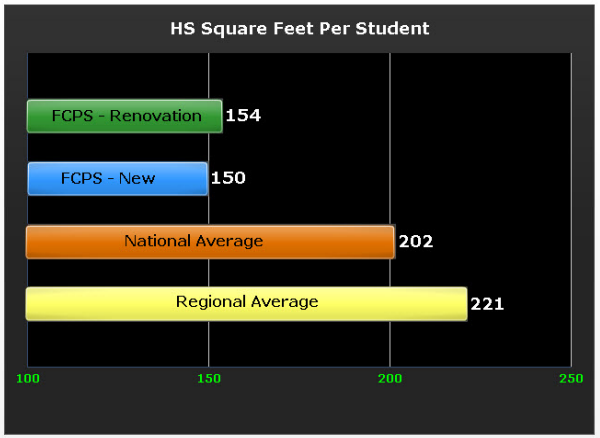
How do we compare to other Systems ?

There are 3 fundamental areas when comparing school systems – the amount of square feet per student provided, the cost of the building per pupil and the construction cost per square foot:

Square Foot Per Student – shown here is the amount of square feet per student we provide when compared with our region (MD, DC, Del & WVA):





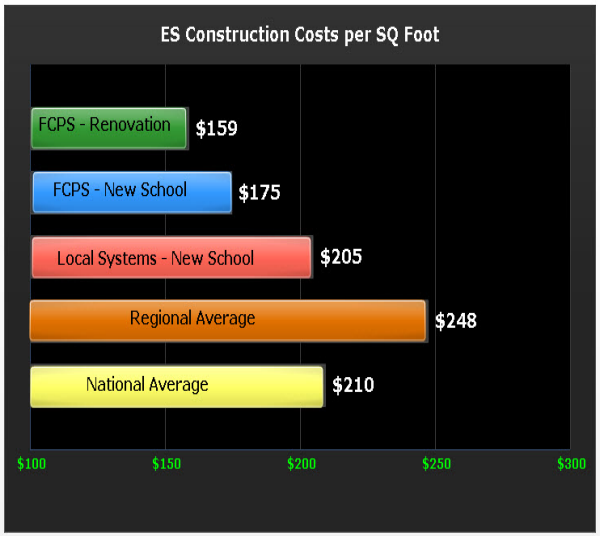


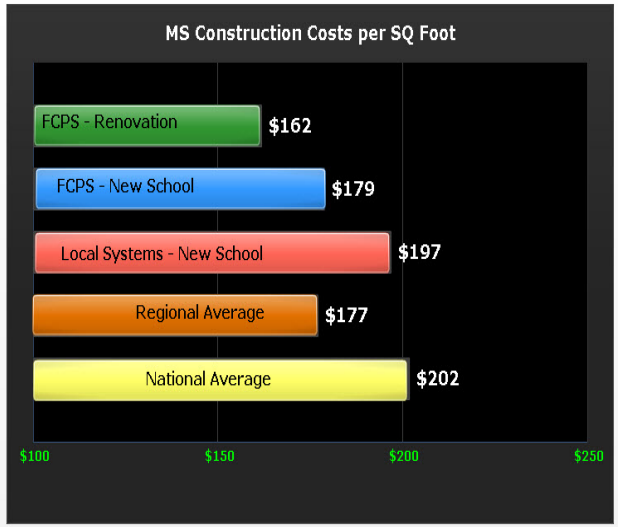
These charts reflect the fact that the size and scope of our schools are much smaller than schools in our region and nationally.

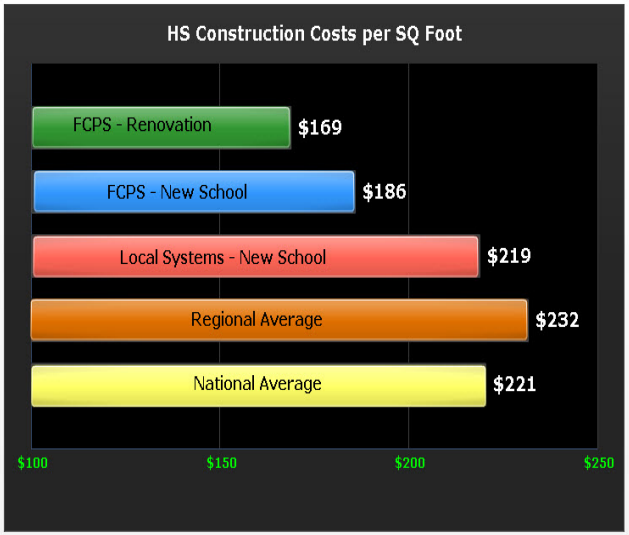
** Source: School Planning & Management Magazine*

Capital Improvement Plan

Construction Costs Per Square Foot – shown here is the construction cost per square foot when compared with our region (MD, DC, Del & WVA) and nationwide:





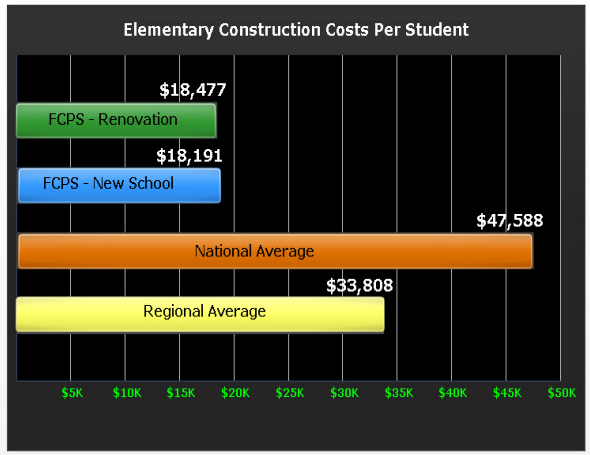


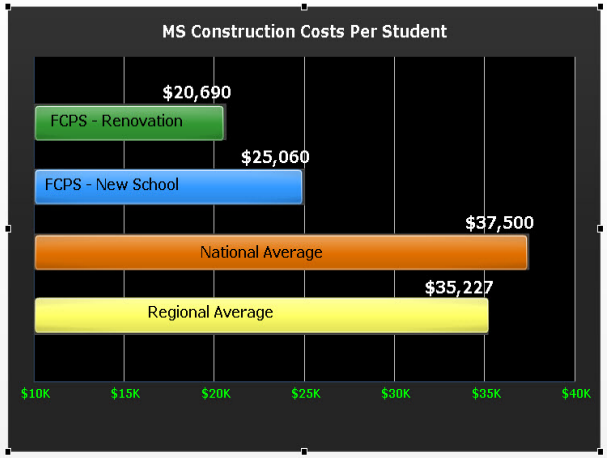
Our construction costs have remained lower for a number of reasons. Primarily the fact that we have consistent standards (construction & educational specifications); a professional design and construction staff who originated within the industry and have created a project development and implementation methodology predicated on lowering costs.

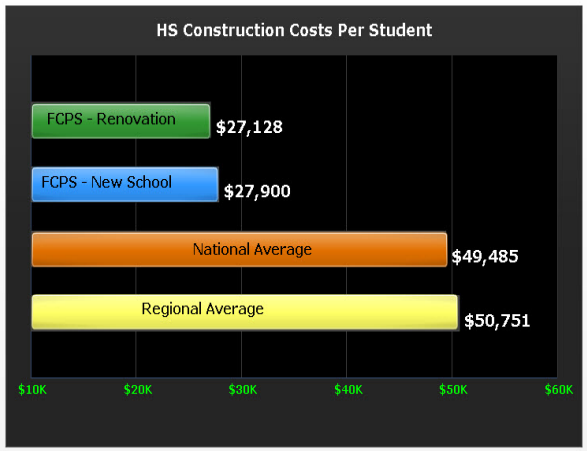
* *Source: School Planning & Management Magazine*

Capital Improvement Plan

Construction Costs Per Student – shown here is the construction cost per student we provide when compared with our region (MD, DC, Del & WVA) and nationwide:







The primary reasons that our cost per student is so much lower than the region and nationally are due to our low construction cost and project scope; we essentially have many more students in less space than other systems.

** Source: School Planning & Management Magazine*

What are our other Challenges?

Beyond the enrollment increases, we recognize that there are many other challenges we must face

• Minimizing the number of temporary classrooms. After adding 80 more this summer we will have nearly 990 temporary classrooms.

• To continue and expand our commitment to Sustainability through cost effective and efficient buildings which are used as learning tools for our students and citizens

• Maintain our commitment to providing facilities which are used by all citizens of Fairfax County and exploring ways to expand community services where possible

• How to best design and utilize space to meet our needs and continue to deliver instruction suitable for 21st Century Learners

Quantity of Schools

25 Year Renovation Cycle

Total Schools

The first step in determining how to meet the 25 year renovation goal is to take the number of schools and divide by 25.

Total Schools		Total Schools	
198	/ 25 =	8	Annually
Elementary 139	/ 25 =	6	Annually
Middle 26	/ 25 =	1	Annually
High 25	/ 25 =	1	Annually
Centers 8	/ 25 =	0.33	Annually

Schools Per Cycle

Since Bond Referenda only occur bi-annually, the annual number needs to be multiplied by 2.

Total Schools		Total Schools	
8	x 2 =	16	Per Bond Cycle
Elementary 6	x 2 =	11	Per Bond Cycle
Middle 1	x 2 =	2	Per Bond Cycle
High 1	x 2 =	2	Per Bond Cycle
Centers 0.33	x 2 =	1	Per Bond Cycle

Square Footage

25 Year Renovation Cycle

Total SQ Feet

In order to ascertain the value of the renovations we need to determine the amount of square feet assocaited with each school level.

	Total SQ FEET			Total SQ FEET	
	25,160,006	/ 25	=	1,006,400	Annually
Elementary	11,577,523	/ 25	=	463,101	Annually
Middle	4,295,056	/ 25	=	171,802	Annually
High	8,814,880	/ 25	=	352,595	Annually
Centers	472,547	/ 25	=	18,902	Annually

SQ Feet per Cycle

Since Bond Referenda only occur bi-annually, the annual number needs to be multiplied by 2.

	Total SQ FEET			Total SQ FEET	
	1,006,400	x 2	=	2,012,800	Per Bond Cycle
Elementary	463,101	x 2	=	926,202	Per Bond Cycle
Middle	171,802	x 2	=	343,604	Per Bond Cycle
High	352,595	x 2	=	705,190	Per Bond Cycle
Centers	18,902	x 2	=	37,804	Per Bond Cycle

Total Costs

25 Year Renovation Cycle

Total Costs

The value or costs of a potential renovation are based upon current costs. Presently, the combined costs of a renovation is approximately $190. The construction costs average $155 per square foot. In addition, the soft costs are usually an additional 28% - these costs include design fees, permitting, utilities, commissioning and equipment.

	Total SQ FEET		Total Value
	25,160,006	x $190 =	$6,070,839,182
Elementary	11,577,523	x $ 190 =	$2,656,403,333
Middle	4,295,056	x $ 190 =	$1,096,657,019
High	8,814,880	x $ 190 =	$2,216,417,499
Centers	472,547	x $ 190 =	$101,361,332

Annual Costs

To establish the Annual Costs these totals need to be divided by 25 to establish the number by school level.

	Total Value		Total Value	
	$6,070,839,182	/ 25 years =	$242,833,567	Annually
Elementary	$2,656,403,333	/ 25 years =	$106,256,133	Annually
Middle	$1,096,657,019	/ 25 years =	$43,866,281	Annually
High	$2,216,417,499	/ 25 years =	$88,656,700	Annually
Centers	$101,361,332	/ 25 years =	$4,054,453	Annually

Funding Comparison

25 Year Renovation Cycle

Funding Comparison

As indicated, we would need approximately $242,000,000 annually to renovate our present school inventory. The following comparisons display some the differences between the current funding and what is actually needed to achieve a 25 year renovation cycle.

Current Cash Flow		25 Year Cycle		Funding Difference	
Total Annual Spending		Total Annual Spending		Total Annual Spending	
$155,000,000		$273,159,852		$118,159,852	
New Schools/Capacity	% of Total	New Schools/Capacity	% of Total	New Schools/Capacity	
$15,381,285	10%	$15,381,285	6%	$0.00	
ES Renovations	% of Total	ES Renovations	% of Total	ES Renovations	
$54,856,435	35%	$106,256,133	39%	$51,399,699	
MS Renovations	% of Total	MS Renovations	% of Total	MS Renovations	
$22,441,269	14%	$43,866,281	16%	$21,425,012	
HS Renovations	% of Total	HS Renovations	% of Total	HS Renovations	
$47,376,012	31%	$88,656,700	32%	$41,280,688	
Center Renovations	% of Total	Center Renovations	% of Total	Center Renovations	
$0.00	0	$4,054,453	1%	$4,054,453	
Facility Infrastructure	% of Total	Facility Infrastructure	% of Total	Facility Infrastructure	
$14,945,000	10%	$14,945,000	5%	$0.00	