Prince George's County Public Schools Modernization Program

Alternative Construction Financing Overview

PGCPS Board Retreat
February 22, 2019

Background & Overview

Critical Need for Investment in Facilities

- Aging facilities, backlog of deferred maintenance and acute overcrowding are hampering PGCPS ability to deliver on its core mission: ***education***

- The **20-year Education Facilities Master Plan** identifies a total capital investment need of approximately **$8 billion**, which translates into a capital funding requirement of $400 million per year. Nevertheless, funding availability is projected to be capped at **$160M** per year.

- *Therefore*, PGCPS is exploring all options that will accelerate infrastructure delivery and reduce life-cycle asset costs

- Updated and Amended Facilities Master Plan takes into account the authorities contemplated in Maryland Education Article Section 4-126 for the use of public/private partnership (P3) arrangements for delivery of some facilities

Age of School Facilities

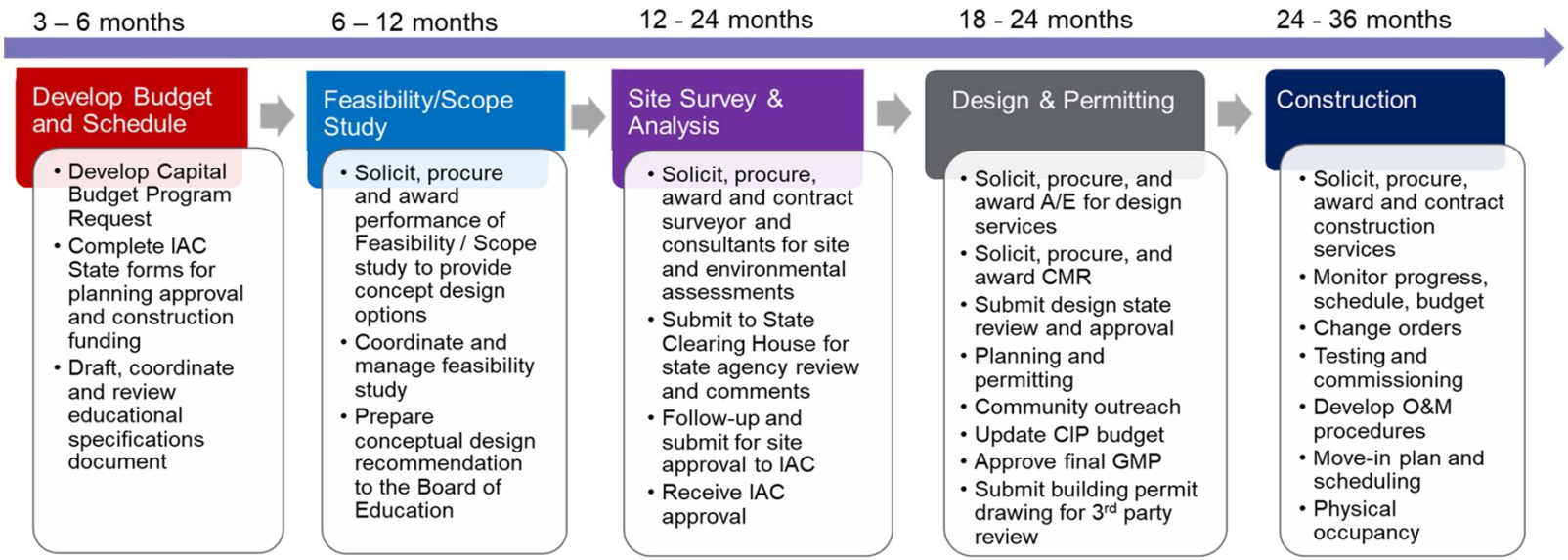
Age of School Facilities	Elementary	Pre-K-8	Middle	High	Special Centers	Admin. Offices	Other	Total
Less than 16 years	12	4	1	4	0	0	0	21
16 – 30 years	15	1	2	2	0	0	0	20
31 – 50 years	32	3	12	4	3	3	1	58
Greater than 50 years	63	6	9	14	8	9	4	113
Total	122	14	24	24	11	12	5	212

Source: Board of Education (updated January 2018)

PGCPS

Traditional DBB Project Process for PGCPS

- Average project process lasts approximately 7 years.
- Protracted delivery process negatively impacts public benefits, while increasing total project costs.
- Negligible consideration of life-cycle asset management
- Pay-go structure means disbursements are not tied to public benefits



- In addition to incentivizing timelier and more cost-effective delivery of facilities, Maryland Education Article Section 4-126 eliminates many of the administrative requirements, thereby accelerating project delivery.

Cycle 1 CIP

27 Cycle 1 schools to be addressed through a variety of means:

- Modernizations
- Staged Renovations
- Limited Renovations
- Hybrid Construction
- Alternative Construction Financing

PGCPS Cycle 1 CIP	
Benjamin Stoddert MS (+0 seats)	Margaret Brent Regional (+400 seats)
Benjamin Tasker MS (+0 seats)	New Adelphi Area MS (+1200 seats)
Berwyn Heights ES (+0 seats)	New ES #1/ Cool Spring Annex (+160 seats)
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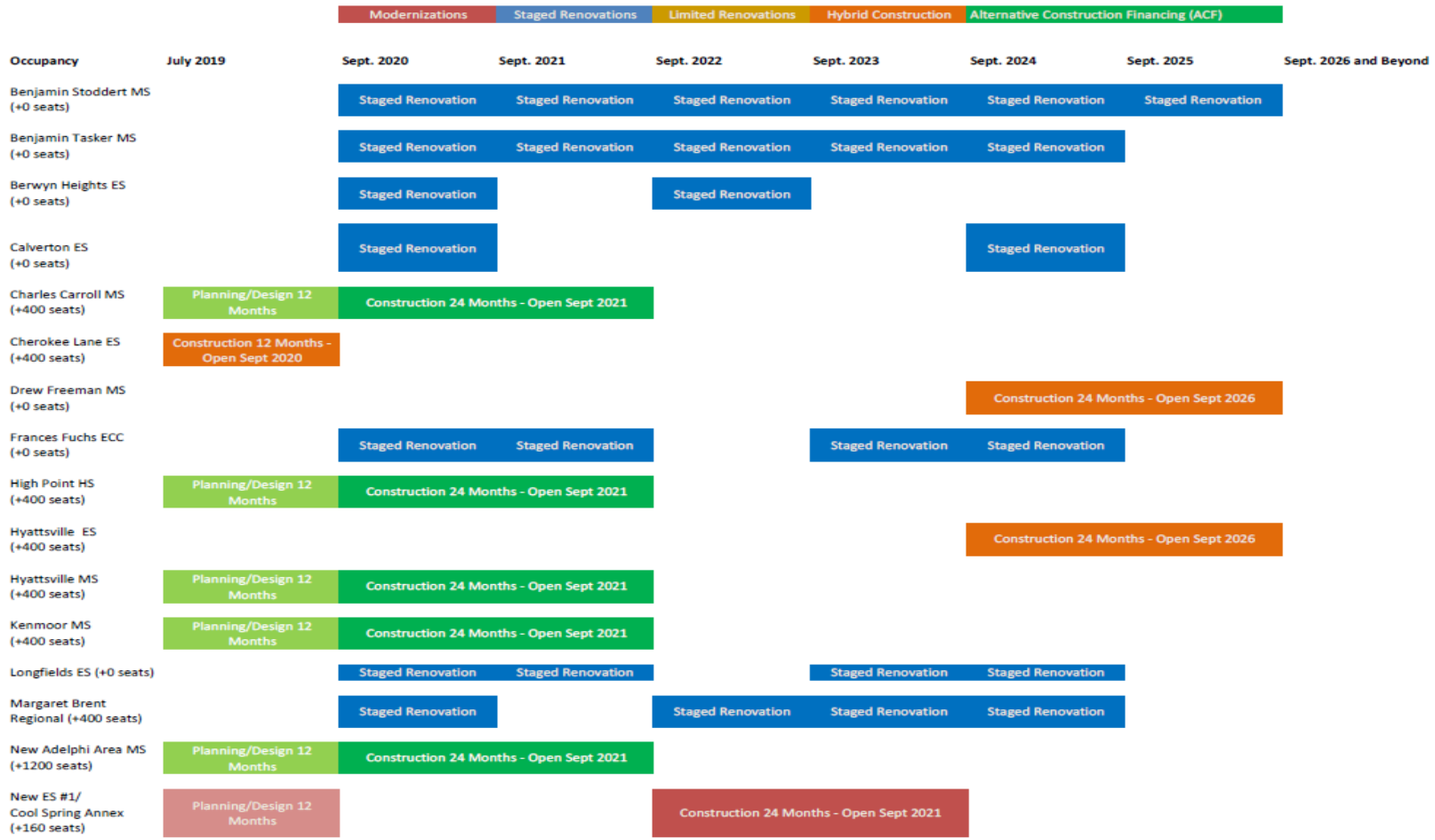
Kenmoor MS (+400 seats)	Thomas Johnson MS (+0 seats)
Longfields ES (+0 seats)	Walker Mill MS (+0 seats)
	William Wirt MS (+350 seats)

PGCPS

Cycle 1 CIP Implementation Schedule



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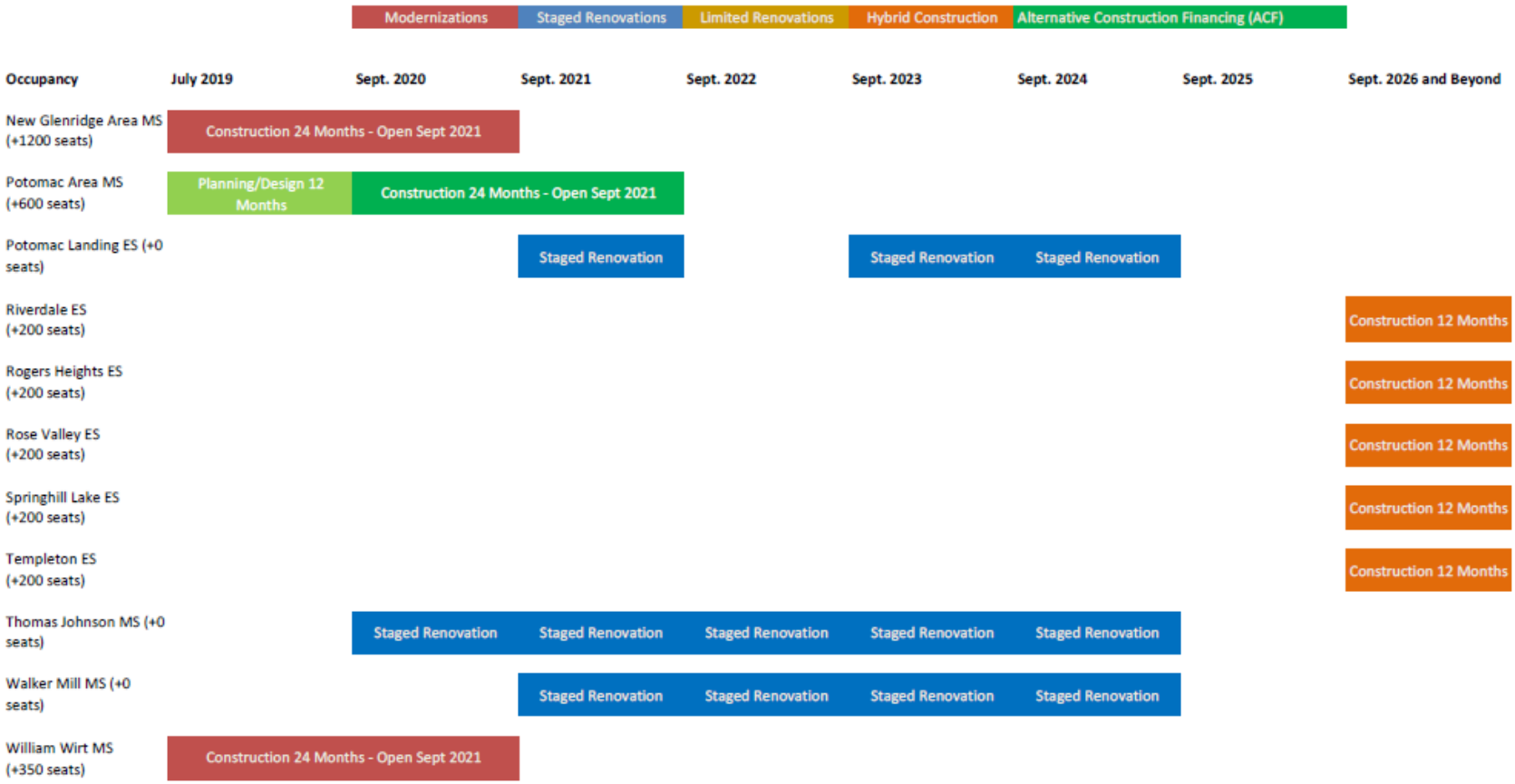


ACF / P3 Overview

Alternative Construction Financing (ACF)

- ACF refers to long-term forms of cooperation between public authorities and private entities to ensure the design, construction, renovation, financing, operation and/or maintenance of an infrastructure facility.
- ACF allows for private or blended financing of publicly owned infrastructure.
- ACF typically involves long-term contracts for the provision of bundled services, including some form of life-cycle asset management.
- Life-cycle focus (not just construction) to ensure long-term facility performance.
- ACF is output and performance based, allowing for private innovation in meeting performance targets.
- ACF is not “free money”, it is a procurement/delivery method and private investments still need to be compensated
- ACF refers to a broad spectrum of contracting structures:

PGCPS

ACF and P3 are not new to Maryland or PGC

Purple line DBFOM Project

- *16 mile light rail transit*
- *35-year DBFOM*
- *$2.65 billion*
- *Financing Structure: Blended, with a 90%/10% debt-equity structure on private finance.*
- *Payment Mechanism: Availability Payments with milestones*

Prince George's County Clean Water Partnership

- *30 Year DBFM for urban storm water green infrastructure*
- *Plan, design and construct infrastructure retrofits across 4,000 acres of impervious surfaces*
- *Blended financing with performance-based payments*
- *Life-cycle asset management*

Howard County Courthouse DBFOM

- *32.5 year DBFOM for new 238,000sf circuit courthouse in Howard County, MD*
- *Financing: $178 million financed with equity, a bank loan, and bonds.*
- *Compensation : $78 million milestone payment upon completion, with balance of capital costs, as well as ongoing O&M costs, paid via annual AP during the 30-*

University of Maryland South Campus Commons

- South Campus Commons residential community in College Park developed through P3 between Capstone Development and the University of Maryland.
- $182M, 483,000 sf consists of one mid-rise and six low-rise residential buildings, houses 2,200 students in more than 500 apartments, and includes seminar and conference rooms, faculty offices, student lounges and computer centers.

MDOT I-495 AND I-270 P3 Program Phase 1

- 70 miles of I-495 and I-270 in Maryland.
- MDOT is currently considering delivering the P3 Program as a series of long-term design-build-finance-operate-maintain DBFOM revenue risk concessions

DBFM in Education and Social Infrastructure

- Many public school districts are finding DBFM to be an attractive option for educational facilities. With a private partner paying costs up front, districts don't have to wait for funding to begin construction. Projects are generally completed on time and on budget, often saving the public entity millions of dollars.
- ACF for education facilities is extremely common on global level, with DBFM having served as one of the most common delivery methods in the UK, Scotland, Canada and throughout Europe for the past two decades.

Alberta Schools

Alberta Schools Alternative Procurement

- *30 Year DBFM*
- *40 new Alberta schools*
- *Performance-based availability payments*

Joint-Use Schools Project

Saskatchewan Joint-Use Schools

- *35 year DBFM , AP structure*
- *New construction of 18 elementary schools on 9 joint-use sites*

U.C. Merced 2020

University of California Merced

- 35 year DBfOM
- $1.3 Billion project adds 1.2 million sf of campus
- Blended finance and milestones, with performance-based AP

U.S. Higher Education

P3 for higher ed

- *DBFM/ DBFOM models with AP structure have become standardized*
- *Over 40 $100 million+ transactions per year, with majority*

Long Beach Civic Center

Long Beach Civic Center

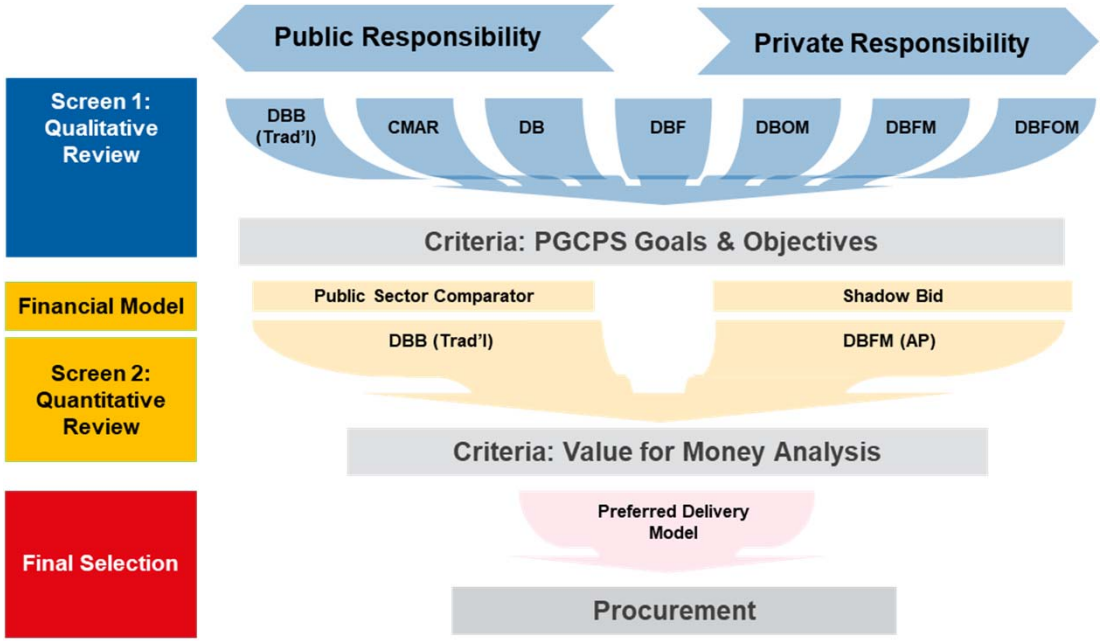
- DBFOM, 40 year term, availability payment (AP)
- $531 million for 270,000-sf City Hall, 93,500-sf Main Library, 232,000-sf Port Headquarters, and mixed-use..

ACF / P3 Assessment

Overview of Assessment Methodology

Overview of Analysis Methodology

- The assessment methodology used herein is based on generally accepted principles and published guidance for analyses of this type by public agencies and governing bodies in the U.S. and globally.
- This analysis was undertaken as a ***two-step process factoring in both a qualitative and quantitative options analysis:***.:



Phase 1- Qualitative Review:

Review range of project delivery models – from traditional to alternative financing – to determine the qualitative merits of each and the option(s) that best align with the PGCPS stated goals and objectives for the Project. The alternative financing delivery model identified as being best suited to meet the Project's goals and objectives is then compared in screen 2.

Phase 2- Quantitative Review:

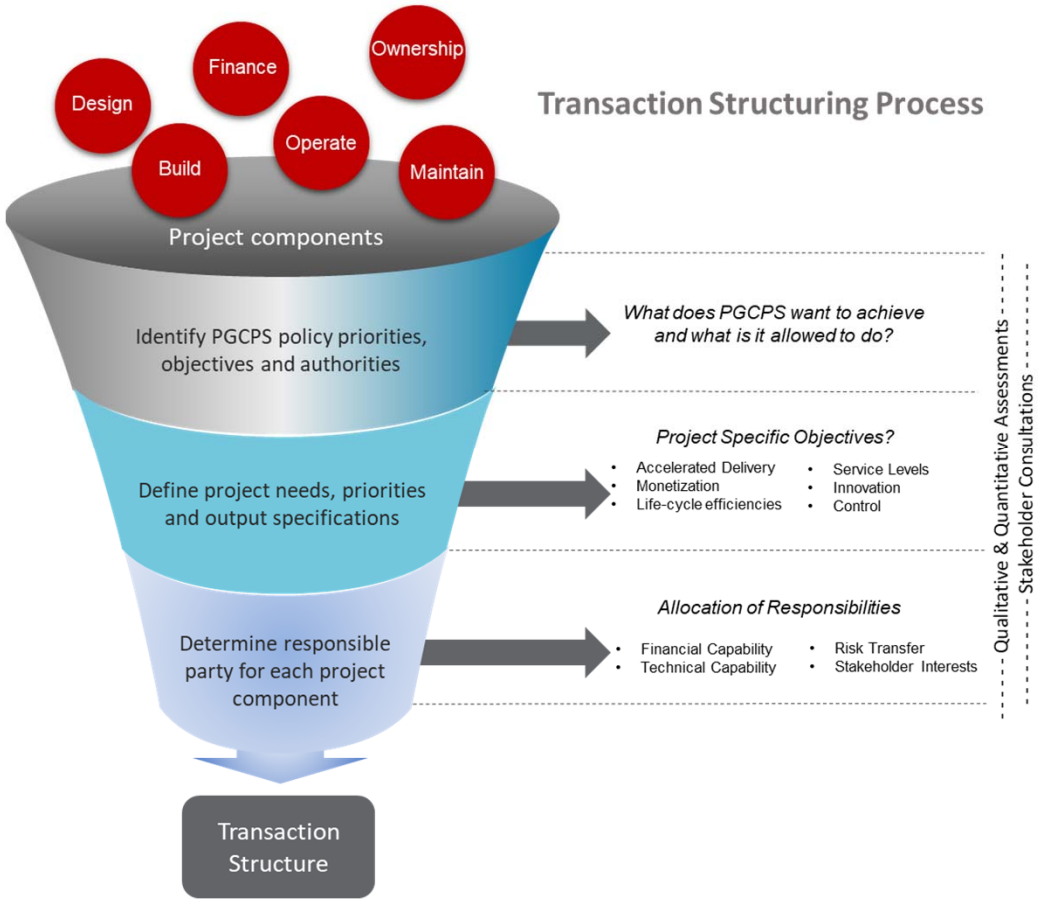
Value for Money ("VfM") Comparative Analysis quantifies on a risk-adjusted basis the life-cycle cost of the project on a net present value ("NPV") basis, comparing the cost to PGCPS of traditional delivery vs alternative financing project delivery.

The output of the analysis is then used to help identify the delivery model that provides the ***best value*** to the PGCPS, considering both qualitative and quantitative factors

Delivery Model Assessment

Delivery Model Options Analysis

- *Multi-criteria analysis was undertaken to qualitatively assess a wide spectrum of potential finance and delivery options for their alignment with project goals, objectives, risks and current status.*
- *PGCPS defined its key goals and objectives for the Project to provide a high-level framework for evaluating the suitability of the range of delivery models.*
- *Given PGCPS objectives, including the desire to retain Facility Management / Operations and Maintenance, two delivery options were identified for further and comparison review:*
  - **Design-Bid-Build (DBB)**, reflecting PGCPS current delivery method.
  - **Design-Build-Finance-Maintain (DBFM),** reflecting PGCPS desire to explore alternative finance and delivery, while still retaining responsibility for daily facilities management and operations.
- *Subsequently, a qualitative and quantitative assessment was undertaken to review which of these structures would provide better value for money (VFM) or other benefits for the public.*
- *VFM assessment process included a risk analysis to identify and quantify value of risk transfer under P3 scenarios.*



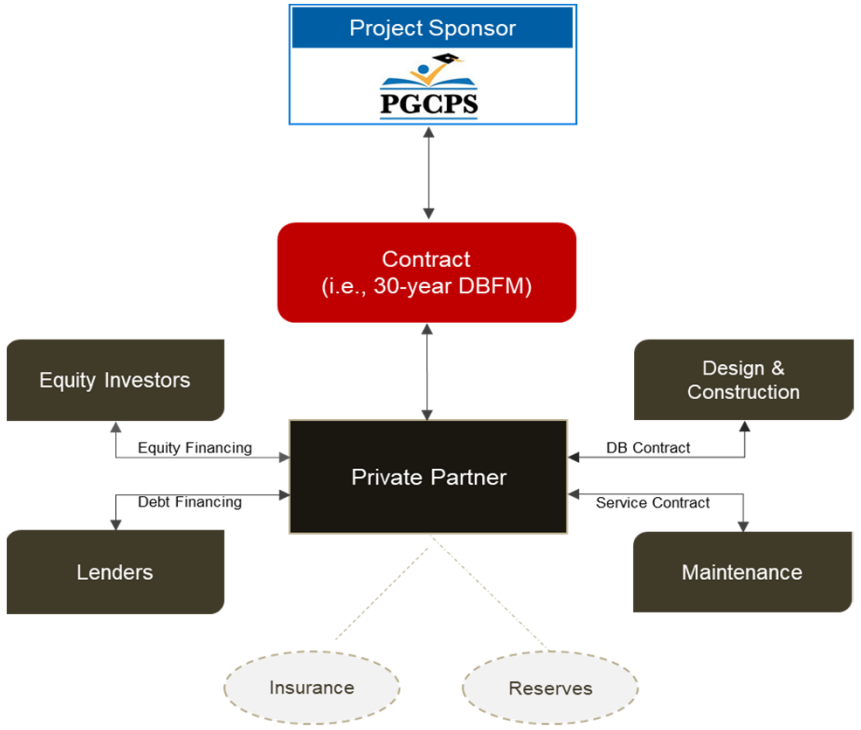
DBFM Delivery Model

DBFM Description

With design-build-finance-maintain (DBFM), responsibilities for designing, building, financing, and undertaking major maintenance and repairs for a package of schools are bundled together and transferred to a private partner.

Private partner would be compensated via ***availability payments***. With an availability payment, project funding risk is retained by the public sector sponsor. PGCPS pledges availability payments to compensate the private partner for a set time period during which it receives a predictable, fixed income stream (subject to deductions for performance deficiencies).

DBFM structures often extend for a period of 30+ years and are awarded under competitive bidding.



Benefits of DBFM

- *Additivity* (deliver more schools in near term)
- Significant Risk Transfer
- At-risk private capital creates strong performance incentive
- Possibility to defer payments until after completion
- Accelerated delivery of infrastructure
- Life-cycle budget predictability
- Life-cycle asset management
- Design and construction integration with lifecycle maintenance
- Innovation and life-cycle savings

Disadvantages of DBFM

- Higher cost of private financing versus public finance
- Not full risk transfer
- Not full life-cycle benefits due to PGCPS retention of FM/O&M

Qualitative Comparison

Indicative Risk- Responsibility Comparison

Indicative Allocation ○ Public ● Private ◔ ◑ ◕ Shared

	INDICATIVE RISK RESPONSIBILITY ALLOCATION	
Risk Category	DBB	DBFM
A. Design / Construction		
1. Functionality of Design	○	●
2. Design-construction interface risk	○	●
3. Construction Schedule	◑	◕
4. Cost Overruns (errors/omissions)	◑	●
5. Environmental & Permits	◔	◕
6. Commissioning	◔	●
B. Operations & Maintenance		
1. O&M Costs	○	○
2. Asset Performance / Availability	◔	◕
3. Life-cycle asset maintenance / MR&R	○	●
C. Financing		
1. Project-related debt payments	○	●

Under a DBFM delivery structure, responsibilities for designing, building, financing, and undertaking major maintenance and repairs are bundled together and transferred to a competitively procured private partner. This helps to ensure budget and schedule certainty, as well as life-cycle asset maintenance at prescribed performance levels, thereby avoiding deferred maintenance. Moreover, this structure leverages private capital.

Key Comparisons	
Design-Bid-Build	Design-Build-Finance-Maintain
– Delivers schools as funding becomes available (estimated delivery in 7 yrs)	– Accelerates delivery of multiple schools under one package (estimated delivery in 3 yrs)
– Limited efficiencies due to delivering schools sequentially	– Cost savings through economies of scale and bundling
– PGCPS assumes all operations/maintenance risk	– PGCPS retains all operations/maintenance risk
– Limited cost certainty	– Cost certainty for construction and operations
– Probable deferred maintenance	– Long-term warranty through transfer of major maintenance
– Pay-Go funding requires significant upfront liquidity	– Availability payments begin upon delivery of facilities

ACF / P3 Assessment (quantitative)

Affordability and Schools Selection

- Affordability threshold limits imposed by annual funding levels of **$20-$30 million per year.**
- Cost per school under P3 considered on basis of Construction, Incremental O&M, CR&R.
- ***Multiple*** Cycle 1 bundles were analyzed. Not contemplated in the analysis are project-specific considerations (i.e., constructability issues) that could impact risk profile, costs, and return requirements.
- Workgroup identified the following two bundles of schools (Project Scope) for purposes of undertaking a comparative analysis of diverse delivery models:

Option A				
School ($2019m YOE)	**Construction Costs**	**Incremental O&M**	**Capital Repair and Replacement**	**Total Costs**
New Adelphi HS	128.2	7.5	99.7	235.4
Charles Carroll MS	51.0	0.6	39.7	91.2
New Adelphi MS	54.4	2.4	42.3	99.1
Hyattsville MS	51.1	0.5	39.8	91.4
Potomac Landing MS	31.6	1.4	24.6	57.6
Kenmoor MS	51.1	0.4	39.7	91.2
Total	**367.39**	**12.84**	**285.73**	**665.96**

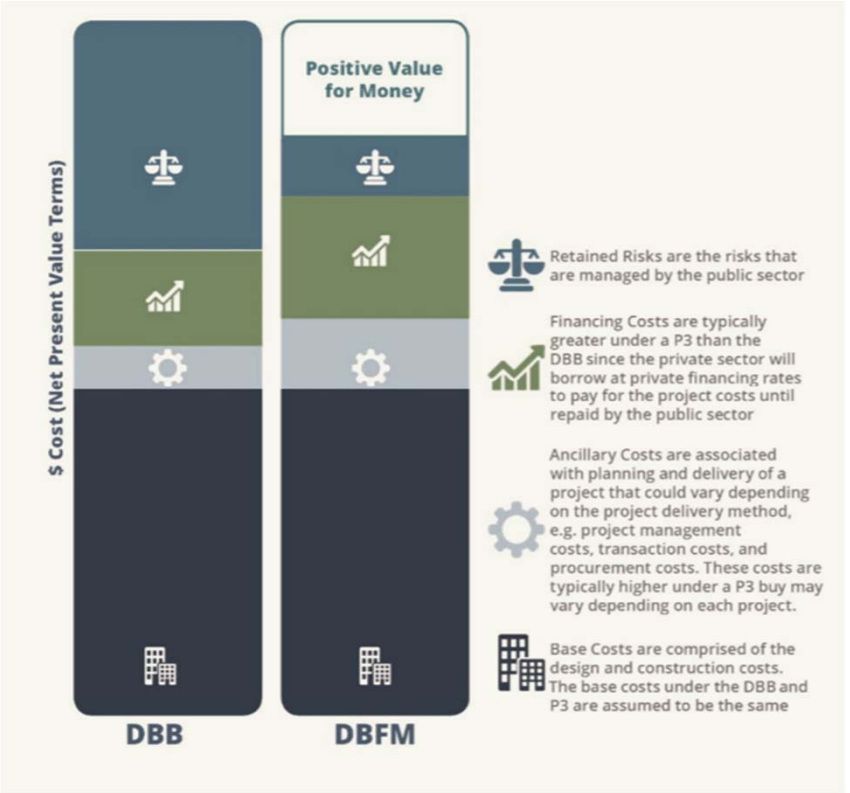
Option B				
School ($2019m YOE)	**Construction Costs**	**Incremental O&M**	**Capital Repair and Replacement**	**Total Costs**
High Point HS	160.0	1.3	124.4	285.8
New Adelphi MS	54.4	2.4	42.3	99.1
Hyattsville MS	51.1	0.5	39.8	91.4
Potomac Landing MS	31.6	1.4	24.6	57.6
Kenmoor MS	51.1	0.4	39.7	91.2
Total	**348.2**	**6.1**	**270.8**	**625.2**

Quantitative Comparison

Value for Money Comparative Analysis

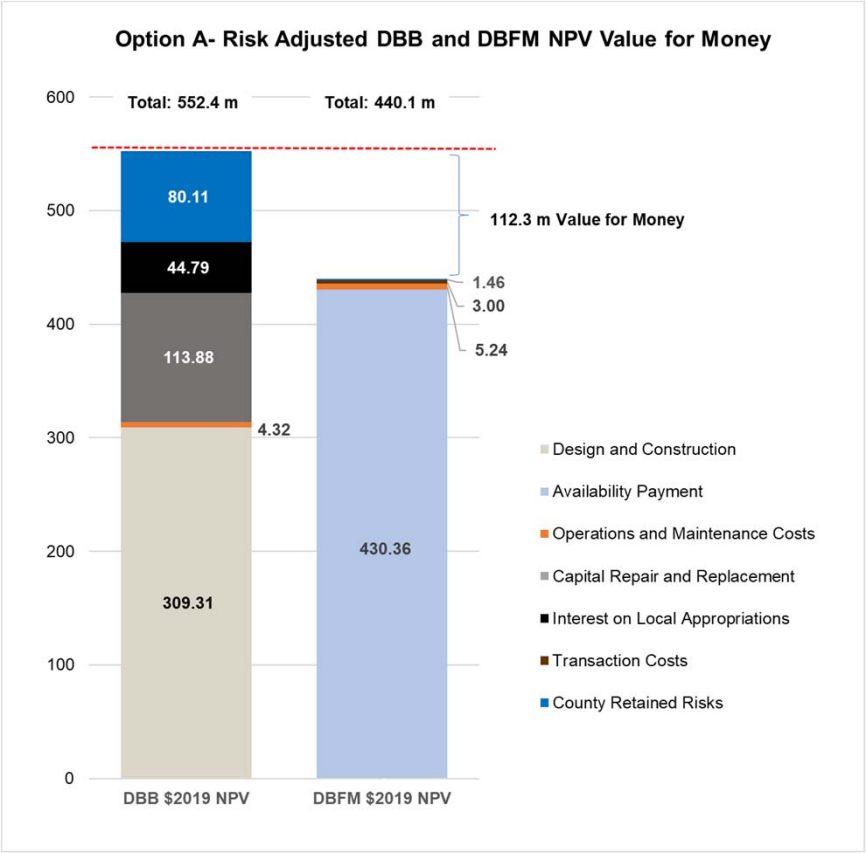
- After undertaking a qualitative review, a quantitative comparison of the risk-adjusted life-cycle cost of the project under different delivery models was performed.
- VfM comparison analysis quantifies the difference between risk adjusted costs associated with DBB and those of a best estimate of the private sector's response to a DBFM procurement.
- The following steps are used to quantify Value for Money for the Project

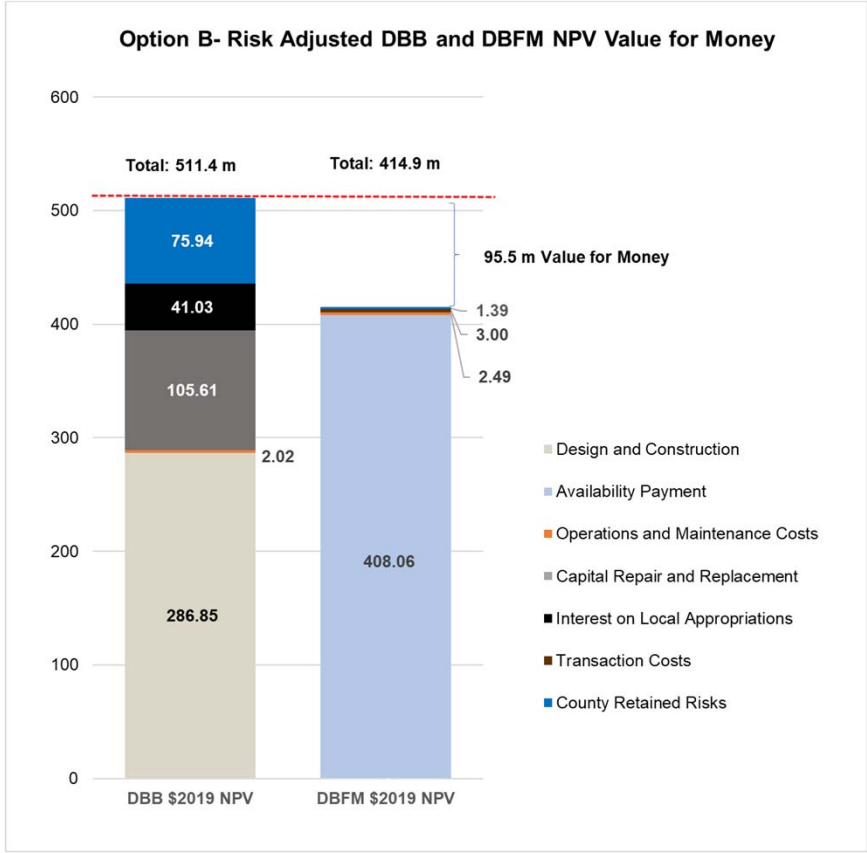
    1. Determine total base cost of a DBB and DBFM delivery
    2. Quantify the value of risk retained by PGCPS and transferred to the private sector under each scenario
    3. Perform financial analysis using base costs, risk adjustments, and financing assumptions to determine overall VfM.



Value for Money Results

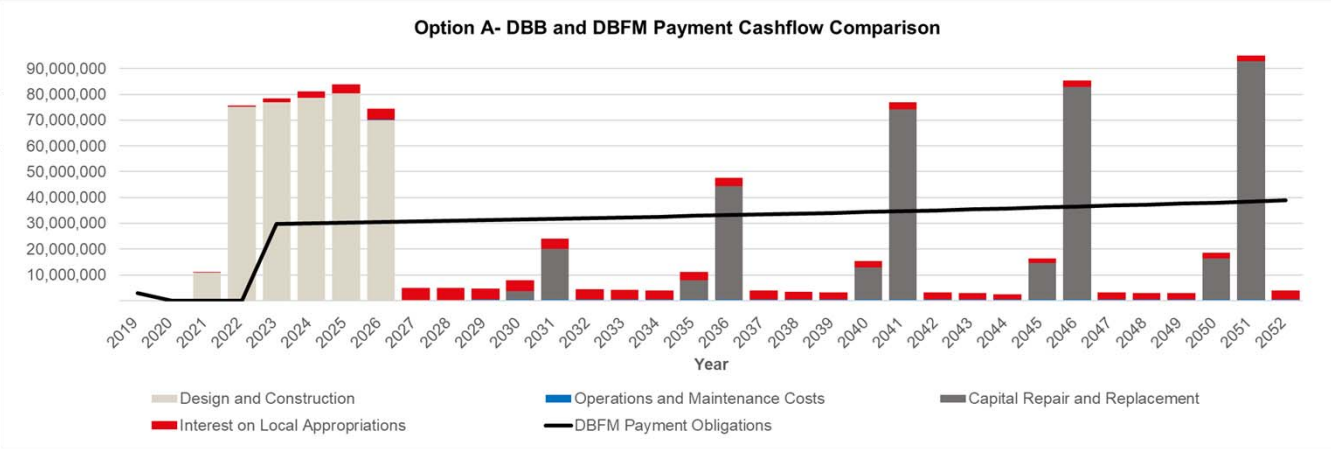
Based on the analysis performed, a DBFM delivery potentially achieves between $96 - $112 million of life-cycle cost savings over the life of the Project on an NPV basis, as compared to the DBB delivery model:





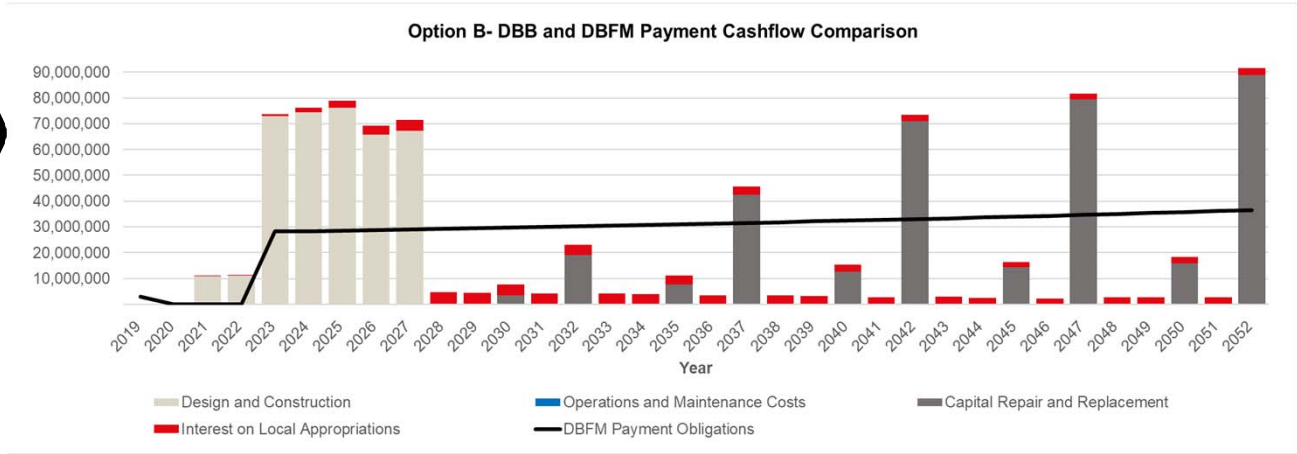
DBB and DBFM Cashflow Profile

Schools Bundle
Option A
New Adelphi HS
Charles Carroll MS
New Adelphi MS
Hyattsville MS
Potomac Landing MS
Kenmoor MS



First year AP	Last Year AP
$29.5M	$38.3M

Schools Bundle
Option B
High Point HS
New Adelphi MS
Hyattsville MS
Potomac Landing MS
Kenmoor MS



First year AP	Last Year AP
$28M	$36.3M

* DBFM Payment Obligations include transaction costs, availability payment, and operations and maintenance costs

DBB and DBFM Cashflow Profile

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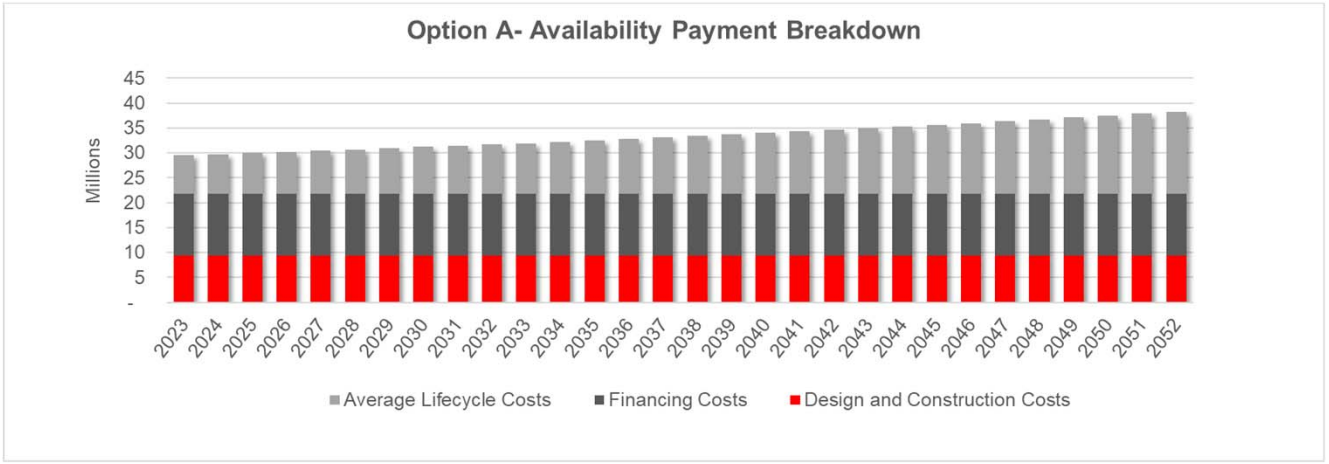

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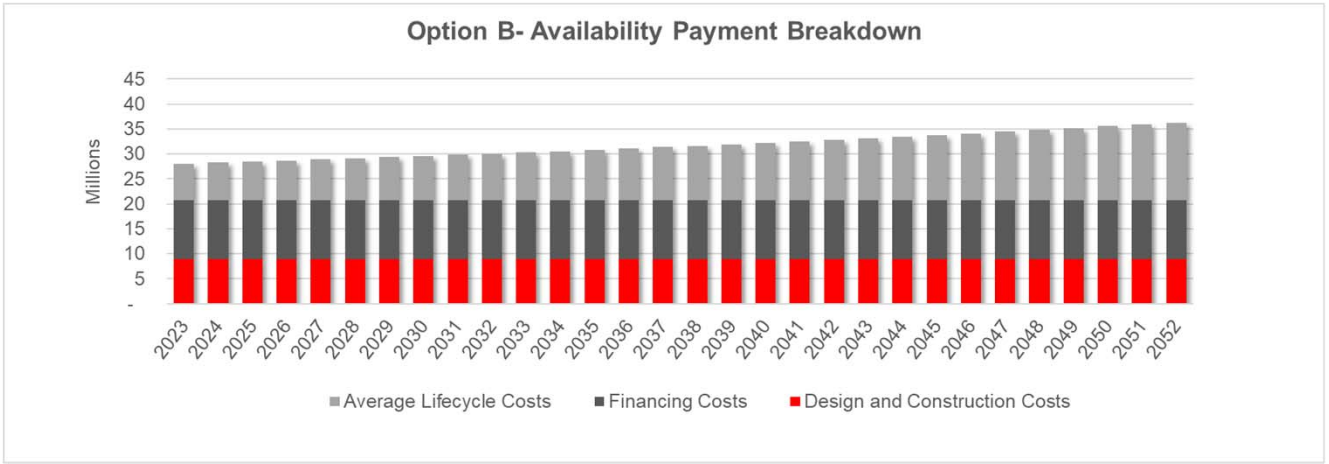

Delivery Model Assessment Conclusions

After a multiple criteria analysis, including a value-for-money assessment, it was determined that a ***Design-Build-Finance-Maintain structure appears to be superior to other models in delivering a schools package****. Potential benefits include:*

- *Accelerated delivery of infrastructure versus traditional delivery, thereby expediting public benefits and reducing delivery costs*
- *Possibility to defer payments until after completion (aligning cash flows with public benefits)*
- *Life-cycle budget predictability*
- *Enforceable performance standards (availability payments are subject to deductions in the case that performance standards are not met)*
- *Greater security around cost and schedule risk as a result of the at-risk private finance.*
- *Life-cycle asset management (better stewardship of public assets)*
- *Design and construction integration with lifecycle maintenance*
- *Innovation and life-cycle saving*
- *PGCPS retains control of critical matters (such as O&M, output standards, MBE requirements, Labor treatment, etc.)*
- *Robust market interest will create competitive pricing pressure*

Although private financing comes at a higher cost than public finance, funding certainty, incentives due to at-risk-capital and other factors off-set that higher cost, as demonstrated in the Value-for-Money assessment.

Value-for-Money analysis of indicative schools bundles suggests that DBFM delivery could potentially generate **some $100 million** of savings over the life of the Project on an NPV basis, as compared to the traditional DBB delivery model.

Key Project and Value Considerations:

- *Constructability and individual project risks*
- *Swing space availability and plan*
- *Selection of individual schools*
- *Budget capacity for the Availability Payment*
- *Specific deal terms*

Conclusions & Discussion

Critical Need for Investment in Facilities

- PGCPS needs to leverage every possible tool in its toolbox to address backlog and ACF is just one of those tools.
- Selection of initial ACF package must take in account a wide variety of factors.

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