



ADVANCING P3s TO DELIVER 21st CENTURY LEARNING FACILITIES

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DHARAM
CONSULTING

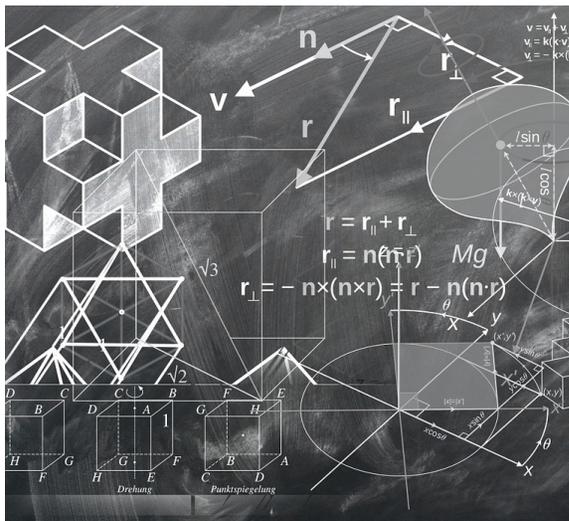
There is strong evidence that high-quality education infrastructure facilitates better instruction, encourage innovation and technology, improves student outcomes, and reduces dropout rates, all of which essential for achieving a country's educational outcomes.

The design of education infrastructure affects learning through interrelated factors, including among others, naturalness (e.g. light, air quality), stimulation (e.g. complexity, color), and individualization (e.g. flexibility of the learning space).

The focus of education policymakers is firmly on the quality of education and school learning environments, while facilities often take a backrow seat. However, many institutions, especially in the higher education field, have recognized the importance of their physical assets to attract students, stimulate a 21st learning environment and maintain or increase their attractiveness in the market, which increasingly is becoming an international playing field.

In this article, we explore whether P3s are a viable solution to deliver wider education investments, beyond the obvious student accommodations. We take a look at national and international trends, the market in the U.S., the challenges and often overlooked risks associated with P3 projects, the types of projects best served by P3s, as well as lessons learnt and key success factors of P3 arrangements.

Whilst we recognize the importance of the legal and institutional framework, as well as the political, regulatory and social challenges, the focus here is on opportunities of P3s to for improving the construction and maintenance of education infrastructure, including operating models, infrastructure providers, project-related risks and opportunities, including construction and delivery.



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THE INVESTMENT CHALLENGE

Education facilities have a direct impact on attainment, student and staff health, and school finances. This is irrespective of a public or private institution, K-12 or higher education institution.

Many institutions have large and complex real estate portfolios, including academic buildings, administrative buildings, student dorms and leisure space, athletic facilities, retail and parking facilities, utilities, and other buildings such as hospitals. These play a large part in the attractiveness of an institution, but the construction, maintenance and operation are not necessarily core to an education institute's mission.

At the same time, education institutions are facing pressure to provide high-quality, affordable education to students and reductions in public funding support. Capital spending to build new, renovate and expand facilities, and equip institutions with more modern technologies has fallen sharply in most states over the past decade.

Public institutions are particularly affected and are under pressure to find alternative sources of revenue to help close the resource gap resulting from cuts in state appropriations.

Private colleges and universities are not exempt from financial pressure, particularly those with limited endowments.

Schools, colleges and universities are facing a infrastructure and deferred maintenance backlog. The 2016 "State of our Schools report" by the 21st Century School Fund, the National Council on School Facilities, and the U.S. Green Building Council, finds that there is a \$46 billion per year gap in K-12 facilities spending and investment, of which \$8 billion for M&O and \$38 billion for capital construction.

At a time of decreasing public support to build new or renovate existing facilities, the debate on the condition of our nation's education facilities has intensified and institutions are now focusing on how they can use their assets more effectively and deliver required infrastructure with more value for money. This has led to the emergence of new business models aimed at maximizing value, and P3s are increasingly being turned to as a solution. In these types of engagements, public providers partner with private-sector companies that offer capital, expertise, experience and a willingness to take on project risk.

P3 arrangements are already playing an important part in the delivery of education institution's infrastructure, with the focus so far mainly on higher education student housing. It's an approach embraced long ago by private higher education institutions, but public institutions, especially on K-12 level have largely shied away from it.

Traditional vs. P3 contracts

In traditionally procured infrastructure projects in the U.S., the public agency typically manages separate, sequenced contracts awarded to private sector firms for the design, construction and maintenance of assets. This leaves the public agency - and ultimately taxpayers and service recipients - with a wide range of project risks, including construction delays, cost overruns and underinvestment in life-cycle activities.

Public-Private Partnerships (P3s) expand and integrate the roles that the private sector plays in public infrastructure asset delivery and operation. P3s take many forms. They are defined as collaborative arrangement between the private and public sector for two or more services required to: 1) finance, 2) design, 3) build, 4) operate, and 5) maintain a public infrastructure asset. Contracts, which are structured long-term and integrated, transfer risks from the public to the private sector who is willing to manage these risks at a cost. P3s typically require a minimum injection of equity and ongoing overall private finance, incentivizing risk management via a share in project ownership.

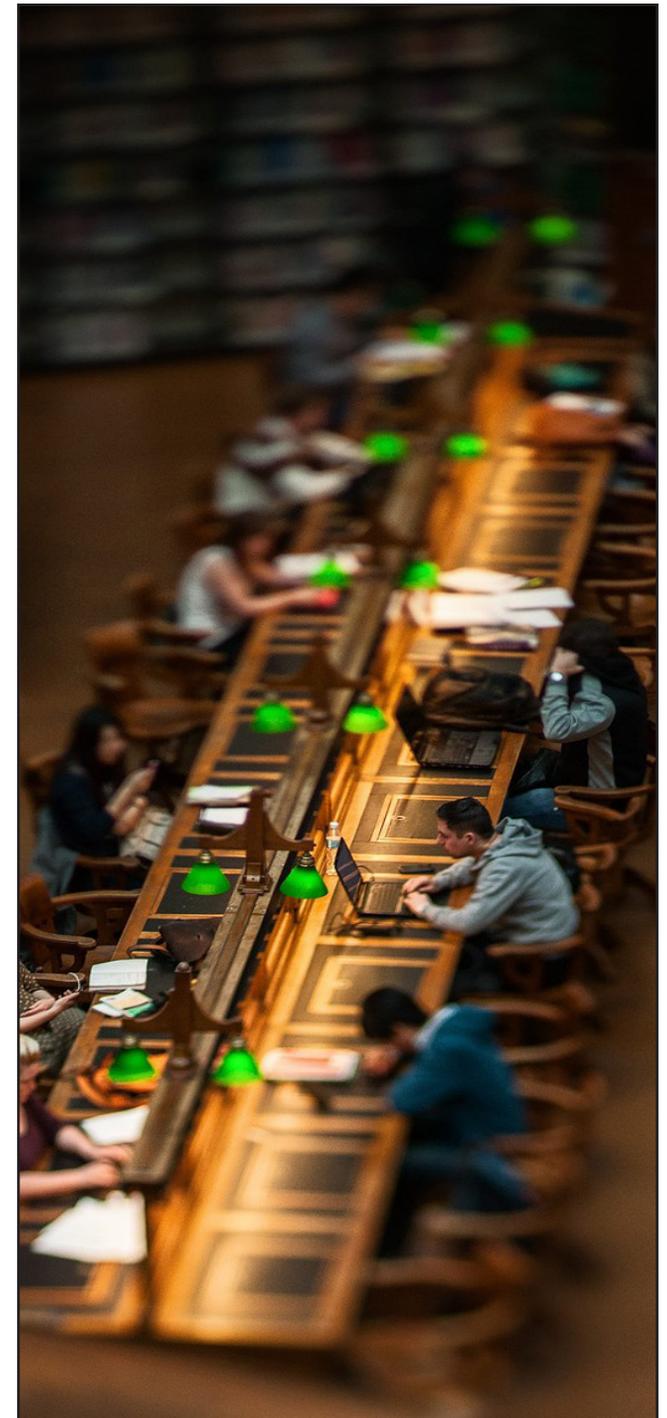
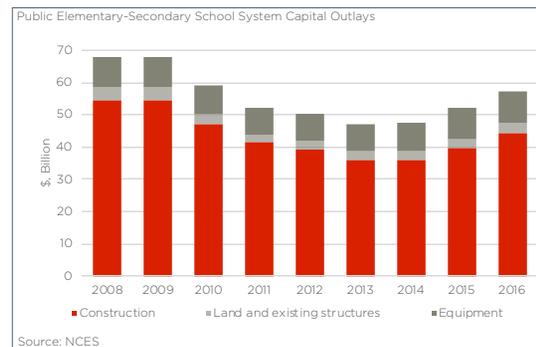
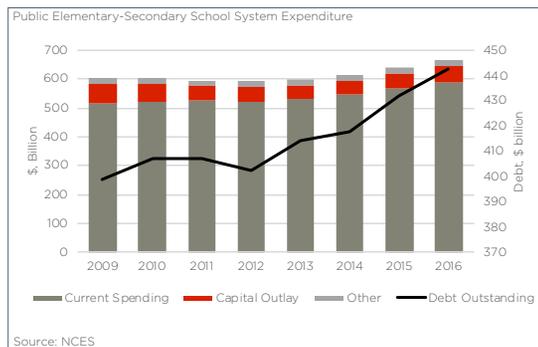
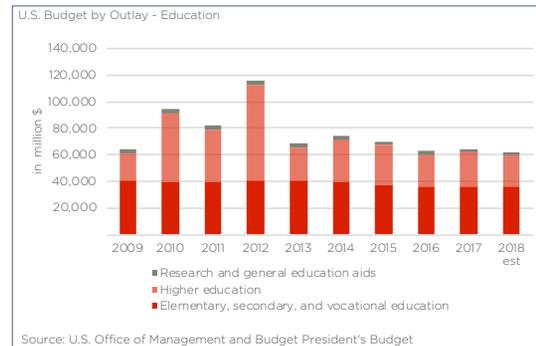
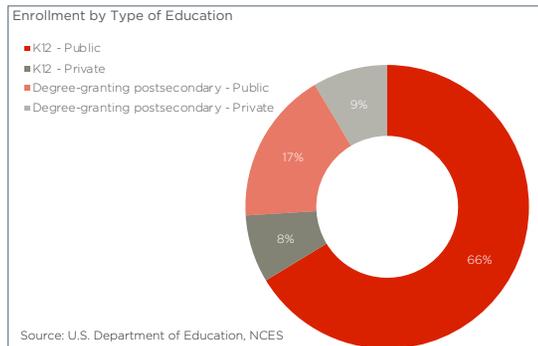
P3s have been used to provide the framing structure through which to bring the public and private sectors together to complement each other's strengths in the provision of services such as education.

P3s are not a one-size-fits-all solution. Done right, end-to-end responsibility incentivizes an integrated project approach, delivering projects faster and with better control of construction costs, providing value for money to the public.

FIG. 1: CAPITAL INVESTMENT CHALLENGE

- Enrolment growth slowed, increasing competition for students particularly for higher education institutions.
- Competition over students extends to institutions having to provide attractive accommodation and leisure facilities solutions.
- Technological change impacts on demand for physical space, where institutions have to respond to growing online learning, uncertainty around traditional classroom learning, provide innovative space management strategies, including shared and collaborative space.
- Increasing demand for sustainable solutions with regards to energy, heating, etc.
- Financing gap: Increased operating costs for institutions, decreased state contribution
- Most students enrolled in public institutions where public funding cuts hit hardest

	2010	2017	2027	CAGR 2017-2027	CAGR 1990-2000
K-12 Public	49.5	50.6	52.1	0.3%	1.4%
K-12 Private	5.4	5.9	52.1	0.5%	0.9%
Degree-granting postsecondary - Public	13.7	13.3	13.7	0.3%	0.8%
Degree-granting postsecondary - Private	7.3	6.5	6.8	0.4%	1.5%



THE INTERNATIONAL EDUCATION P3 EXPERIENCE

Private providers are playing an increasingly important role in education, ranging from services involved in producing education, such as teacher training, management, or curriculum design, to governments contract with a private organization to manage and operate a public school, as is the case with charter schools in the U.S. or the Academies of the UK.

P3s are nowadays also widely applied to the delivery of education facilities, which is the focus of this article. Indeed, internationally, P3s were introduced as innovative delivery models to bring forward education projects. In particular the early generation of P3s, in the UK and Europe were focused on supply-side interventions, i.e. improving the construction and maintenance of schools at the primary and secondary levels.

Constructing an education facility via a P3 arrangement is not cheaper than under a traditional design-build contract. Raising private capital typically comes at a higher price than tax-exempt public debt. However, international evidence shows that in many P3 projects, the relatively higher cost of private capital can be offset by efficiency gains that the private consortium can capture from both constructing and operating the schools, especially if the partnership guarantees continued maintenance, repair, and

replacement of assets. A critical success factor is the ability to assess project risks between partners so that financial risk transfers to the private partner, boosting the incentive to perform and protect their revenue.

The contracting process itself can be expensive, which may dampen interest among potential private operators and investors. Nevertheless, integrated contracting, i.e. construction and O&M services, usually come with the advantage that savings and efficiencies result from having the same organization design and build a facility in which it will deliver high-quality services at the lowest possible cost.

Another challenge identified is that the long-term outsourcing of the financing and construction of an education facility are difficult for many governments to manage.

Despite challenges, contracting out the provision of facilities remains appealing for many public sector players, because it relieves governments of having to finance capital investments up-front and all at once. In the education system the government is often the major or only purchaser of services for the new facility, which puts an important burden on the public purse all at once. In these cases, contracting out the financ-

ing and construction of facilities to the private sector allows the government to pay for these capital investments over time by making periodic payments over the term of the contract.

In such partnerships, the government usually contracts a private company to build and/or maintain school buildings on a long-term basis, typically 25 to 30 years. In this type of PPP, the private sector supplier assumes responsibility for the risk inherent in the ownership and efficient operation of the project's facilities. This method of financing school buildings is used in many OECD countries but most extensively in the United Kingdom.

The value of the capital investment is determined completely by the government's payments. This reliance on a single customer, subject to changing political and policy priorities, makes investing in social service facilities extremely risky for private investors. As a result, contracting private institutions to finance and build schools is much more challenging than other types of contracting. Therefore, much of the process and content of the contract involves minimizing the risk of the government defaulting and making the investment safer and, hence, more appealing to private investors.

Table 1 shows some of the largest P3 transactions.

TABLE 1: IMPORTANT EDUCATION P3S

Location	Program	Scope	Description
Australia - NSW	New Schools Project I, II, III	140+ schools, +A\$ 4.5 billion	Design, construction and financing of new public schools; provision of operation and maintenance, security, safety and related services; furniture, fittings, equipment and grounds in return for performance-based monthly payments during the operation phase of the project.
Australia- South	Education Works New Schools	6 Super Schools, other initiatives, A\$134 million	Financing, designing, constructing and maintaining PPP Super Schools, providing education from birth through to year twelve.
Belgium - Flanders/ Brussels	'Schools of Tomorrow' - 6-year PPP programme	165 schools, EUR 1.5 billion	DBFM operation for school infrastructure for the German-speaking Community.
UK - Scotland	School Estate Strategy	+350 schools	Private sector designs, builds, finances and maintains the asset. The public sector pays an annual charge over a 25-30-year period to the private sector provider from the revenue budget, once the asset has been built.
UK - England	Priority Schools Building Programme	£4.4 billion, 537 schools	Design, build, finance, operate of schools

Source: Dharam Consulting, IJ Global

A large number of education institutions in the U.S. have significant capital improvement and deferred maintenance plans where improvements are necessary not only to replace and restore aging facilities, but also to modernize academic programs and expand capacity.

The main source for capital funding for U.S. education institutions is the municipal bond market. This market is unique to the U.S. and a primary reason that the P3 model has not caught on here as it has elsewhere.

Nevertheless, P3 in the privatized, on-campus university housing sector is popular and successful for many years. As an auxiliary service, student housing often falls low on the list of priorities, taking a back seat to direct education projects. Colleges and universities often have to choose between improving their educational facilities and providing new student housing, making P3 financing an attractive alternative when traditional state funding is unavailable. The success of the projects, led to other collaborative efforts. Now, higher education P3 engagements are common for other types of projects and initiatives (figure 2).

University infrastructure procurement in the U.S. has also shifted to better take into consideration some of the best practices found in Public-Private Partnerships (PPP or P3) and other alternative forms of procurement. Traditionally outright private concessions have been used for numerous student housing projects in the U.S., typically leaving a significant amount of risk (and leadership) to private concessionaires tasked with building and operating secondary university assets.

In some cases, the private partner would fully fund the project using private capital (debt, equity) and the concession agreement could include the ability for the private partner to set prices and plan maintenance schedules. More recently, however, higher education institutions in U.S. have broadened their procurement policies to allow for other types of contracting mechanisms (including P3) to be used for a wider range of strategic assets which are fairly common to the P3 market, but until recently, less so to higher education institutions.



The private sector does participate in U.S. education projects, but overall, private partnerships are an underutilized tool to modernize facilities, increase efficiency, and reduce costs. The market continues to be impeded by resistance to using P3 for infrastructure projects, and the slow development of institutional frameworks and standard processes.

THE OPPORTUNITY

Education P3s are now fairly common in European countries, Australia, Canada and across Asia. Whilst P3s are increasingly popular in the U.S., in particular for revenue generating assets of education institutions, such as student housing and parking, the consideration of P3s to deliver non-revenue producing buildings and infrastructure is still nascent.

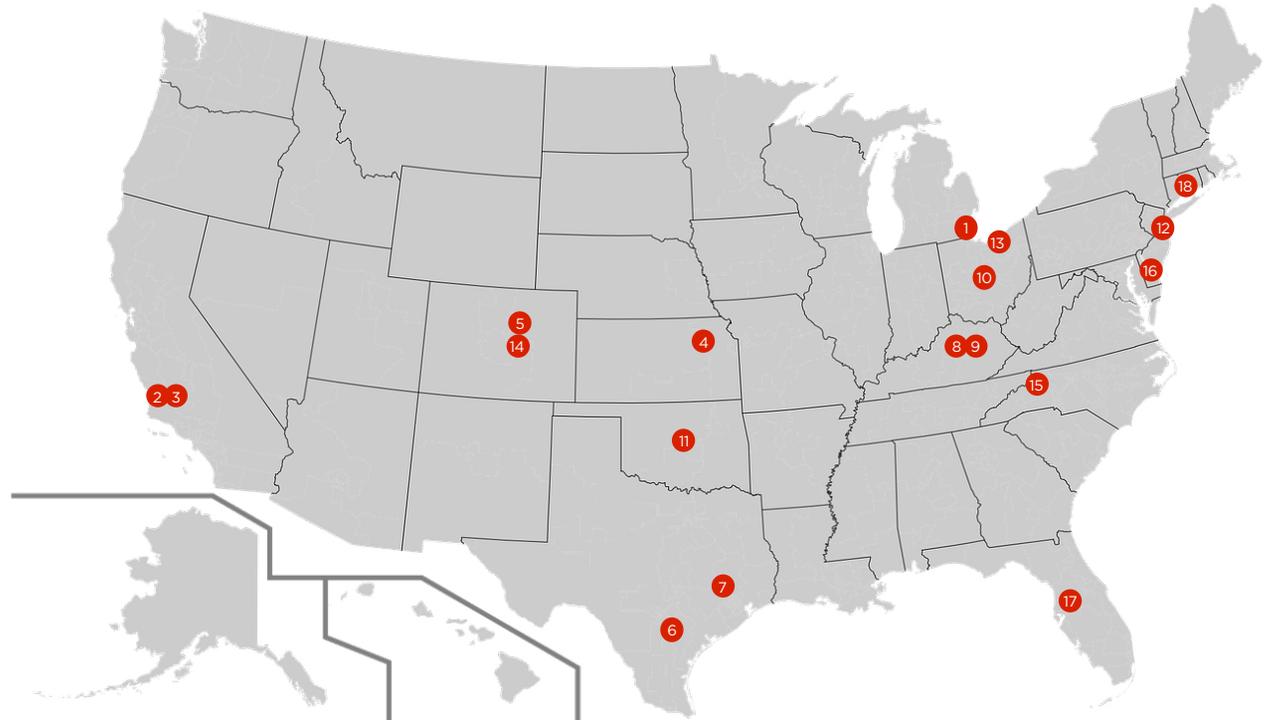
The P3 regulatory environment depends on the state, and many states either outlaw or severely limit using P3s. At the same time, P3 arrangements, which give the private sector control over design, construction, operation or financing remains controversial in the U.S. Many P3s have failed over the years leaving the public suspicious over its value for money.

However, given the infrastructure need and the potential benefits of P3s, is it worth reviewing this funding and delivery method? Evidence from around the world shows that partnerships with the private sector can allow needed modernization or expansion projects to move forward, while bringing operational efficiencies and innovations that may not have otherwise been considered.

The map highlights a few examples of P3 projects in the U.S. As these projects advance, they may provide valuable information for other local governments pursuing innovative partnerships with the private sector.

Education institution, in particular in higher education, often have an extensive and complex real estate portfolio, ranging from academic buildings with classrooms and labs, student centers and dorms, athletic facilities, administrative buildings, retail and parking spaces, utility facilities and sometimes even hospitals.

While the state of these facilities influences a student's decision to attend an institution, their design, construction and maintenance are not exactly core to university missions and can even be considered a distraction from the delivery of education. The question naturally arises: Does your institution have enough time, energy, money and expertise to pour into these non-cores but increasingly essential activities.



1. Wayne State University	
Contract:	Ground Lease
Scope:	DBFMO
Program:	Student Residential Facilities P3
Capital Budget:	\$308 million
<i>Wayne State University \$1.4 billion Campus Upgrade PPP is in preferred bidder stage</i>	

2. University of California - SF Sandler Neurosciences Center	
Contract:	Lease/ Leaseback Concession
Scope:	DBFOM
Program:	Clinical and laboratory research facility, auditorium, support facilities
Capital Budget:	\$208 million

3. University of California - Merced 2020	
Contract:	Concession (availability-based payments)
Scope:	DBFOM
Program:	Campus expansion, research, academic space, recreation, athletic facilities, student housing, parking, associated infrastructure
Capital Budget:	\$1.3 billion
Finance:	Revenue bonds, University funds, Consortium Equity Funding.

4. University of Kansas - Central District Project	
Contract:	Lease/ Leaseback Concession
Scope:	DBFOM
Program:	Integrated Science Building, Residence Hall, Apartments, Dining Commons, Parking facility, Central Utility Plant
Capital Budget:	\$383 million
Finance:	100% tax-exempt lease revenue bonds

5. Colorado State University - C. Wayne McIlwraith Translational Medicine Institute	
Contract:	Concession
Scope:	DBOM
Program:	Translational Medicine Institute Equine Veterinary Teaching Hospital, Community Practice facility, Doctor of Veterinary Medicine program facility, associated support facilities and infrastructure, parking

6. Texas State University	
Contract:	Management Services
Scope:	Dining services
Program:	Provision of food services
Budget:	\$13.6 million

7. Texas A&M University System

Contract: Ground Lease, Five P3 contracts
Scope: DBFMO
Program: On-campus housing on four campuses
Finance: Tax-exempt bonds

9. University of Kentucky

Contract: Concession
Scope: DBFOM
Program: Student Housing
Budget: \$450 million

11. University of Oklahoma

Contract: 50-year Concession (demand-risk based)
Scope: DBOM
Capital Budget: \$600 million

13. Kent State University (KSU) campus

Contract: Concession
Scope: DBF lease back
Program: 10-year "Iconic front campus" program, including construction of new academic and other buildings, renovation of existing buildings, addition of green space and expansion of bike trails and walkways.
Budget: \$1 billion
Financing: Private equity/ debt, university funds, state capital funding (\$30 million)

15. Appalachian State University - Student Housing

Contract: Ground Lease
Scope: DBFOM
Program: Housing project that will renovate or replace seven residence halls and add a new parking deck

17. The University of South Florida - "The Village" mixed-use P3 project

Contract: 45-year ground lease (demand-risk based)
Scope: DBFOM, transfer of project delivery, operating, maintenance, and budget risk to the private partner
Program: Student housing, student recreation, dining, retail facilities
Budget: \$133 million
Financing: Private developer debt/ equity

8. University of Kentucky

Contract: Facilities Lease
Scope: Services
Program: Provision of dining services, including commitment from private partner to use sustainable practices and locally sourced food.
Budget: \$245 million

10. Ohio State University

Contract: Facilities lease (demand-risk based)
Scope: Parking space provision
Program: Lease 36,000 on-campus parking spaces for 50 years
Budget: \$438 million

12. City University of New York

Contract: Partnership
Scope: DBF, Co-location
Program: The Lois V. and Samuel J. Silberman School of Social Work at Hunter College and CUNY School of Public Health at Hunter College
Budget: \$110 million

14. Metropolitan State University of Denver

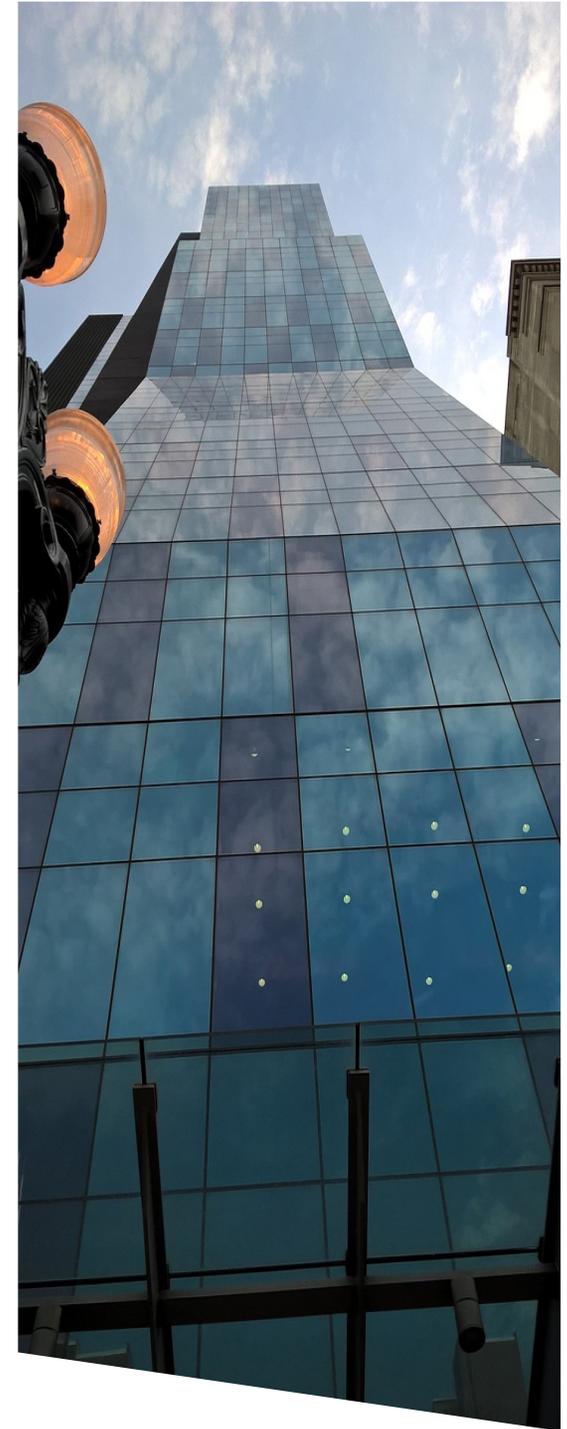
Contract: MSU Denver and Sage Hospitality Partnership
Scope: DBFOM
Program: Construction of on-campus, full-service learning laboratory - the Hotel and Hospitality Learning Center. Including fully functioning, professionally managed hotel, the SpringHill Suites Denver Downtown by Marriott International, The J. Willard and Alice S. Marriott Foundation Conference Center, Academic building and learning laboratory

16. Delaware State University - Residence Hall

Contract: Ground Lease
Scope: DBOM
Program: Construction and operation of new 200,000-square-foot residence hall
Financing: \$750 million fundraising campaign,

18. University of Massachusetts - Mass Boston Campus

Contract: Ground Lease
Scope: Design and build by private developer; financed, owned, and operated by a nonprofit management entity
Program: 1,077-bed residence hall
Budget: \$120 million



10 REASONS WHY EDUCATION INSTITUTIONS SHOULD CONSIDER P3s

Previously, colleges and universities turned to P3s for funding reasons. Now, institutions are realizing that P3s can offer much more, and that constructing or renovating an asset via a P3s arrangement is often more expensive than developing through a traditional financing model. The real value often lies in the integrated lifecycle approach – the delivery, operations, and long-term maintenance.

In this context, a P3 is really an integrated project delivery approach for an education asset in which the private contracting party assumes more risk and responsibility than it would in a Design-Bid-Build (DBB), the model through which the sector traditionally delivered facilities.

The education sector should consider looking at the bigger picture beyond financing. There are a number of reasons why education institutions should consider public-private partnerships.

P3 arrangement will not solve funding challenges, but when done right, P3's can help improve the execution challenge, increase profitability, management and operations, introduce innovation and operational efficiencies, and enhance overall service levels. Transferring responsibilities for project management and operations to a private partner, allows education institutions to focus on conducting and providing excellent education.

▶	1. Mobilization of Capital	P3's can provide a way to access private financing and mobilize capital markets at a time when public spending is overstretched, freeing public budgets for other investments
▶	2. Lifecycle considerations	Integration of a project lifecycle across design, build, finance, operation and maintenance elements. Reducing deferred maintenance and the cost of ownership over the life of the asset
▶	3. Value for Money	Maximize business potential and optimize cost structures. Leveraging an integrated development team and Bundling design, construction, operation and/or maintenance into a single contract reduces costs associated with procuring and managing a series of separate contractors for all of these project phases.
▶	4. Improved managerial and operational performance	Transfer of operational and lifecycle risk to the private sector based on KPI's and performance incentives
▶	5. Optimization of commercial results	Potential to leverage university/ schools land for commercial uses to provide amenities and generate revenue for the institution and community. Potential for efficiency gains associated with greater specialization by private industry. P3 contractor is incentivized to ensure the asset is constructed and operates successfully so it will generate sufficient revenues.
▶	6. Facilitation of risk transfer	P3s allow public owners to transfer some or all of the project risk, such as design liability and performance risk, to the private party while still retaining a degree of control over the project.
▶	7. Project acceleration	Private contractors have the expertise and incentive to deliver projects faster than a typical public owner. Perceived reduction in development risk with transfer of construction risk to the private sector.
▶	8. Innovation and best practices	P3 arrangements can introduce best practices, access skills and technologies, and provide greater incentives for improved operational efficiency and financial performance. Involvement of the private sector in the design and construction process can result in a higher quality project. Increased competition during procurement and proposal quality (P3s tend to attract high-quality developers and contractors).
▶	9. Focus on core mission	Engaging a private partner in the management of education real estate allows institutions to focus on core academic activities.
▶	10. Asset Transfer	Return of asset to public ownership at the end of the concession period



TYPICAL EDUCATION P3s MODELS

There are a range of P3 ownership, operating and procurement models that can meet government objectives and there is no “one size fits all” P3 solution that can be applied for any education project. The main differences concern contractual length, the private sector’s role and ownership structure. Best-practice demands that the type of P3 arrangement is dictated by the needs of the institution.

Hence it is difficult to recommend one ownership or operating model that can best meet the strategic objectives of all education stakeholders, and it needs to be recognized that these objectives might change over time.

Choosing the appropriate P3 structure will always depend on a number of factors, including the political, regulatory and operational limitations, financing requirements and market realities, project objectives, investor preferences and the ability of the public sector to manage and supervise.

The main education facilities P3s are operating and management contracts, facilities lease arrangements, and concessions (figure 2).

The benefits sought with management contracts are 1) to allow institutions to focus on core mission instead of non-core functions and 2) to gain access to private sector management skills. Often these are associated with parking or food service facilities.

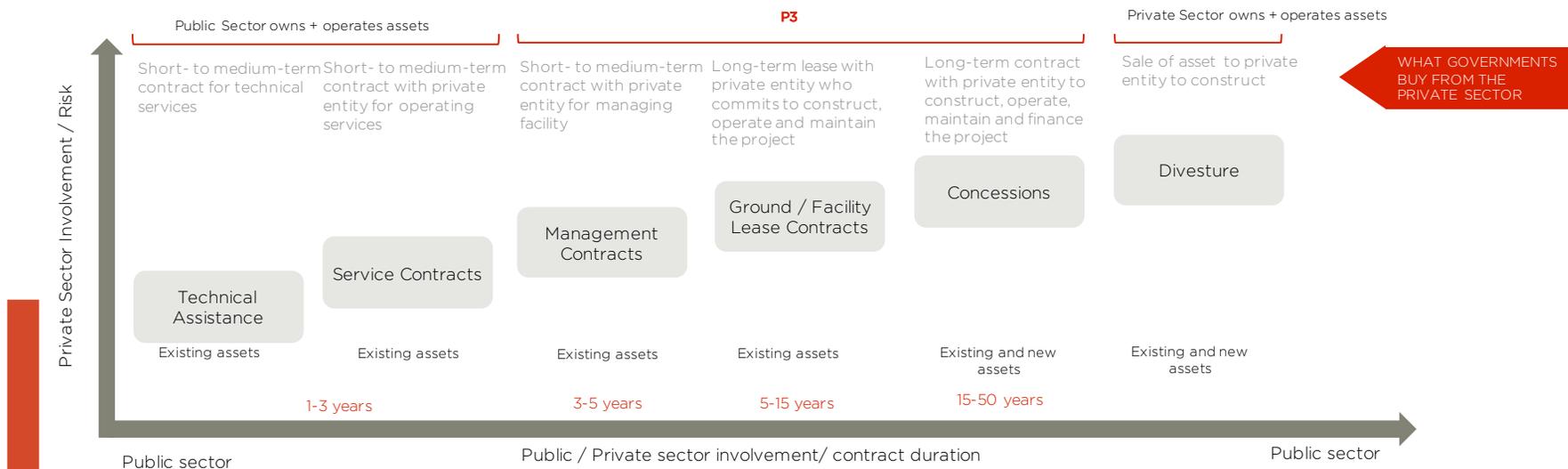
In ground or facilities lease contracts a private entity constructs, operates and maintains the project. Typically, the financing is the responsibility of the public institution. The benefits in addition to those of management contracts is typically seen in a partial risk transfer to the private sector. The challenge is to apportion the risk transfer appropriately.

There are various forms of concession arrangements, which vary in terms of scope and risk allocation to the private sector.

Concession contracts are long-term partnerships in which the private entity constructs, operates, maintains and finances the project in either 1) exchange for annual payments subject to abatement for non-performance (availability-based concession) or 2) rights to collect revenues associated with the facility (demand-risk concession). The benefits in addition to those of management and lease contracts is the transfer of lifecycle performance risk and revenue risk to the private sector.

Concession contracts tend to be output-focused, i.e. the concessionaire determines how best to achieve the service with agreed performance standards. Often concessions are based on significant upfront investment in the form of construction.

FIG. 2: SPECTRUM OF EDUCATION FACILITIES OWNERSHIP ARRANGEMENTS AND PRIVATE SECTOR INVOLVEMENT

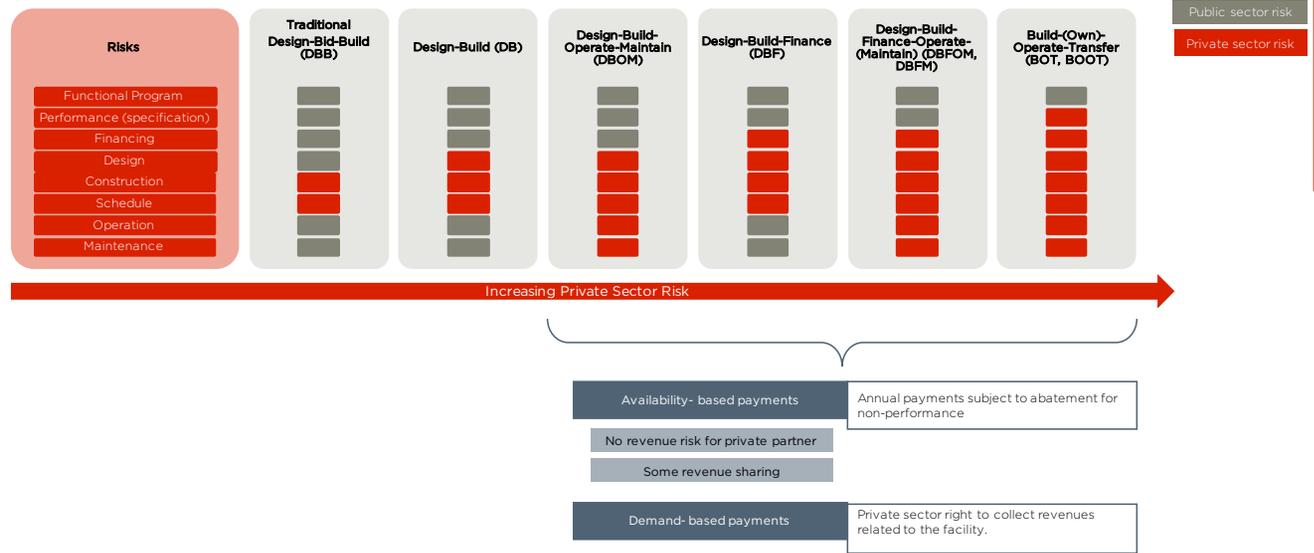


Arrangements can differ widely, but infrastructure-focused concession P3s share several characteristics:

- The private consortium is selected through a competitive tender process.
- Private sector partners invest in school infrastructure and provide related life-cycle services (for example, building maintenance).
- The public sector retains the responsibility for delivering core teaching services
- Arrangements between the government and the private partner are governed by long-term contracts (usually 25 to 30 years) that specify the services the private contractor must deliver and the standards that it must meet.
- In service contracts, the private organization often takes on several functions such as design, building, maintenance, and employment of some non-teaching staff.
- Payments under the contract are contingent on the private operator successfully delivering services of an agreed performance standard.

All P3 contracts can be delivered using a variety of procurement methods (figure 3).

FIG. 3: TYPICAL EDUCATION P3 PROCUREMENT MODELS AND RISK ALLOCATION



THE TYPICAL ISSUES AND CAUSES FOR FAILURE IN EDUCATION P3s

There are many successfully completed P3 education projects, but P3s are not a panacea for all development challenges, and failures are widely publicized.

Disadvantages to be considered include higher cost of capital and profit margins for the private sector, contract complexity, multi-stakeholder roles and responsibilities, the level of control retained for the academic institution, or statutory restrictions with regards to

ground leasing of public land to private entities.

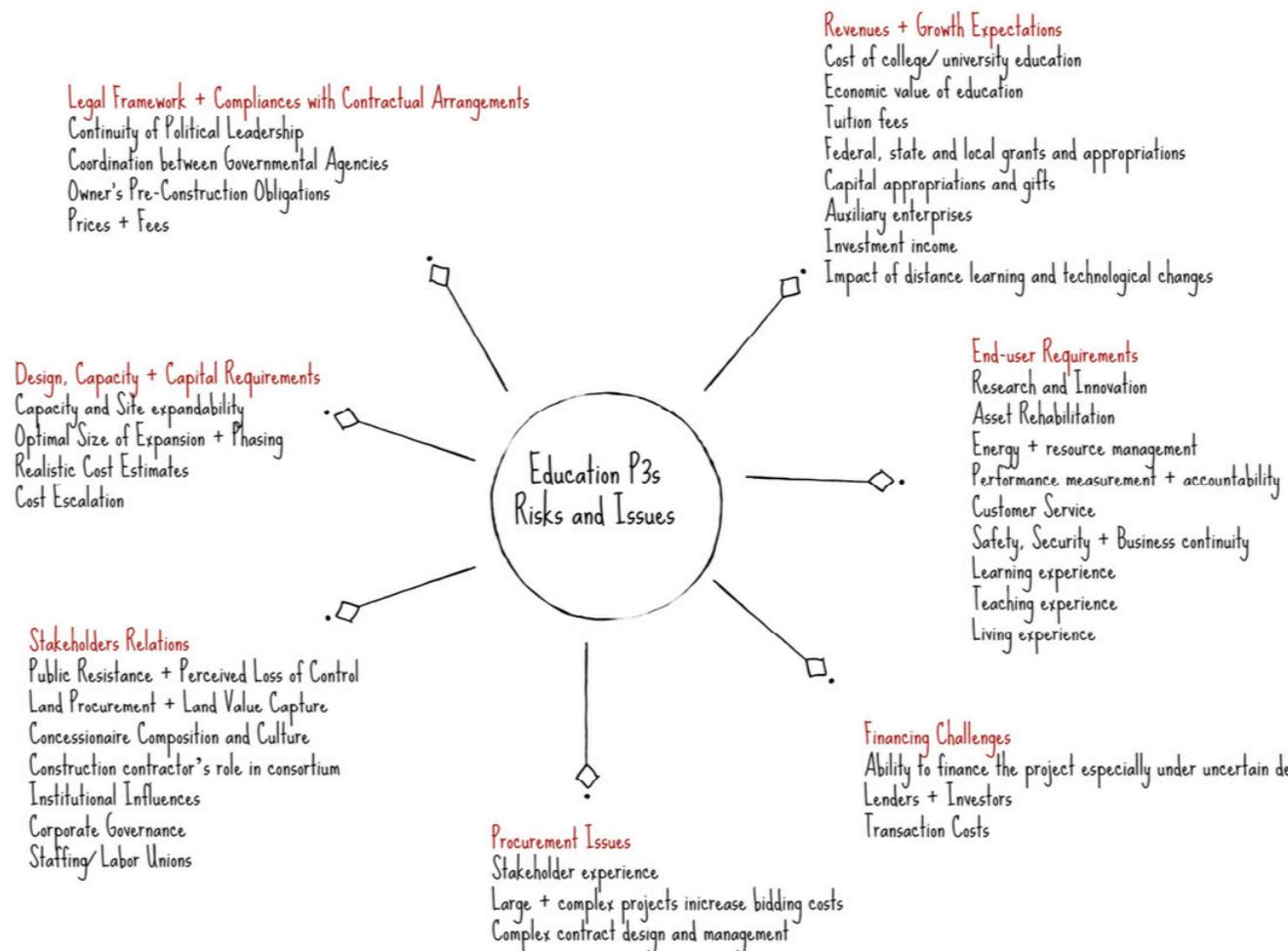
Getting the right P3 structure in place is challenging. Some of these are avoidable, others can be mitigated. Other than force majeure, default and termination provisions found in all concession agreements, figure 3 depicts issues that are typical of education P3s.

Among the main risks is the failure of either party to

comply with contractual agreements, impacting financial profitability and project delivery.

The private sector has higher return expectations and needs sufficient commercialization potential to be incentivized. Unrealistic revenue forecasts and lack of thorough project cost estimates can bankrupt a concession. This factor has already caused a number of P3 failures in the U.S.

FIG. 3: EDUCATION PROJECT ISSUES



Expanding P3 arrangements to non-revenue generating assets needs to be carefully considered. In these cases, P3 contracts have and can be designed such that private investors build, operate and maintain an asset with a stream of revenue payments from the government/ institution instead. This “availability payment” model, where the private contractor gets paid irrespective of usage, can curb costs, but there is a risk in determining the “right” payment and the “right” incentives. The opacity of the liabilities for the public can be very unpopular, with significant attempts to renegotiate contracts.

Determining the right size, phasing program and required capital is a main factor in the success or failure of education P3. There is a perception that P3 projects have high development and bidding costs, outweighing the benefits. It is true that negotiating a P3 contract typically takes longer and costs more than a traditionally procured D-B project. However, the type of project attractive for P3 structures are typically large-scale multi-faceted projects, which generally incur higher procurement costs.

One often overlooked issue is the limited transparency and public scrutiny regarding P3 contract arrangements, which hinders (international) benchmarking and the dissemination of best practices. All of these factors are causing resistance against private involvement in the education sector and many have argued that institutions lose control over their physical assets.

It is easy to get P3 contracts wrong and the seeds of failure are sown in the early project phases, when the lack of a solid legal framework that clearly specifies the rules of the game, a poorly considered procurement choice and project delivery approach can lead to delays, higher costs, and diminished returns.

At the same time, recognizing the challenges is the first step in avoiding many of the pitfalls and the lessons learned from successful P3 arrangements need to be considered. It takes a lot of work upfront to get the deal right. Institutions will have to be prepared that a P3 is not just a transaction, but a long-term relationship. As a result, institutions will need to remain engaged throughout the life of the facility.



The private sector does participate in U.S. education projects, but overall, private partnerships are an underutilized tool to modernize facilities, increase efficiency, and reduce costs. The market continues to be impeded by resistance to using P3 for infrastructure projects, and the slow development of institutional frameworks and standard processes.

HOW DO WE GET EDUCATION P3s RIGHT?

The opportunity to source private funding and the optimal risk transfer of financing, design, construction, and operations are clear and well understood benefits of P3s. The widespread appeal of P3s is often accompanied by uncertainty. The reason for P3 project failures rarely lies in the rationale and principles of P3s, but is more often due to mistakes in the way projects are put in place.

How can education leaders ensure that they are making the right decision, and that a private partner can assist their unique needs?

There are many success factors and lessons learnt in education P3s. In our experience the following factors should be in place to make a P3 project work successfully.

1. Public support for P3s and a strong legal framework

- P3s require a sound legal basis and a political commitment. There needs to be a clear legal structure at state level, including the legislative and regulatory framework, transparency and a procurement process to create an effective enabling environment and to reduce unnecessary political risk. Clearly stated and enforced “rules of the game” provide clarity and predictability for investors.
- We have seen that public sector buy-in is critical at all stages and lack of government support can make the P3 process longer, more challenging to navigate, and less attractive for the investor community.
- Countries with well-established P3 legislation and programs, such as the UK, Canada and Australia, have public authorities that develop and stimulate the P3 program, responding to changing market conditions through reflection, reform and innovation.

2. Professional, well-resourced and P3 experienced teams

- There is no “one size fits all” approach to establishing a framework for P3 delivery. Assembling a dedicated education institution or public sector team that is capable of making and executing procurement decisions is an essential part of any successful P3. This, together with an experienced private sector project management team, as well as the right technical advisors right from the initial project planning phase, will enhance and ensure coordination, technical support and adequate checks and balances.
- The ideal public-private partnership project has a champion within the public sector that realizes the value of the project and works with the private sector to educate other public stakeholders.
- A well-structured project shares the risk between stakeholders and is open and transparent.

Key to Successful Education P3s

- **Institutions or public sector authority know their real estate portfolio**
- **Identified institution’s specific goals, objectives and risk appetite**
- **An effective governance and organizational structure are in place**
- **A sound business case**
- **Standardized project analyses and procurement process**
- **Transparent communications**
- **Extensive stakeholder engagement**
- **Integrated partnerships**

3. Structuring and Standardization of processes and documents

- The process to be used to structure a deal along public and private dimensions needs to be clearly articulated in the “rules of the game”. Structuring allows the education institution or public authority to design a project based on their objectives, capabilities, risk appetite and market interest.
- Structuring the process reduces uncertainty for bidders and ensures proposals are made based on needs and at the highest values. In our experience, on projects where the procurement process has been clearly structured, this has attracted more quality proposals from bidders.
- As public authorities become more confident in their preferred risk exposure and procurement practices, standardization helps to adopt consistent position, generate more efficient procurement and lowers bid cost.

4. The right business case and the right project

- Education institutions should have a commitment to a strategic mission and a clear definition of their real estate needs, including essential facility needs, identification of funding gaps and an institutional risk profile.
- There are many reasons to (re-)develop education assets. Each project will have its own requirements as well as challenges. A well-developed business case will guide the choice of P3 structure and procurement method and which professional team will be required to deliver the solution needed. We have helped to guide our clients through in-depth needs analyses before selecting a P3 structure, which helped identify the problems to be solved and the best procurement method for solving them.

5. Clearly defined value addition for public authority or education institution

- P3 projects must add value to public delivery authorities or education institutions. The ex-ante appraisal of the P3 project’s value-for-money (VFM) relative to “traditional” procurement approaches is a matter of much debate, in particular the issue of a true like-for-like comparison.
- Extensive analysis is essential and we have helped our clients to test the strategic, technical, financial, and commercial feasibility of the proposed structure with respect to government objectives and market realities.
- A well-structured and economically viable project is likely to attract more reliable partners with the capability to successfully deliver a P3 project and meet the performance requirements of the contract

6. Negotiating a fair deal through appropriate risk allocation

- Complete contractual provisions create a sense of fairness on both sides – the public and private sector. Contracts should contain clarity on contributions, performance obligations and related penalties, as well as clarity on risk allocation.
- Clarity on risks and rewards is key in the P3 structure. We know from our experience that P3s have often succeeded and failed with risk allocation. Contracts must include balanced risks and rewards in order to provide for project success for both the P3 contractor and the public owner.
- The well-used phrase is that risk should be allocated to the party best able to manage them. Whilst the allocation depends on the P3 arrangement.
- A sensible risk transfer provides the basis for achieving a “fair deal structure”, which is essential for project success. Failing to negotiate fair risk allocation often means that potential P3 contractors may simply walk away from the opportunity while others will propose higher costs in order to monetize and cover the additional risk.



7. Pick partners carefully

- Strong partnerships are based on finding the right alignment of interests, where the private entity is incentivized to support the mission of the education provider, rather than its own corporate mission
- The right partnership is critical in maintaining the long-term relationship that is central to a successful P3 project.
- Inappropriate selection criteria and processes is likely to lead to the wrong candidate being chosen for the project. In contrast, a robust process of selecting consultants will improve the final project outcome and minimize cost overruns.
- Transparency from competitive tendering improves the credibility of the process and public support.
- Obviously, the “best value” is not always the lowest price and the P3 contractor’s experience in delivering projects and their financial capacity are critical factors in picking the right partner.



8. Build and maintain a collaborative approach

- As in any construction project, continued project collaboration is key to project success. It is important to understand your partners and key players, and engage all necessary stakeholders along the P3 journey, manage their expectations and spend time in planning and managing both the development and the implementation of the project.

9. Minimize post-contract award failure risks with adequate monitoring and contract management

- Contract management crucial for success from pre-operative state until asset transfer
- Monitoring systems need to be put in place to ensure the concessionaire carries out the agreed-upon services.
- Ideally, this monitoring system – which should be financially independent and technically empowered – must be in place on day one of the P3 contract.

10. Benchmarking and retrospective evaluation of P3 procurement and projects

- Project scrutiny at milestones is an important means of ensuring transparency, monitoring continued performance.
- Education P3s lend themselves to proper impact evaluations as many of the interventions are output-driven. Performance evaluations increase the amount of information available to policymakers when they make decisions about program design as well as expanding the international knowledge about the circumstances under which particular types of on education P3s work best.
- With the increase in P3 contracts, public authorities now have an important opportunity to take the lead in developing comprehensive evaluation frameworks.

WHAT IS NEXT FOR U.S. EDUCATION P3s?

As the U.S. ponders its response to infrastructure investment needs and the current administration works to put forward an infrastructure plan that aims to attract private capital, the following summarizes that, when done right, P3s could go a long way in helping to modernize U.S. education facilities:

- Private partnerships are an increasingly important tool to modernize education facilities, increase efficiency, and reduce lifecycle costs.
- The market remains impeded by differing state level P3 legislation, the continued resistance to using P3 for social infrastructure projects, and the slow development of institutional frameworks and standard processes.
- Several key barriers - including legislative hurdles - prevent greater consideration of these partnerships and must be addressed to realize benefits.

- International evidence shows that education P3s can offer institutions an alternative option to raise private capital, improve profitability, enhance service levels, and introduce innovation for all sorts of education providers and facilities.
- P3s allow public authorities to transfer risk and free financial obligations, which is appealing at times when fiscal spending is constrained.

Future partnerships need to be structured so that decisions benefit the whole program and incorporate input from all stakeholders. P3s can help extend the reach and effectiveness of government funds, encourage innovation in education, increase safety, efficiency, and capacity of physical educational infrastructure, and given the right public policy context, extend access to educational services and parity of services received across a population.

All partners are key to project success. While private partners are responsible for ensuring efficient project execution, the public partner is responsible for oversight and governance. P3s are not a one-size-fits-all solution. Done right, end-to-end responsibility incentivizes an integrated project approach, delivering projects faster and with better control of construction costs, providing value for money to the public, and delivering more resilient education facilities and infrastructure.

Given the issues that can arise, experienced advisors can play an important role in supporting clients to address these complexities.

Dharam Consulting LLC understands the capital costs and risks associated with these complex projects. For further information please contact asmith@dharamconsulting.com.

OUR ROLE ON EDUCATION PROJECTS

Dharam Consulting LLC has full understanding of education project delivery methods and their technical and regulatory challenges. We use our skills to carefully manage risks and exploit opportunities, and work with our education clients to deliver successful projects under various procurement methods.

Our cost and risk management services provide specialized expertise across the education asset project life cycle to reduce client risk, improve value and deliver positive outcomes for owners and operators.

Throughout planning and procurement, we

- establish cost effective budgets to inform client funding requirements and the project business case;
- analyze risks presented by the project and provide risk transfer and mitigation reviews;
- assess regulatory requirements, provide design review oversight, and assess capital expenditure programs, including schedule and project costs
- provide procurement and bid management advice, including due diligence on design-builder and operator capabilities

We recognize that contract management is essential for project success from pre-operative state until asset transfer. Post contract, we provide commercial management services, monitoring contracts throughout the project phases.

Project scrutiny is an important means of monitoring continued performance and the delivery of project value for money. We are skilled at providing meaningful project benchmarking, collecting, analyzing and interpreting data in a way that will be key to determining and ensuring project performance.

HIGHER EDUCATION BUILDING COST BREAKDOWN

This generic cost model features a higher education building project.

- Costs are current in Q4 2018
- Cost escalation, Site preparation & demolition, site paving, structures & landscaping, utilities on site are excluded
- Includes hard costs for construction and a notional percentage for soft costs. Design contingency is deemed to be included in rates.
- Adjustment should be made to the costs detailed in the model to account for variations in phasing, specification, site conditions, procurement route, programme and market conditions.

GENERIC COST MODEL

BUILDING SPECIFICATION	
Area	90,000 GSF
LEED SILVER	
Bar Building W X L	75 x 300
Building Perimeter	750 LF
Number of Floors above grade	4 FL
Building Height 1st to 4th Floor	74 LF
Floor Plate Area	22,500 SF
Above Grade Volume CF	1,665,000 CF

COMPONENT SUMMARY			
	%	\$/SF	Total \$USD million
Foundations	6%	33.6	3.0
Basement Construction	2%	14.4	1.3
SUBSTRUCTURE	8%	48.0	4.3
Superstructure	15%	88.5	8.0
Exterior Enclosure	18%	102.2	9.2
Roofing	3%	18.7	1.7
SHELL	36%	209.5	18.9
Interior Construction	9%	53.1	4.8
Interior Finishes	9%	49.7	4.5
INTERIORS	18%	102.8	9.3
Stairways	2%	10.8	1.0
Conveying Systems	2%	8.9	0.8
VERTICAL TRANSPORTATION	3%	19.7	1.8
Plumbing Systems	3%	15.2	1.4
Heating, Ventilating & Air Conditioning	14%	83.1	7.5
Electric Lighting, Power & Communications	12%	71.5	6.4
Fire Protection Systems	2%	8.9	0.8
SERVICES	31%	178.7	16.1
Equipment	3%	16.9	1.5
Furnishings	1%	8.6	0.8
EQUIPMENT AND FURNISHINGS	4%	25.5	2.3
TOTAL BUILDING CONSTRUCTION	100%	584	52.6
General Requirements	2%	11.7	1.1
General Conditions	8%	47.0	4.2
CM Fee	3%	17.5	1.6
Bond and Insurance	1%	5.8	0.5
Design Contingency	0%	0.0	INCLUDED
MARK UPS	14%	82.0	7.4
CONSTRUCTION COST		666	59.9
Owners Soft Costs / Contingency	30%	199.8	18.0
PROJECT COST		866	77.9

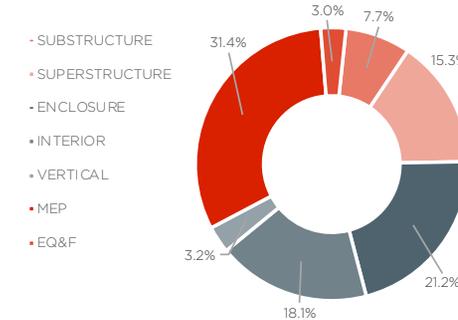
- All Costs have been adjusted for time and location to US Average.
- City Location factor Index based on RSMeans where US Average = 100.

Data collected from a variety of locations in the USA.

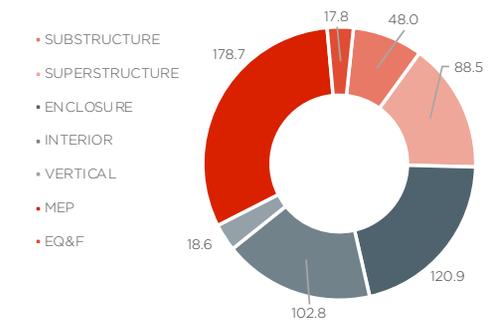
COST BENCHMARKS

ANALYSIS OF TRADE COSTS

Average % breakdown per Element

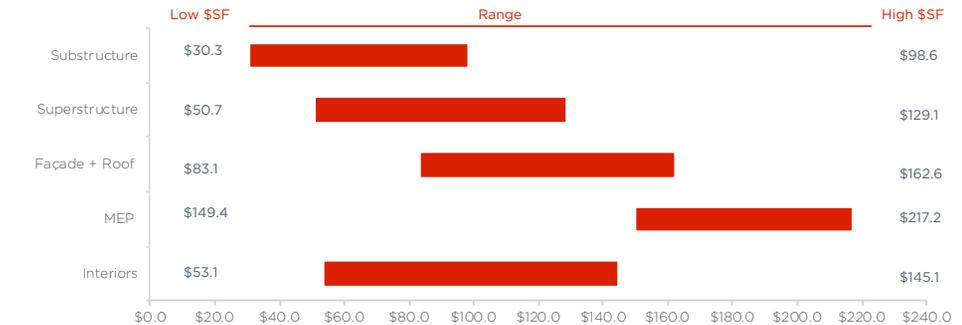


Average \$/GSF per Element



COST RANGES OF TRADES

Ranges \$/GSF per Element



Mid Range Cost Model - Includes steel building, 60/40 mix solid and opaque facade with some curtain wall/solid panels.

Half basement, conventional HVAC system VAV, with chilled beams to select areas. LED lighting throughout, life safety systems, Good quality fit out with 20% glazing.

ALL RATES ARE TAKEN FROM DHARAM CONSULTING COST DATA BASE. ALL COSTS ARE SUBJECT TO CHANGE BASED ON THE SPECIFIC PROJECT LOCATION AND SITE CONDITIONS. DATA IS MEANT FOR GUIDANCE ONLY.



DHARAM
CONSULTING

Dharam Consulting is an Independent Construction Consultancy specializing in providing proactive and value adding Cost and Risk Services that contribute towards successful outcomes for our clients and their projects.
(A registered MBE company)



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