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P3s: Lessons in Shifting Risk and Reducing Cost for the Public Owner

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Introduction

- Debt financing accounts for 90% of state and local capital spending (according to 2015 ICMA policy paper)
- Tax-exempt debt is used for everything from roads and bridges to airports, parks, ports, prisons, public transportation, schools, and water and wastewater projects
- Nationally, studies show a 7-10% cost savings derived from utilizing public private partnership methods instead of traditional procurement (measured over the life of the facility). Savings are even higher abroad in Canada and the EU (20-24%).
  - School construction savings using P3 methods (34% in Pembroke Pines, FL, 8-12% on $134 million in equipment/materials purchased in Norfolk, VA, with far greater savings by accelerating five school projects)
  - Highway construction projects have benefited from P3 design and construction approaches by substantially reducing build time and reaching project savings up to 31% (Denver E-470 Toll Road)
  - The Commonwealth is *receiving* $500 million from the private developer of the I-66 Express Lanes (outside the Beltway) in return for a 50-year concession (plus $800 million in net present value public transit improvements)
  - Rail projects have experienced success from P3 financing methods, in one case saving $300 million on construction of a Transit Line project in Denver (subsequent litigation, however, over operations)

Introduction (cont.)

- P3s are becoming increasingly more popular to leverage advanced technology and innovations in the private sector as well as greater efficiencies to operations of projects once completed
  - P3s can shift the risk of operations and maintenance costs of public infrastructure to the party best able to control such risk (the developer)
  - Deferred maintenance is reduced by shifting lifecycle cost (including capital replacements) risks to the private developer

Traditional v. P3 Models

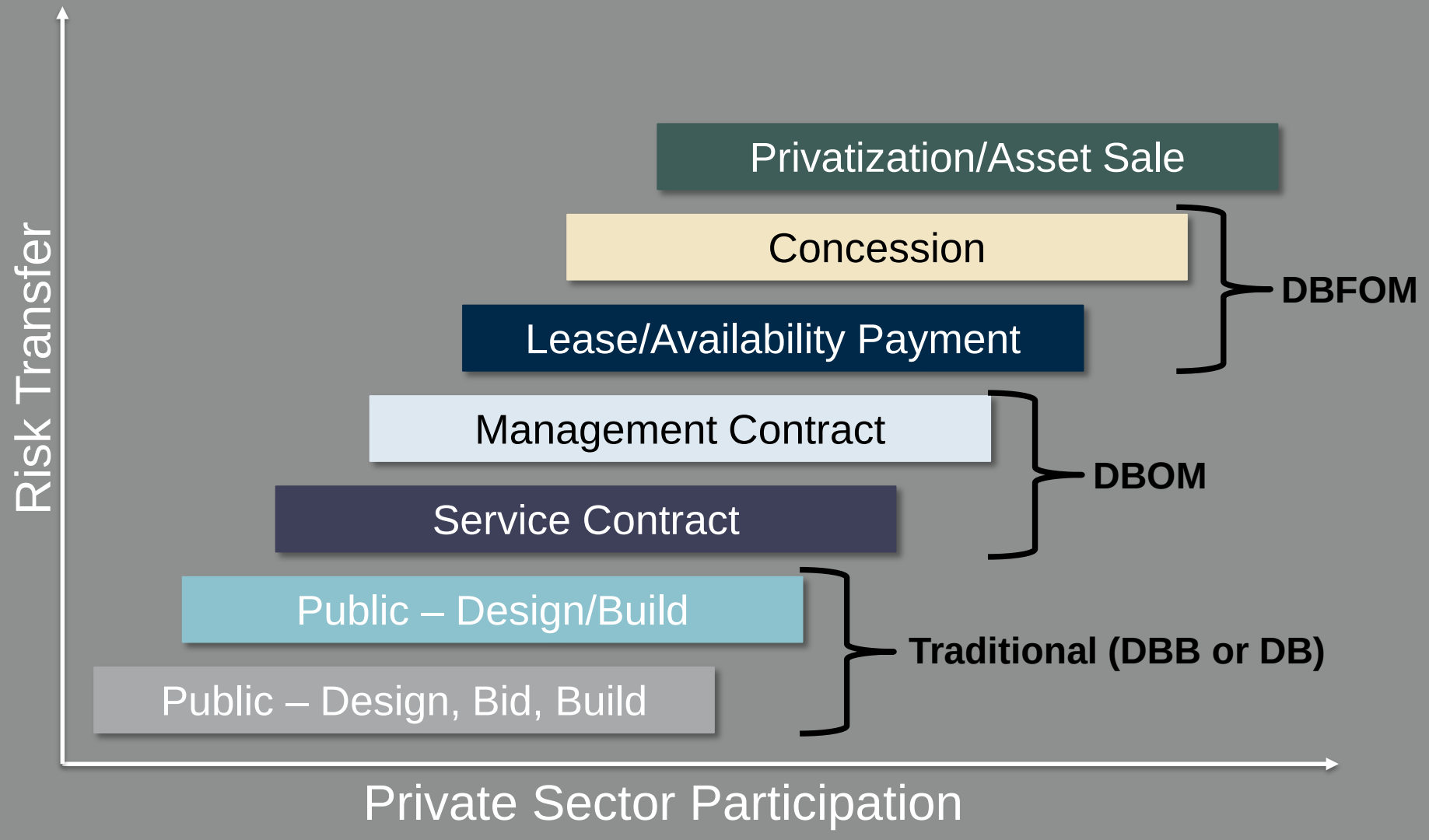
Traditional Model:

- Design-Bid-Build (DBB)

P3 Models:

- Design-Build-Operate-Maintain (DBOM)
  - Public owner is responsible for financing and capital requirements
  - Private developer is responsible for operation and maintenance
  - Private developer receives periodic payments for O&M
- Design-Build-Finance-Operate-Maintain (DBFOM)
  - Private developer responsible for financing, operation and maintenance over project team (30-40-50 years)
  - Private developer receives either “availability payments” (with revenue risk retained by the public owner) or a concession to keep the project revenue (e.g., tolls) once the facility is constructed
  - Hand-back Guarantee at end of term, “85% new”
- Tax-Exempt Variation on DBFOM Model
  - Non-Profit Entity issues 63-20 Tax-Exempt Bonds
  - Private developer contracts to design and build the facility
  - Shorter-term O&M Contracts (e.g., 3 years)
  - Public body pays rent to cover debt service plus budgeted O&M expenses
  - Facility turned over to government once bonds are paid off

Risk Transfer and Control



Value for Money (VfM)/ Life Cycle Cost Analysis (LCCA)

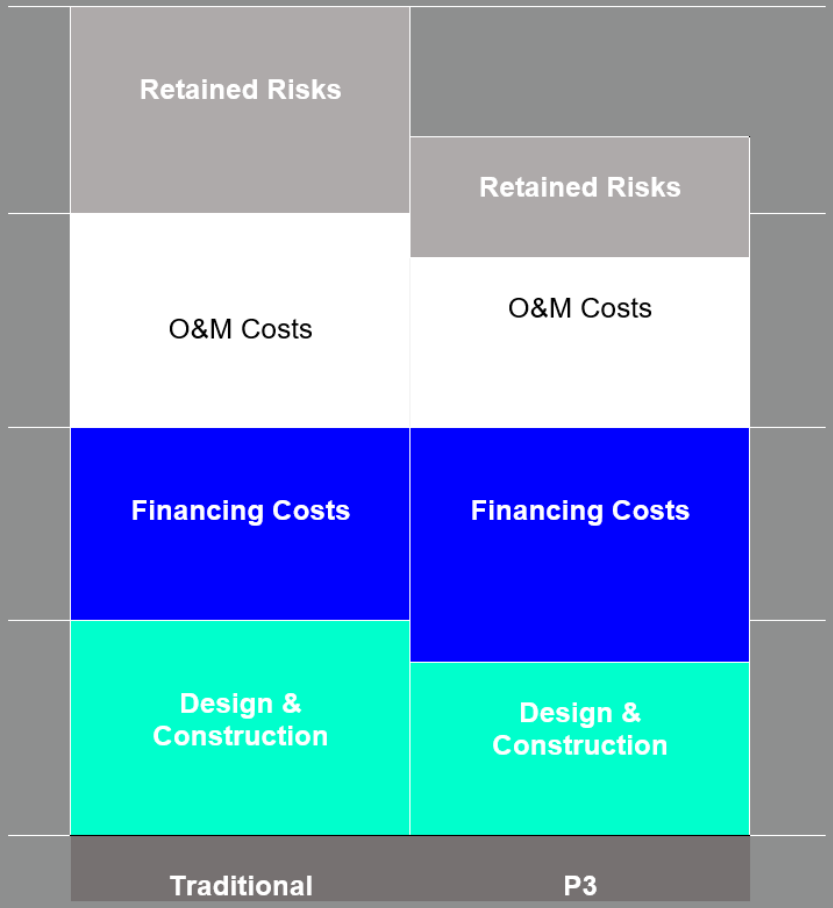
A Value for Money (VfM) or Life Cycle Cost Analysis (LCCA) analysis, comparing the risk-adjusted cost to the public sector of owning and operating a public facility over its lifespan under each alternative, takes into account all of the following costs:

- Design and Construction Costs
- Project Financing Costs, including Issuance Costs
- “Risk-related costs”: Cost Overruns or Time Delays
- Project Income from User Fees
- Utility Costs
- Other O&M Costs, including Personnel Costs
- Capital Replacement Costs
- End of Life Costs: Residual Value
- Non-Monetary Costs (Quality Trade-Offs)

Cost Comparison (Value for Money)

Value for money analysis comparing traditional procurement methods and P3 methods, often results in affirming the P3 process.

- Risk Transfer May Offer Savings, but Difficult to Quantify Upfront
- Does Private Sector Offer Lower Life Cycle Costs (Operation & Maintenance)?
- P3 Financing Costs Likely to be Higher
- P3 Project Delivery May Offer Savings



Key Project Risks

The P3 process aims to reduce and shift the following risks away from the public, and towards the private developer:

A. Design Risks

1. Scope discrepancies
2. Disagreement over design concepts
3. Design errors / failures
4. Design changes

B. Inaccurate Cost Estimates

1. Program (scope)
2. Differing or unforeseen site conditions
3. Contingencies
   a) "Constructability" issues
   b) Scope gaps between trade contractors
   c) Subcontractor defaults

C. Construction Risks: Cost & Time Overruns

1. Increased cost of materials or labor
2. Delays that cause:
   a) cost increases
   b) unavailability of facility

Key Project Risks (cont.)

D. Financing Risks

1. Availability of Financing / Debt Capacity
2. Project construction delays due to financing
3. Non-appropriation of funds

E. Legal Risks

1. Hazardous environmental conditions
2. Changes in law
3. Ownership of IP / infringement

F. Political Risks

1. Public opinion (Lack of Engagement)
2. Lack of public sector champion

G. Life Cycle Costs Risks

1. Maintenance life cycle costs
   a) Truth in budgeting
   b) Deferred maintenance
   c) Capital replacements/major repairs
2. Operations life cycle costs

Cost of Deferred Maintenance

"Nation's Infrastructure Given "D+" grade by the American Society of Civil Engineers."

ASCE estimates the U.S. needs to invest $4.5 *trillion* by 2025

"Too many of America's public schools are crumbling – literally."

"…the nation's PK-12 public school buildings are valued collectively at nearly $2 trillion, and the deferred investment in upkeep is estimated to be between $271 billion and $542 billion."

"No more money for school maintenance"

"Already he has more than 3,200 maintenance requests that he said he cannot afford to address. And that list is expected to grow…"

"Schools pitch $57 million maintenance 'catch-up plan'"

"…the first step in addressing a backlog of major maintenance needs that has contributed to system failures, structural defects and safety issues at local school buildings."

"School construction needs are 'much greater' than governor's $80 million proposal"

"Schools say they need $124 million for repairs"

"They expected the schools to need about $80 million worth of repairs to replace systems at the end of their useful lives, but instead found about $124 million in urgent needs."

"School Maintenance: A Story of Despair (and Resurrection?)"

"This starvation of basic maintenance funds is why our facilities are failing at a daily rate…"

Considerations

A. Project Costs

1. Short term relief but long term implications if transaction is not carefully negotiated by public officials
2. VfM/LCCA exercise is critical
3. Transfer of O&M risk is key
4. Minimize Deferred Maintenance

B. Financing Costs

1. Public body can likely obtain lower interest rate for financing as compared to private sector due to ability to pledge full faith and credit or similar type of security pledge unique to public body
2. P3 structure may allow public body to time its borrowing more efficiently
3. Compare issuance costs: DBB v. DBOM v. DBFOM (private & tax-exempt)

C. Loss of Operational Control

1. Control over operations may be transferred to the private sector, which will require monitoring and auditing rights being retained by the public body to ensure project properly operated and managed
2. Public should retain control over infrastructure plans and policies
3. Criticism of long term deals (50+ years) given unforeseen demands of public on such infrastructure

D. Loss of Ongoing Revenue Source

1. Monetization of existing revenue stream creates short term windfall
2. Risk that public may not receive full value for future toll revenues

E. User Fees

1. Fees paid by users may be higher than would have been paid if governmentally financed and operated in order to ensure private party recoups investment it made for concession in the first place
2. User fees also affected by economies achieved in designing, building, operating maintaining the project – a P3 advantage

Interim Agreement

Interim Agreements, made between the public owner and private developer, lay out certain deliverables from the private partner. This can reduce uncertainty and risk in the following ways:

A. Total project time (and thus costs) conserved

- Design-build process accelerated
- No financing delays

B. Political and public opinion risks managed

- Developer to conduct public outreach
- Contractual obligation to incorporate public input into the design

C. "Test drive" of the public-private working relationship

- The City's timeline for review, comment and approval
- Refining the scope and budget for a collaborative process
- "Value engineering" at early stage

Interim Agreement (cont.)

D. <u>Project costs and project schedule more definitively projected</u>

- Minimizing uncertainty or risk
- Scope refined
- Design requirements
- Site conditions
- Global GMP for bundled projects

E. <u>Design Process Improved</u>

- Agreement on design criteria and principles
- Specify the required deliverables from the developer in 35% design
- Reduce the risk of later disagreements over the scope of the work
- Determine whether design criteria such as LEED certification or similar certifications are cost effective
- More accurate cost estimate produces an agreed-upon guaranteed maximum price (GMP)
- Reduce contingency

Interim Agreement (cont.)

G. Developer's Deliverables

- Environmental Reports
- HAZMAT surveys
- Underground utilities, historical resources, endangered species identified
- Traffic Studies
- Geotechnical survey and report
- Demolition of existing facilities
- Basis of design narrative
- Major building systems and equipment checklist (to include major building operating systems only)
- 35% design calculations
- Preliminary (35% design) drawings
- Topographical and boundary surveys
- Value engineering recommendations
- Site design based on applicable storm water regulations
- Minority owned, woman owned and small business participation plan

J. Public Hearing Required

- Public hearing no later than 30 days before an interim agreement or comprehensive agreement is signed

Case Study: Norfolk Public Schools Project

What Worked Well

- Having 1 Point of Contact – Designer and Builder are one in the same
- Building Trust - Being Able to have City Staff/NPS
  - Staff/Designer/Builder all involved throughout the process – open communication is key
- Community Involvement

Lessons Learned?

- The Interim Agreement is the key to success
- Time is Money (biggest savings)
- Design and Equipment Material Purchasing Efficiencies (next biggest savings)

Norfolk Public Schools Project (cont.)

What Worked Well (GC's Perspective)

- Direct Purchase of equipment – Able to ensure same equipment on all 5 schools – Ease of maintenance for NPS (all the same equipment)
  - HVAC Equipment
  - Light Fixtures
  - Electrical Equipment
  - Generators
  - Plumbing Fixtures

Norfolk Public Schools Project (cont.)

Constructability Reviews

- Multiple perspectives helped achieve efficient/buildable designs
- Taking it beyond a design charrette. How do we build it? Is this the best way? Can we get the same look/same function in another way?
  - Give and Take from All Team Members

Quarterly Update Meetings

- OAC Meetings every two weeks at one site may not resonate at the other sites
- Quarterly Updates kept all parties informed on what was going on
- Many changes were able to be accommodated thru open communication
- Many issues became non-issues through the open communication

Conclusion

- P3 works best when private developer can better manage project life cycle risks
  - Need complete transparency to ensure proper public vetting
  - Services should be well defined with clear criteria for evaluation
  - Private contractors performance should be disciplined by ongoing competition
  - Public officials should be held accountable for decision to P3 or not to P3 (VfM and Lead analysis)
- DBFOM is an important component of a government's financing options, but it shouldn't completely replace tax-exempt debt
- Contracts should require state of the art maintenance and safety standards as opposed to statewide minimums
- Public officials should acknowledge need for staff and outside expertise to develop and manage P3 opportunities

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