Value for Money Analysis

P3-VALUE 2.0 Webinar

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Instructors

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P3-VALUE 2.0 Webinars

- **P3**: Public Private Partnership
- **P3-VALUE 2.0**: Analytical tool to help practitioners understand processes used to quantitatively evaluate P3 options
- This is the second of five webinars on P3-VALUE
  - P3 Evaluation Overview (January 25, 2016)
  - Value for Money Analysis (today)
  - Project Delivery Benefit-Cost Analysis
  - Risk Valuation
  - Financial Viability Assessment
Webinar Outline

Part 1  Introduction
Part 2  Develop Public Sector Comparator
Part 3  Develop P3 Option and Compare to Public Sector Comparator
Part 4  Value for Money Analysis in P3-VALUE 2.0
Recap  Summary of Webinar
Webinar Objectives

After this webinar you should be able to:

- List the various components of the Public Sector Comparator (PSC) and P3 Option (P3)
- Describe the methodologies used to estimate the PSC and P3 Option
- Use the P3-VALUE 2.0 tool to perform a “high-level” Value for Money analysis
Part 1

Introduction
Definitions

- **Value for Money (VfM)**
  The optimum combination of life cycle costs and quality of a good or service to meet the user’s requirements

- **VfM Analysis**
  Quantitative analysis, expressed as dollar or % difference

- **Public Sector Comparator (or PSC)**
  Conventional procurement’s baseline cost against which P3 option will be compared

- **P3 Option (or P3)**
  Net cost of P3 option to Agency, including estimated payments to private partner as well as other costs incurred by public sponsor
Timing of VfM Analysis

1. Develop PSC
2. Compare PSC and P3
3. Refine P3 contractual terms for RFP
4. Compare PSC with actual bids
5. Compare PSC with actual P3 experience

Project Development

Procurement

Implementation

Innovative Program Delivery
U.S. Department of Transportation
Federal Highway Administration
P3 Evaluation in Project Development

1. Identify potential procurement options
2. Identify, monetize and allocate project risks
3. Develop Public Sector Comparator (PSC)
4. Develop P3, compare to PSC
5. Consider qualitative factors

This VfM Webinar
1. Identify Procurement Options

**Conventional**
- Design-Bid-Build
- Design-Build
- Design-Build-Finance
- Other

**P3 Options**
- Design-Build-Finance-Operate-Maintain (DBFOM) toll concession
- DBFOM with availability payments
2. Risk Assessment and Allocation

- Identify Risk
- Quantify Risk
- Allocate Risk
- Value Risk
3. Develop Public Sector Comparator

- Estimate present value of hypothetical, risk-adjusted costs and revenues of conventionally procured project
- Assume project is completed to same scope and quality standards as under P3 delivery
- Assume same timeframe as under P3 delivery
4. Develop P3 Option

Definition
Present value of net costs to Public Agency for delivering same project as a P3

Components
• P3 contract payment
• Revenue to Agency (if any)
• Retained cost & risk
5. Compare PSC with P3

Conventional Delivery

- Base cost
- Financing fees
- Risks
- Other costs
- Competitive neutrality

Availability Payment P3

- Value of P3 Bid
- Base cost & risk transferred to P3 concessionaire
- P3 financing fees
- Retained costs*
- Retained risks*
- Other costs

VfM

* Retained by Agency
6. Qualitative Assessment

- Considerations related to project goals:
  - Additional (earlier) user benefits from acceleration
  - Quality of service

- P3 contract-related considerations:
  - Viability
  - Performance
  - Achievability
  - Flexibility
Test Your Knowledge

True or False

- Value for Money analysis requires that the PSC have the same scope as the P3, and be implemented in the same time frame as the P3.
Questions?

Submit a question using the chat box
Part 2

Develop Public Sector Comparator
Key Assumptions for PSC

- Same project scope as anticipated for P3 delivery
- Same quality standards as anticipated for P3 delivery
- Same time frame as anticipated for P3 delivery
Components of PSC Estimate

A. Base costs
   • Design-Build phase
   • Operations phase

B. Risk values
   • Base variability
   • Pure risk
   • Lifecycle performance risk

C. Financing fees
D. Other project costs
E. Competitive neutrality
A. Base Costs

- Pre-construction and construction (capital) costs
- Operations cost
- Maintenance costs
- Reconstruction & rehabilitation costs
B. Cost Impacts of Risk

- Base Variability
  Example: Uncertainty in volume of asphalt

- Pure Risks
  Example: Accident at construction site, causing cost overrun and/or delays

- Lifecycle Performance Risks
  Example: Conflicts between DB and O&M contractors, supervening events exceeding liability caps, inflation
C. Financing Fees on Public Debt

- Arrangement fees
- Commitment fees
- Swap fees

Note: Interest and principal payments are not included in financing costs in the P3-VALUE model
D. Other Project Costs

- Procurement costs
- Monitoring & oversight costs
E. Competitive Neutrality Adjustment

- Adjustments made to PSC costs for tax liabilities and other P3 costs to ensure apples-to-apples comparison

- Adjustments can include:
  - Federal corporate tax to be received under P3
  - State corporate tax to be received under P3
  - Self-insurance cost (tort liability limits under public operation favor public sector)
## Perspective on Competitive Neutrality

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Competitive Neutrality Adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency</td>
<td>Ignore taxes from P3 that it does not receive?</td>
</tr>
<tr>
<td>State</td>
<td>Ignore taxes paid to Federal government?</td>
</tr>
<tr>
<td>National</td>
<td>Include subsidy cost for Federal loans and taxes paid to Federal government?</td>
</tr>
</tbody>
</table>
Timing and Escalation of Costs

- When discounting, timing of construction and operational expenses is important due to the time value of money.
- Cost must also be adjusted for inflation.

Diagram showing the timing and escalation of costs over different years (2015 to 2035).

- Competitive neutrality
- Other costs
- Risks
- Financing fees
- Base cost

Conventional Delivery
Add Toll Revenues

- If the road is tolled, toll revenues must be added to the PSC cash flows
- Toll revenues should be adjusted for uncertainty (to be discussed in webinar on risk)
Discounting of Cash Flows

- Discounting converts future cost and revenue cash flows to “present value” terms.
- Discount rate reflects the time value of money.

\[ PV = \sum_{0}^{n} \frac{CF_n}{(1+r)^n} \]

Where
- \( PV \) = Present Value
- \( CF_n \) = Cash Flow in year \( n \)
- \( r \) = discount rate
- \( n \) = year
Effects of Discounting

- Cash flows later in a concession period will have a relatively lower impact than earlier cash flows.
Effect of Discount Rate

- Net present value is sum of all discounted cash flows
- A higher discount rate leads to a lower present value
Test Your Knowledge

Multiple answer

Which of the following are components of a PSC cost estimate in P3-VALUE 2.0:

- Construction costs
- O&M costs
- Financing fees
- Interest and principal payments
Submit a question using the chat box
Part 3

Develop P3 Option and Compare to Public Sector Comparator
Process to Develop a P3 Option

- Private sector efficiencies
- Risk adjustments
- Potentially higher toll revenues
- Higher transaction costs
- Different tax structures
- Different financing structure
1. Private Sector Efficiencies

- **Timing**: Delayed start and/or accelerated construction
  - Complex P3 contracting may delay project start
  - P3 concessionaire may be financially incentivized to shorten construction period

- **Costs**: Lifecycle costing may reduce overall construction, operation and maintenance costs
2. Costs of Transferred Risks

- Transferred risks include risks pushed down to subcontractors
- Efficient P3 risk management may reduce overall risk valuation and contingencies
3. Possible Higher Toll Revenues

- P3 may lead to innovations such as improved access which could have an impact on toll revenues
- P3s may carry out a more aggressive marketing campaign, resulting in a faster ramp-up of traffic
4. Higher Transaction Costs

Public transaction costs:
- Develop a complex tailored P3 contract
- Oversight and monitoring of P3 concessionaire

Private transaction costs:
- Prepare bid and obtain financing
- Lengthy preparation process
- Oversight and monitoring
5. Different Tax Structure

- Concessionaire takes on additional (federal and state) tax liabilities that would not exist under conventional delivery.
- Subcontractors are subject to taxation as well, but this may be the same as under conventional delivery.

**U.S. Effective Corporate Tax Rate 1947-2011**

[Graph showing the U.S. Effective Corporate Tax Rate from 1947 to 2011.

*Source: Federal Reserve*]
6. Different Financing Structure

P3 typically uses a combination of equity, debt and public subsidy.
Estimating P3 Contract Payments

A P3 bidder will determine its desired P3 contract payments (the “Bid”) based on:

- Base lifecycle costs
- Valuation of transferred risks
- Available subsidies and financing costs

P3-VALUE 2.0 iteratively determines the required up-front subsidy or concession fee (for toll concessions) or availability payment (for AP concessions) to satisfy the debt terms and required equity return.

- To be covered in Financial Viability Assessment webinar
Public Agency Costs under P3

Under P3, the public Agency will incur the following costs:

- Payments to P3 concessionaire
- Retained costs
- Value of retained risks
- Other costs
Compare PSC with P3

Conventional Delivery

- Competitive neutrality
- Other costs
- Risks
- Financing fees
- Base cost

Public-Private Partnership

- Other costs
- Retained risks*
- Retained costs*
- P3 financing fees
- Base cost & risk transferred to P3 concessionaire

VfM

* Retained by Agency
Multiple answer

In an Availability Payment concession, which of the following are included in the calculation of the public agency’s *payments to the P3 concessionaire*:

- Estimated base lifecycle costs of the concessionaire
- Costs of risks transferred to the concessionaire
- Toll revenues
Questions?

Submit a question using the chat box
Part 4

Value for Money Analysis in P3-VALUE 2.0
FHWA’s P3-VALUE 2.0

Value for Money Analysis

Conventional Delivery

VfM

P3

Inputs

Costs

Risks

Revenues

Financing & Tax

Benefits

P3 Efficiencies

Costs/Risks

Benefits

Project Delivery Benefit-Cost Analysis

Conventional Delivery

Delayed Conventional Delivery

PDBCA

P3

U.S. Department of Transportation
Federal Highway Administration
Training Modules

- Risk Assessment
- Value for Money Analysis
- Financial Viability Assessment
- Project Delivery Benefit-Cost Analysis
Training Navigator User Interface

Welcome

Welcome to the P3-VALUE 2.0 Training Navigator!
Please select one of the four training modules below.

If you would like to access the full P3-VALUE 2.0 model, click the “Go to Model Navigator” button on the right.

Training Module Selection

Module 1
Risk Assessment

Module 2
Financial Viability Assessment

Module 3
Value-for-Money Analysis

Module 4
Project Delivery Benefit-Cost Analysis

Inputs

InpTiming&Cost: Project timing and cost inputs
InpSeries: Construction, ramp-up and milestone payments time series inputs
InpFin: Financial inputs

Outputs

VfM Output Summary: VfM output summary tables and graphs
VfM Comparison Graph: Graph comparing PSC and P3
VfM PSC Graph: Graphs with costs & revenues to Agency under PSC
VfM P3 (Public) Graph: Graphs with costs & revenues to Agency under P3

Training Module selection
Input sheet selection
Output sheet selection
Demonstration of VfM Module

Please stand by as we open the Excel file
Tool and References

- P3-VALUE 2.0 Excel Spreadsheet
- User Guide
- Primers & Guidebooks
Webinar Summary
Webinar Recap

**Part 1**
Introduction

**Part 2**
Develop Public Sector Comparator

**Part 3**
Develop P3 Option and Compare to Public Sector Comparator

**Part 4**
Value for Money Analysis in P3-VALUE 2.0
Upcoming P3-VALUE Training

- Homework review – Tuesday, February 16, at 2:00pm
- February 22  Project Delivery Benefit Cost Analysis
- March 7  Risk Valuation
- March 21  Financial Viability Assessment

To access the Homework Review webinar, please use the following link and telephone number:

- **Link:** [https://connectdot.connectsolutions.com/p3](https://connectdot.connectsolutions.com/p3)
- **Telephone:** 1-888-363-4749,  Passcode: 6139168#
Resources

FHWA’s Office of Innovative Program Delivery Website:
http://www.fhwa.dot.gov/ipd/

P3 Website:
Questions?

Submit a question using the chat box