Value for Money Analysis: *Constructing the Public Sector Comparator and the Shadow Bid*

P3-VALUE Webinar – January 23, 2014

Patrick DeCorla-Souza
P3 Program Manager
Office of Innovative Program Delivery

P3-VALUE Webinars

- **P3-VALUE:** Suite of four integrated analytical tools and supporting documentation to help practitioners understand processes used to quantitatively evaluate P3 options
- This is the third of four webinars on P3-VALUE:
  - P3 Evaluation Overview (September 5, 2013)
    - Recording available at: http://www.fhwa.dot.gov/ipd/p3/toolkit/p3_value_webinars/index.htm
  - P3 Project Risk Assessment (September 20, 2013)
    - Recording available at: http://www.fhwa.dot.gov/ipd/p3/toolkit/p3_value_webinars/index.htm
  - **Value for Money Analysis** (today)
  - Financial Structuring and Assessment (March 13, 2014)

Course Outline

Course Objectives

After taking this course you should be able to:

- List the various components of the Public Sector Comparator (PSC) and Shadow Bid (SB)
- Describe the methodologies used to estimate the PSC and Shadow Bid
- Explain how the PSC and Shadow Bid are compared using Value for Money (VfM) analysis
- Access the P3-VALUE tools and supporting information

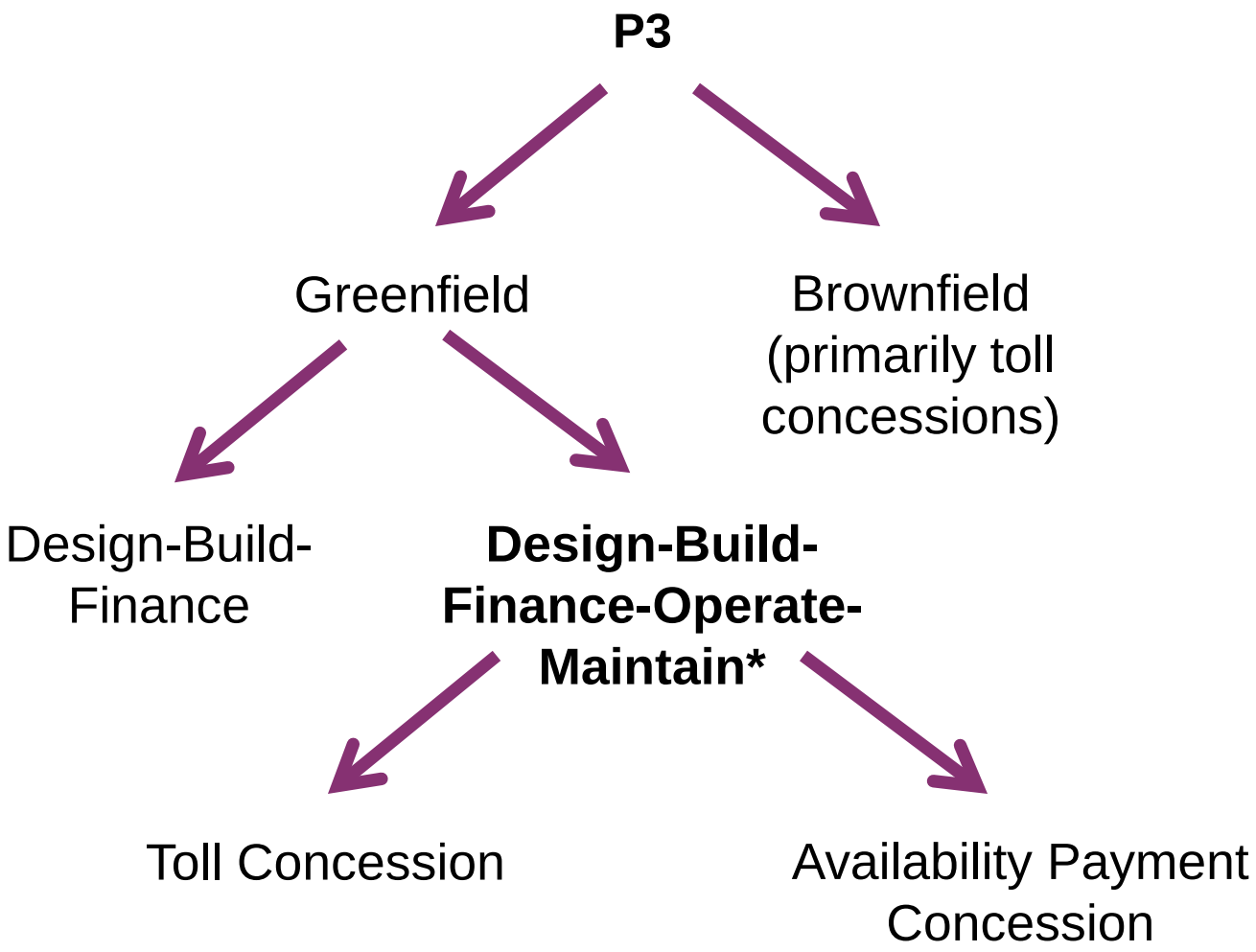
Lesson 1

Introduction to P3s and the P3 Toolkit

What is a P3?

- **Acronym:** Public-private partnership (P3 or PPP)
- **Definition:** Contractual agreement between a public agency and a private entity that covers more than a single phase of a project
- FHWA's Office of Innovative Program Delivery focuses on P3s that include financing

Common Types of P3s



*Focus of P3-VALUE tools

Potential Benefits and Drawbacks

Potential Benefits

- Additional Financial Capacity
  - Accelerates project delivery
  - Conserves public sector debt capacity
- Life-Cycle Cost Efficiencies
  - Creates incentives to manage costs over the life of the project
  - Integrates project phases creating efficiencies
- Risk Transfer
  - Budget and cost certainty
  - Improved risk management reduces costs

Potential Drawbacks

- Loss of flexibility of public agency
- Complex procurement process
- Perceived higher financial costs (due to incorporation of risk premiums into private sector returns)

FHWA's P3 Toolkit

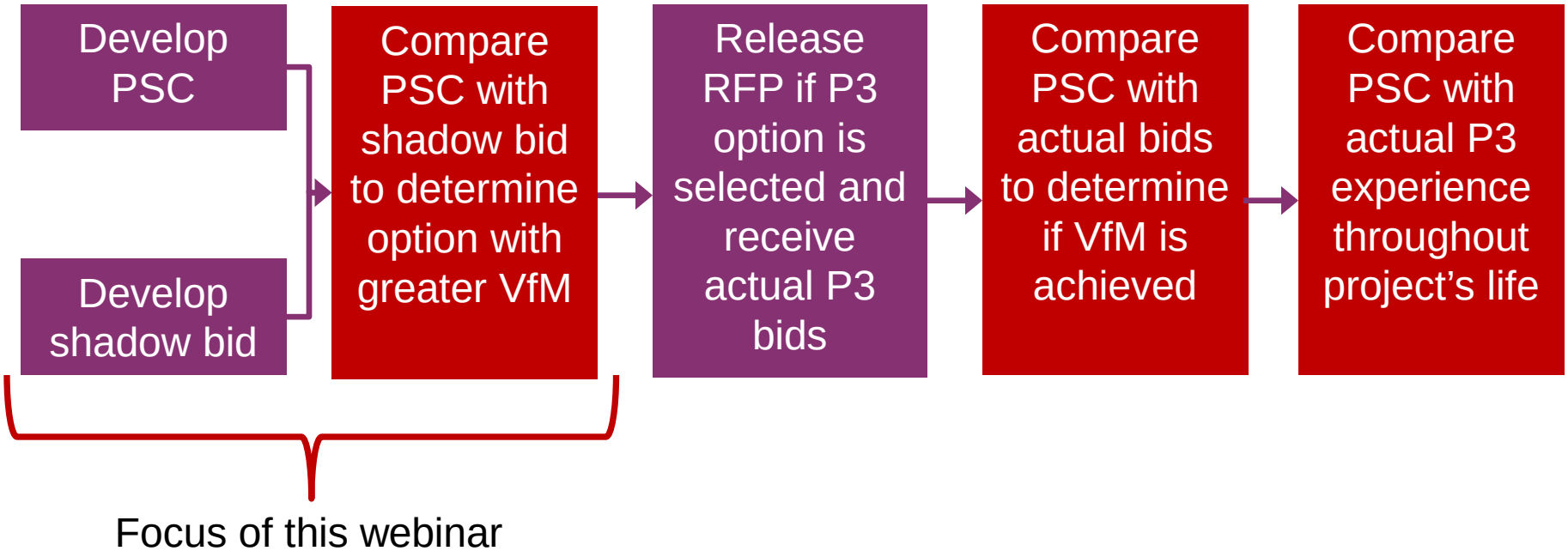
- The P3 Toolkit provides educational tools and guidance documents to enhance the capacity of public sector decision-makers to evaluate and implement P3s
- Will address four key phases of P3 implementation:
  1. Legislation and policy
  2. ***Planning and evaluation***
  3. Procurement
  4. Monitoring and oversight

P3 Evaluation

- **Value for Money (VfM)**
  - The optimum combination of life cycle costs and quality of a good or service to meet the user's requirements
  - Generally expressed as the dollar difference or % difference between present value of costs for P3 vs. present value of costs for conventional project delivery
- **VfM Analysis**
  - Quantitative analysis to compare the financial impacts of procurement alternatives for a project
  - Financial analysis
  - Impact on balance sheet of the procuring agency
  - Other benefits (e.g., to users) considered in qualitative assessment

Timing of VfM Analysis

- Agencies typically conduct VfM analyses once they decide to undertake a project and wish to assess delivery options



Pre-Procurement P3 Evaluation

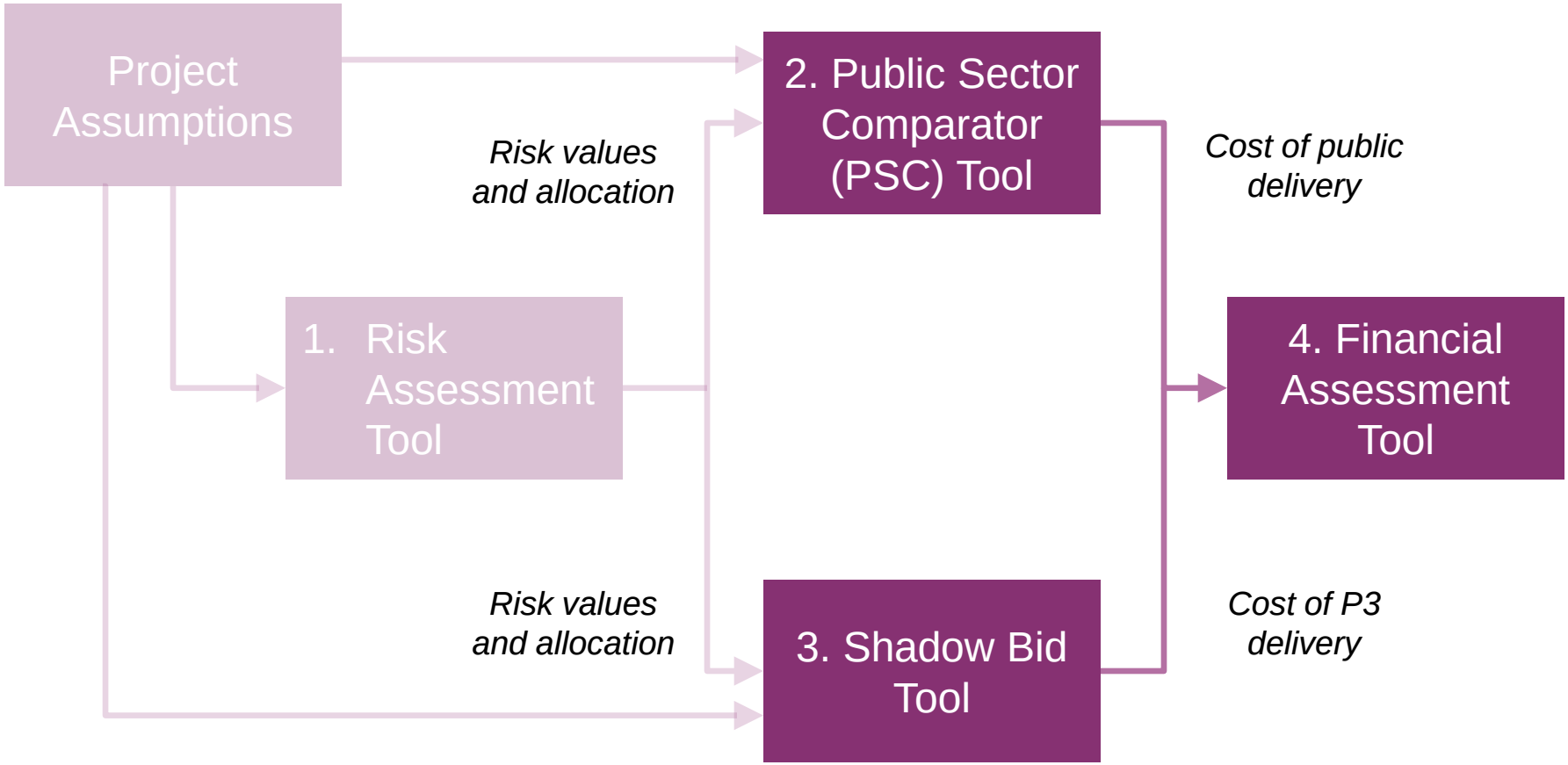
1. Identify potential procurement options
2. Identify, monetize and allocate project risks (covered in September 2013 webinar)
3. **Develop public sector comparator (PSC)**
4. **Develop P3 option ("shadow bid")**
5. **Compare PSC to Shadow Bid**
6. Consider qualitative factors (e.g., benefits to users from accelerated project delivery)

For a more detailed discussion, see Value for Money Analysis Primer at:
http://www.fhwa.dot.gov/ipd/p3/toolkit/guidance_documents/index.htm

P3-VALUE Tools

- **Risk Assessment Tool**
  - Helps identify risks, risk allocation, risk response strategies, potential cost and schedule impacts
- **Public Sector Comparator (PSC) Tool**
  - Calculates risk-adjusted life-cycle costs of conventional procurement
- **Shadow Bid (SB) Tool**
  - Calculates costs of P3 procurement, including payments to private partner
- **Financial Assessment Tool**
  - Compares PSC and Shadow Bid costs to calculate value for money
- P3-VALUE Tools are accessible at FHWA's IPD website: http://www.fhwa.dot.gov/ipd/p3/toolkit/analytical_tools/index.htm

P3-VALUE Tools



Test Your Knowledge

True or False:

P3 evaluation may be undertaken using Value for Money analysis prior to procurement as well as later during a project's life.

Questions?

Submit a question using the chat box

Lesson 2

Developing a Public Sector Comparator

PSC Tool Overview

- **Public Sector Comparator (PSC)**
  - Conventional procurement's baseline cost against which P3 option may be compared
- **Public Sector Comparator Tool (PSC Tool)**
  - Estimates the risk-adjusted life-cycle costs of a project delivered by the public sector
  - **Prerequisites**
    - Estimates of project delivery schedule, life-cycle costs and revenues
    - Estimates of value of retained and transferrable project risks
    - Basic project finance plan

Developing a PSC

Key assumptions:

- Project can be completed to the same standards anticipated by P3 delivery
- Project can be completed over the same timeframe (e.g., funding or financing issues will not delay conventional procurement)
- Discount rate – all future cash flows are converted to "present value" terms, including:
  - Costs
  - Revenues
  - Financing (e.g., debt and equity receipts and payments)

Example of Present Value Calculation

Discount Rate

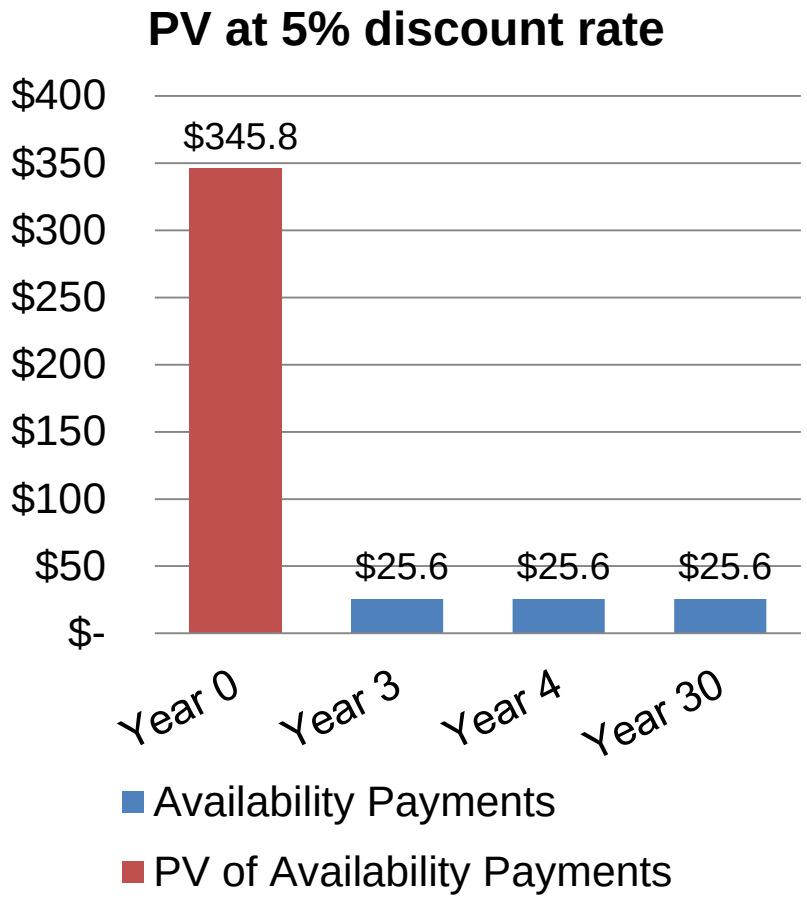
- **Discount rate** is a percentage by which a cash flow element in the future is reduced per year, applied exponentially
  - It is used to estimate how much money would have to be invested currently, at a rate of return equal to the discount rate, to yield the cash flow in future
  - It is also used to estimate how large an investment can be justified at a required rate of return equal to the discount rate on the basis of expected future cash flows
  - It may be used to account for uncertainty in future cash flows – one "certain" dollar is worth more than one uncertain dollar
  - A "nominal" discount rate accounts for inflation, and is applied to nominal (i.e., inflation-adjusted) future cash flows
  - A "real" discount rate is applied to future cash flows that do not incorporate inflation

Present Value

- **Present Value:** A metric to determine the time-adjusted (and risk-adjusted) value of future project cash flows
  - **Net Present Value (NPV):** Sum of present values of positive and negative cash flows, including the initial investment, is called
  - **Net Present Cost (NPC):** For a sum that is a net cost
  - Using a high discount rate will favor lower upfront investment with higher recurring costs in the future (since the high discount rate will minimize future costs)

Effect of a High Discount Rate

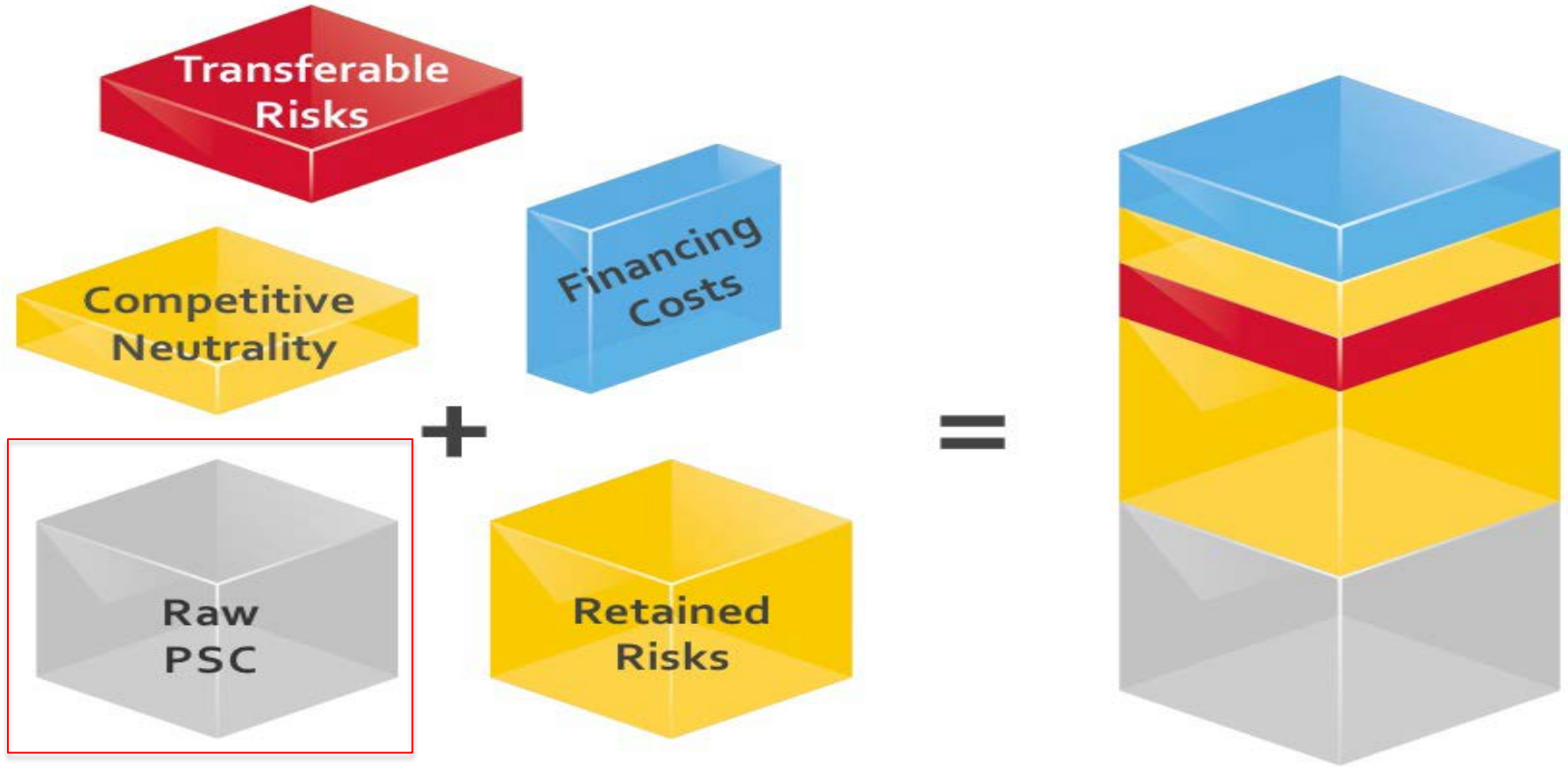
- The same annual payment ($25.6 M) appears to be much smaller with a higher discount rate



Key Components of a PSC

- Estimate the hypothetical, risk-adjusted cost of a project delivered through conventional approach:
  1. Base costs
  2. Cost impacts of risks (both transferrable and retained risks)
  3. Financing costs
  4. Other project costs (e.g., procurement and oversight costs)
  5. Competitive neutrality: Adjustments for any competitive advantages and disadvantages that accrue to the public agency by virtue of its public ownership

Components of the PSC Estimate



1. Base Costs

Cost Item	Description
Capital Costs	Includes design, right-of-way purchase and construction costs.
Operations Costs	Day-to-day costs of operating the project.
Maintenance Costs	Routine and preventive maintenance costs (e.g., pavement overlay, replacement of lighting, and snow and ice removal).
Reconstruction & Rehabilitation Costs	Costs associated with major structural replacement or upgrades(e.g., bridge or pavement replacement).

2. Cost Impacts of Risks

Cost Item	Description
Retained Risk Costs	The costs of project risks that a public agency bears. If a retained risk is realized, then the public agency is responsible for the related costs of responding to that risk event.
Transferrable Risk Costs	Risk costs that may be transferred from the public agency to its contractor, though the public agency may still pay a risk premium through the contractor's bid price.
Shared Risk Costs	The public agency and the contractor may share the burden of some risks that cannot be efficiently transferred.

- For a more detailed discussion, see
  - Risk Assessment Primer: http://www.fhwa.dot.gov/ipd/p3/toolkit/guidance_documents/index.htm
  - P3 Project Risk Assessment Webinar (September 20, 2013): http://www.fhwa.dot.gov/ipd/p3/toolkit/p3_value_webinars/index.htm

3. Financing Costs

Cost Item	Description
Financing Costs	Costs associated with the interest charged on debt, as well as other costs (e.g., arrangement fees, commitment fees, and "swap" credit premiums).

4. Other Project Costs (Examples)

Cost Item	Description
Procurement Costs	Transaction costs incurred by the public agency throughout the procurement process for preparing and advertising a bid, receiving and reviewing proposals, etc.
Monitoring & Oversight Costs	Costs inherent to the public agency as it performs its project oversight and monitoring activities (e.g, conducting site inspections or preparing Federal-aid reports).
Right-of-way Costs	Costs associated with land acquisition and right-of-way entitlements. May be included in Base Costs (capital costs).

5. Competitive Neutrality Adjustments (Examples)

Cost Item	Description
Federal corporate tax	"Opportunity cost" of Federal corporate taxes that would be paid under a P3. Consideration depends on the procuring agency's viewpoint.
State corporate tax	"Opportunity cost" of State corporate taxes that would be paid under a P3. Consideration depends on the procuring agency's viewpoint.
Self-insurance Cost	For example, tort liability limits under public operation favor the public sector.
Costs associated with transparency, accountability and public scrutiny	For example, a public agency may incur higher costs for public involvement with a P3 procurement; on the other hand, greater public involvement may be required in the operations phase with traditional delivery, especially in toll rate setting.

Test Your Knowledge

True or False:

Using a ***high*** discount rate to get the present value of a stream of future cash flows will result in a ***lower*** present value.

Illustration of PSC Estimation

- We will use hypothetical project data to illustrate how a PSC may be estimated
- We will first show how the data may be used in a simple model
  - To illustrate each step of the process
  - Using simple assumptions
- We will then show results produced by P3-VALUE focusing on:
  - How the results differ from our simple calculations
  - Why the results differ

Hypothetical PSC Cost Data

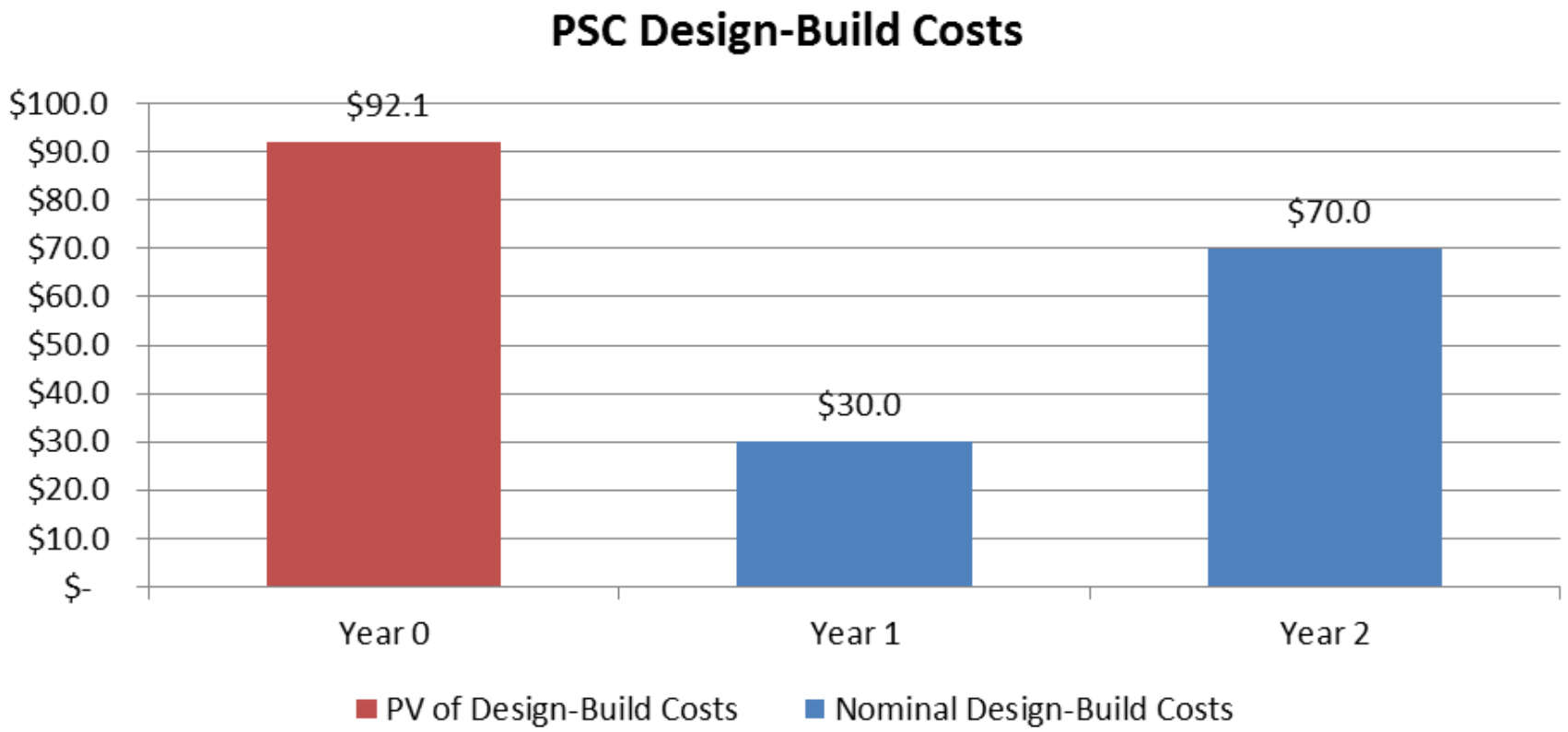
- Design-Bid-Build (or Design-Build)
- Base design/construction costs of $30M in Year 1 and $70M in Year 2 – P3-VALUE expects these cost in nominal dollars
- $10 million (real dollars) annual O&M costs over 28 years
- Risk cost estimates for design-build phase:
  - 10% probability (P10) that they will be at or below $10 M
  - 70% probability (P70) that they will be at or below $20 M
  - 90% probability (P90) that they will be at or below $30 M
- Risk cost estimates for operations phase:
  - 10% probability (P10) that they will be at or below $1 M
  - 70% probability (P70) that they will be at or below $2 M
  - 90% probability (P90) that they will be at or below $3 M
- Other project costs are assumed to be zero for simplicity

Hypothetical PSC Assumptions

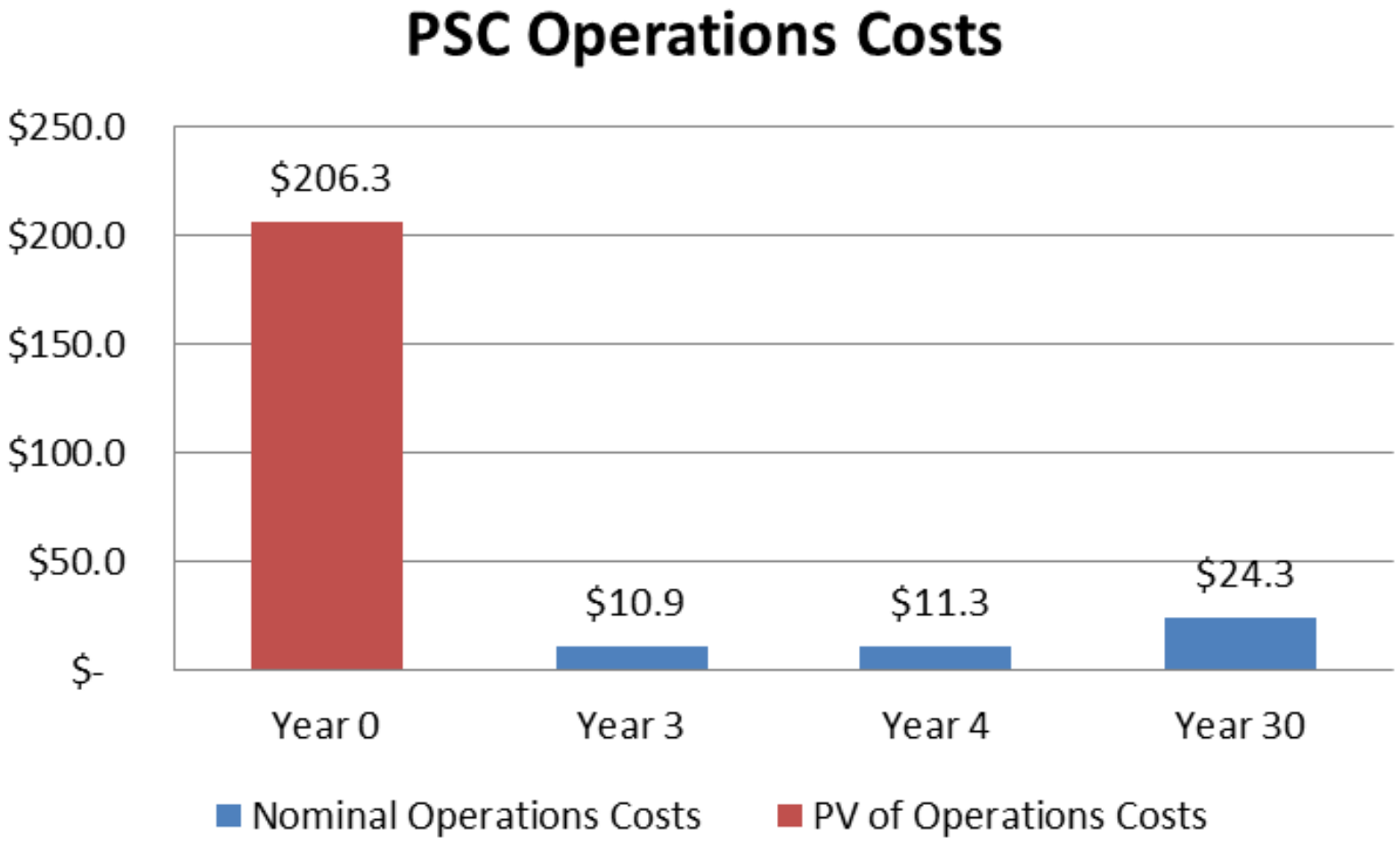
- Financing:
  - Bond financing for 100% of construction costs, at 5% interest and 30-year maturity
  - Bond issuance costs of 2% of borrowed amount are financed as part of the debt
  - For simplicity, no reserves are required, but reserve requirements (for debt service and O&M) are normally required to be financed
- Inflation = 3% annually
- Discount rate = 5%
  - This rate is the same as the public sector borrowing rate
  - It assumes that all project risks are accounted for in the cash flows' including:
    - Risks that would be transferred to contractors
    - Risks that would be retained by the public agency for each phase, as well as "systematic" risks, project coordination risks, and long-term performance risks

Base PSC Capital Costs

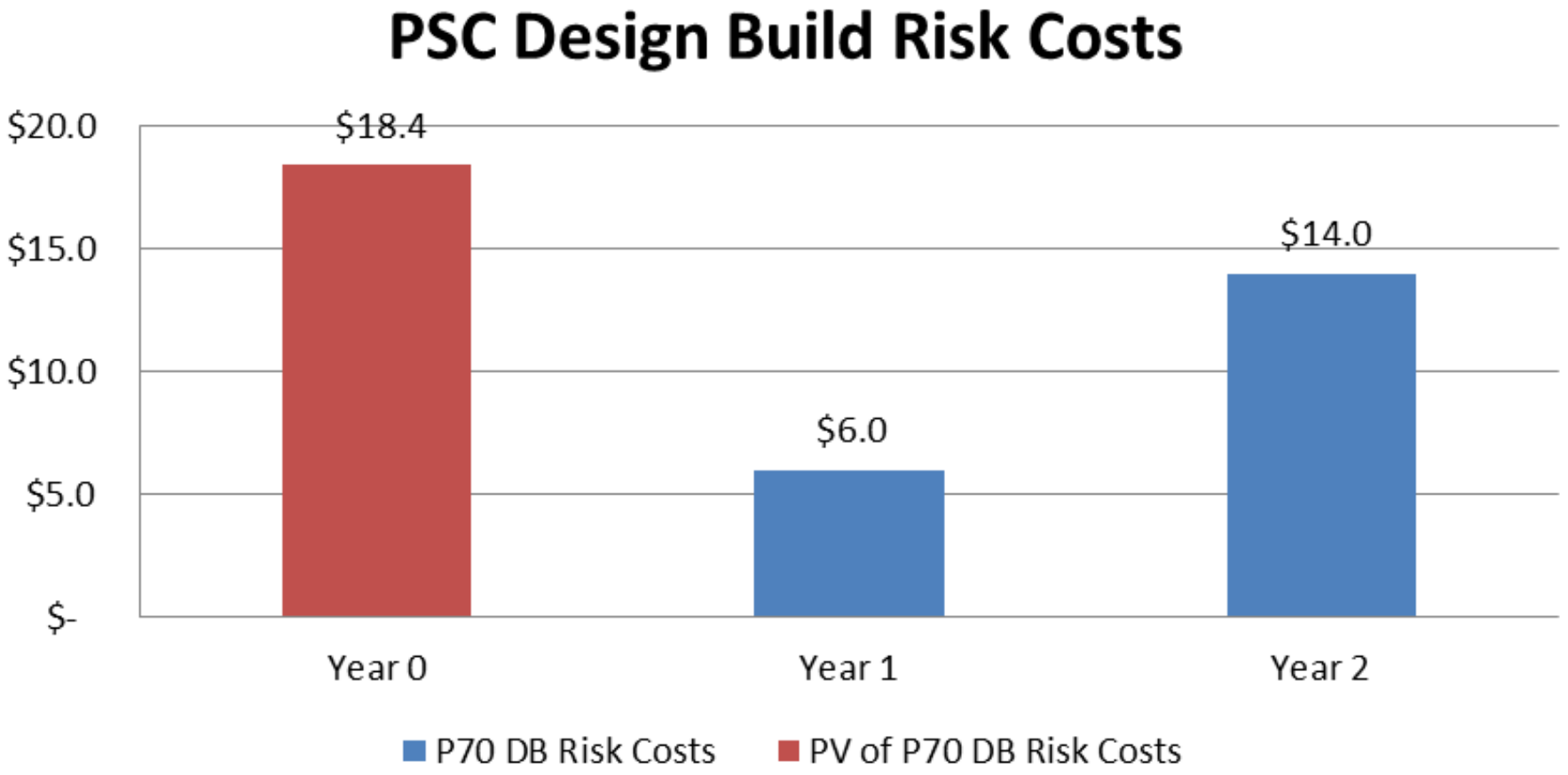
- While nominal costs are $100M, the present value of those costs are only $92.1M



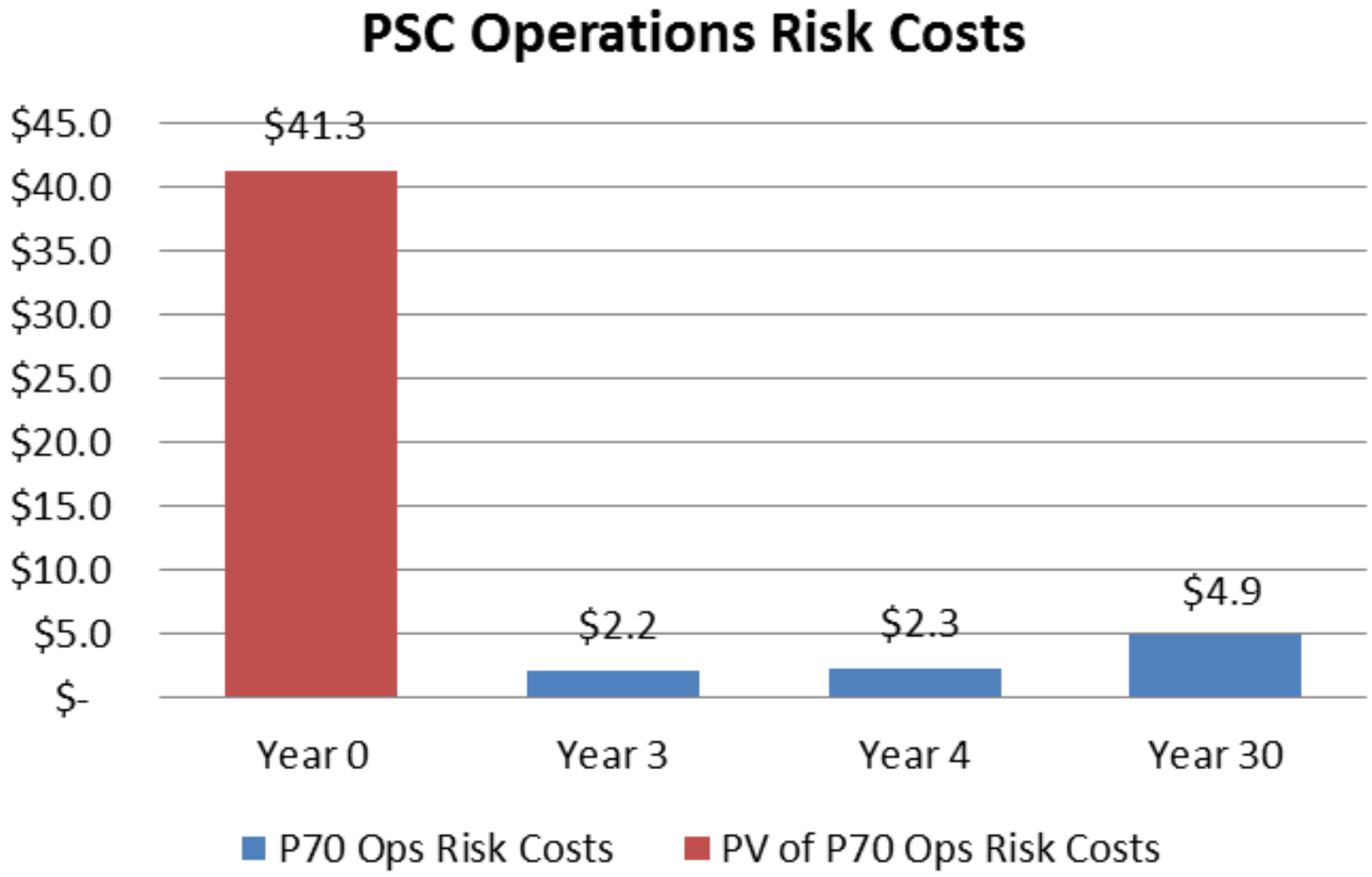
Base PSC Operations Costs



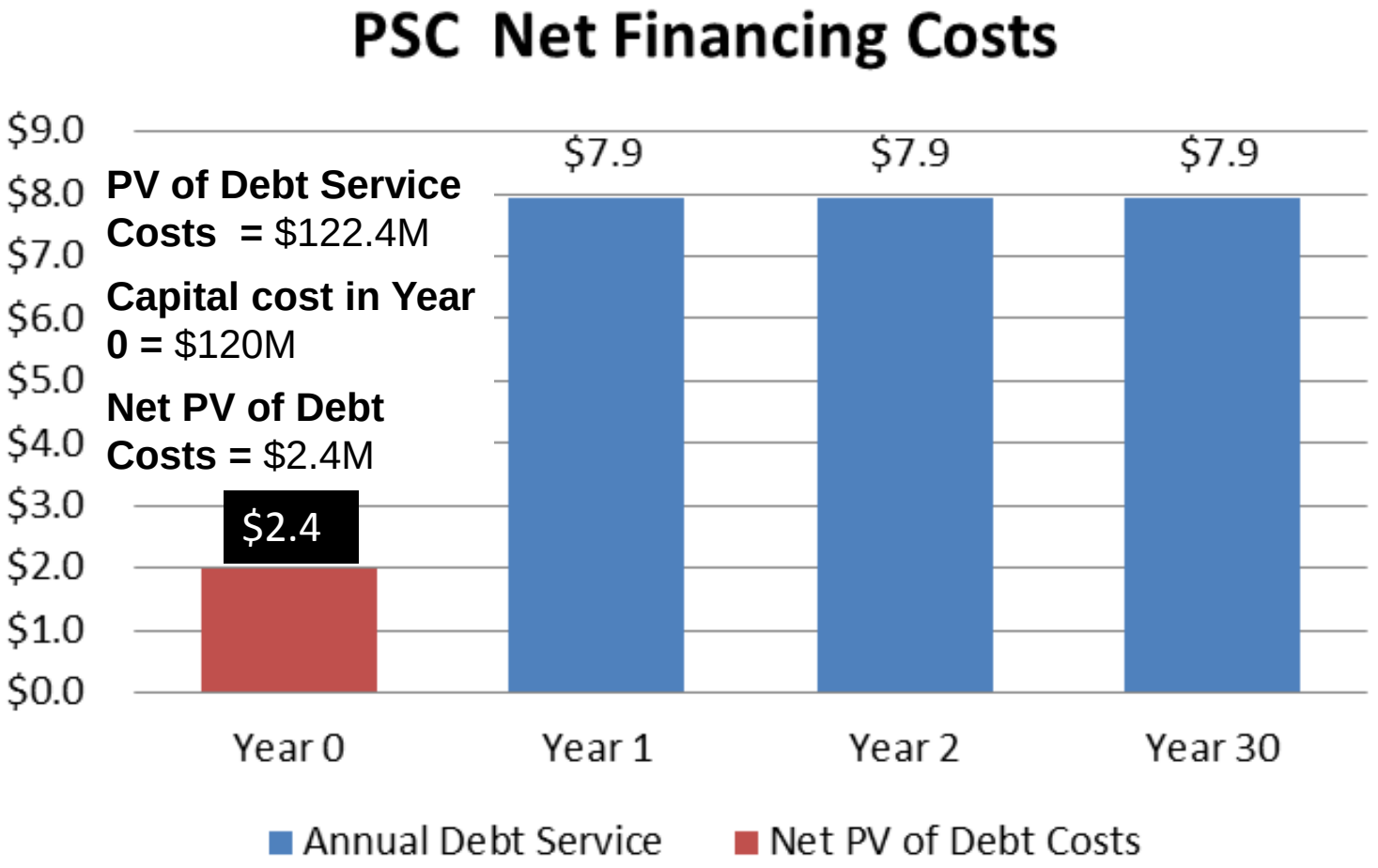
PSC DB Phase Risk Costs (at P70)



PSC Operations Risk Costs (at P70)



PSC Net Financing Costs (at P70)



- **Note:** Financing for reserve funds is not included – they can greatly increase costs

PSC Estimates – Bond vs. Draw

- **Note:** The amount invested does NOT include debt service and O&M reserves that would also normally be financed up front. For the bond scenario, any interest received on bond proceeds is ignored.

BOND		DRAW	
Discount rate = 5%	**Cost ($M)**	**Discount rate = 5%**	**Cost ($M)**
Base DB costs	100.0	Base DB costs	92.1
DB Risks	20.0	DB Risks	18.4
Total investment	**120.0**	**Total investment**	**110.5**
Base O&M costs	206.3	Base O&M costs	206.3
O&M risk costs	41.3	O&M risk costs	41.3
Total O&M costs	**247.6**	Total O&M costs	**247.6**
Financing costs	**2.4**	Financing costs	**2.4**
Total cost	**370.0**	**Total cost**	**360.5**

PSC Results with "Draw" Option

- Results for P70 scenario are shown in the middle column

Nominal Discount Rate	Results - Risk Adjusted Payments ($)		
5.00%	PV of Payments with P10 Risk Adjustment	PV of Payments with P70 Risk Adjustment	PV of Payments with P90 Risk Adjustment
Payment Item			
Design and Construction After Subsidy #	-	-	-
Construction Phase Transferrable Risks #	-	-	-
Construction Phase Retained Risks #	-	-	-
Operations	101,692,152	101,692,152	101,692,152
Routine Maintenance	101,692,152	101,692,152	101,692,152
Periodic Maintenance	-	-	-
Operations Phase Transferrable Risks	20,338,430	40,676,861	61,015,291
Operations Phase Retained Risks	-	-	-
Other Project Costs (ROW etc)	-	-	-
PSC Adjustments	-	-	-
Principal Debt Payments	41,890,908	45,768,288	49,645,668
Interest & Fee Payments	61,154,273	67,250,245	73,346,216
Total Payments	**$ 326,767,915**	**$ 357,079,697**	**$ 387,391,479**
Toll and Other Revenue	**(290,082,714)**	**(290,082,714)**	**(290,082,714)**
Total Payments After Toll and Other Revenue	**$ 36,685,201**	**$ 66,996,983**	**$ 97,308,765**

Comparison of Estimates – "Draw"

- With P3-VALUE, a six-month payment schedule is used instead of a one-year schedule; also the amount invested includes any reserves that must be financed up front.

SIMPLE MODEL		P3-VALUE	
Discount rate = 5%	**Cost ($M)**	**Discount rate = 5%**	**Cost ($M)**
Base DB costs	92.1	Principal	45.8
DB Risks	18.4	Interest & Fee	67.2
Total investment	**110.5**	Total investment	**113.0**
Base O&M costs	206.3	Base O&M costs	203.4
O&M risk costs	41.3	O&M risk costs	40.7
Total O&M costs	**247.6**	Total O&M costs	**244.1**
Financing costs	**2.4**	Financing cost	(incl. above)
Total cost	**360.5**	Total cost	**357.1**

PSC Results with "Bond" Option

Nominal Discount Rate	Results - Risk Adjusted Payments ($)		
5.00%	PV of Payments with P10 Risk Adjustment	PV of Payments with P70 Risk Adjustment	PV of Payments with P90 Risk Adjustment
Payment Item			
Design and Construction After Subsidy #	-	-	-
Construction Phase Transferrable Risks #	-	-	-
Construction Phase Retained Risks #	-	-	-
Operations	101,692,152	101,692,152	101,692,152
Routine Maintenance	101,692,152	101,692,152	101,692,152
Periodic Maintenance	-	-	-
Operations Phase Transferrable Risks	20,338,430	40,676,861	61,015,291
Operations Phase Retained Risks	-	-	-
Other Project Costs (ROW etc)	-	-	-
PSC Adjustments	-	-	-
Principal Debt Payments	58,070,133	67,909,258	77,748,384
Interest & Fee Payments	84,433,428	99,155,313	113,877,199
Total Payments	**$ 366,226,294**	**$ 411,125,736**	**$ 456,025,177**
Toll and Other Revenue	**(290,082,714)**	**(290,082,714)**	**(290,082,714)**
Total Payments After Toll and Other Revenue	**$ 76,143,580**	**$ 121,043,021**	**$ 165,942,463**

Comparison of Estimates – Bond

- With P3-VALUE, total investment amount includes debt service and O&M reserves – it is assumed they must be financed up front (e.g., for payments to be made before toll revenue kicks in)

SIMPLE MODEL		P3-VALUE	
Discount rate = 5%	**Cost ($M)**	**Discount rate = 5%**	**Cost ($M)**
Base DB costs	100.0	Principal	67.9
DB Risks	20.0	Interest & Fee	99.1
Total investment	**120.0**	**Total investment**	**167.0**
Base O&M costs	206.3	Base O&M costs	203.4
O&M risk costs	41.3	O&M risk costs	40.7
Total O&M costs	**247.6**	Total O&M costs	**244.1**
Financing costs	**2.4**	Financing cost	(incl. above)
Total cost	**370.0**	**Total cost**	**411.1**

Illustrative Project Revenues

- Base revenue estimate:
  - Average Annual Daily Traffic (AADT) in Year 3 = 21,600 vehicles, no growth over project life
  - Average toll rate = $2.00 in Year 0 dollars (increases with inflation)
  - Year 3 Revenue = 21,600 X 365 days X $2.19 = $17.2 M
- Adjustment for “revenue leakage,” i.e., uncollected tolls (5% reduction):
  - Year 3 = $17.2 M - $0.8 M = $16.4 M
- Ramp-up period (Years 3 and 4):
  - Year 3 = 67% reduction = $16.4 M - $11.0 M = $5.4 M

Revenue Calculations

	Avg. annual daily traffic	Average toll rate	Leakage	Ramp-up reduction	Revenue ($M)
Year 0		$2.00			
Year 3	21,600	$2.19	5%	67%	**$5.4**
Year 4	21,600	$2.25	5%	33%	**$11.3**
Year 5	21,600	$2.32	5%	0%	**$17.4**
Year 30	21,600	$4.44	5%	0%	**$36.4**
Total (nominal)					**$686.2**
NPV*					**$295**
P3-VALUE NPV est.					$290

- **Note:** Revenues are discounted at the same rate as costs. Since revenue estimates are riskier than cost estimates, a higher discount rate may be warranted to reflect the higher risk. P3-VALUE's estimate is lower due to six-month cash flow periods.

Test Your Knowledge

True or False:

If the discount rate is equal to the interest rate on the debt, the present value of a stream of debt service payments discounted to the year the loan is made will be equal to the amount borrowed.

Questions?

Submit a question using the chat box

Lesson 3

Developing a Shadow Bid

Shadow Bid Tool Overview

- **Shadow Bid**
  - Cost of P3 option
  - Includes estimated payments to private partner as well as other costs incurred by public sponsor
- **Shadow Bid Tool**
  - Estimates the risk-adjusted, life-cycle costs of a project delivered by the private sector
  - **Prerequisites**
    - Estimates of project delivery schedule, life-cycle costs and revenues
    - Estimates of value of retained and transferrable project risks
    - Basic project finance plan

Developing a Shadow Bid

- Estimate the total costs *to the public agency* for delivering the *same* project as a P3 (instead of conventional delivery)
- Components include:
  - **P3 contract payment:** Amount that would be required by private sector to deliver the project based on its costs and desired rate of return
  - **Retained risks:** Value of risks retained by the public sector in P3 delivery structure
  - **Other project costs:** Costs incurred by the public agency to facilitate project delivery and oversight
- **Note:** the term "shadow bid" as used in Value for Money analysis includes both the estimated private bid cost *as well as* additional public costs

Estimating the P3 Contract Payment

Payments to Private Partner cover:

1. **Base life-cycle costs borne by private partner**
   - Capital Costs (Design and Construction)
   - Annual Operations and Maintenance Costs
   - Periodic Maintenance Costs (Reconstruction and Rehabilitation)
2. **Costs of transferred risks**
3. **Financing costs:**
   - Interest on debt
   - Equity returns, including consideration of taxes to be paid by concessionaire

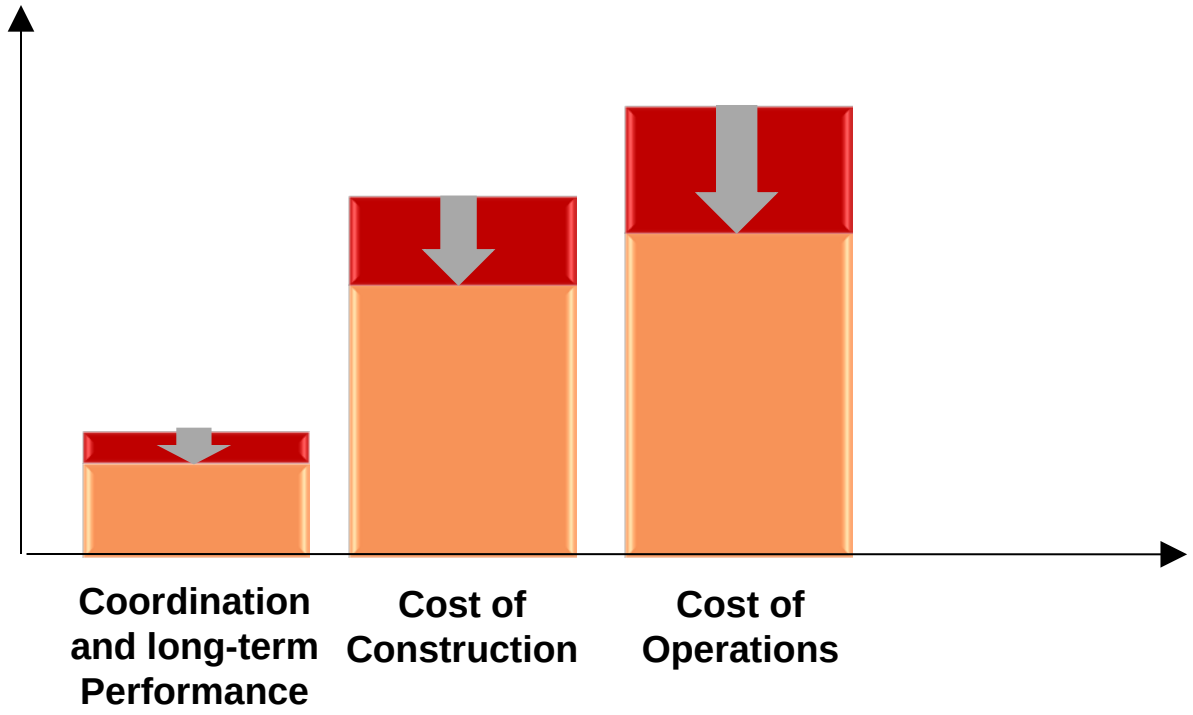
1. Base Life-Cycle Costs of Concessionaire

Costs may be reduced (relative to PSC) due to:

- Cost Efficiency
  - Lower design-build costs
  - Lower O&M costs
- Schedule Efficiency
  - Faster design and construction

2. Costs of Transferred Risks

- Includes risks transferred to subcontractors, as well as risks borne by the concessionaire



3. P3 Financing Costs

P3 financing costs incorporate risk premiums for:

- Identified project risks that are not transferred to subcontractors (and so are not included in the cash flows)
- Unidentified project risks that are transferred
- Market risks ("systematic" risks)
  - Inflation
  - Economy
  - Interest rates (e.g., when short-term loans have to be refinanced)

P3 financing costs may be higher (relative to PSC) due to incorporation of project risk premiums that may not be incorporated in PSC financing costs or PSC operational cash flows

Hypothetical Shadow Bid Costs

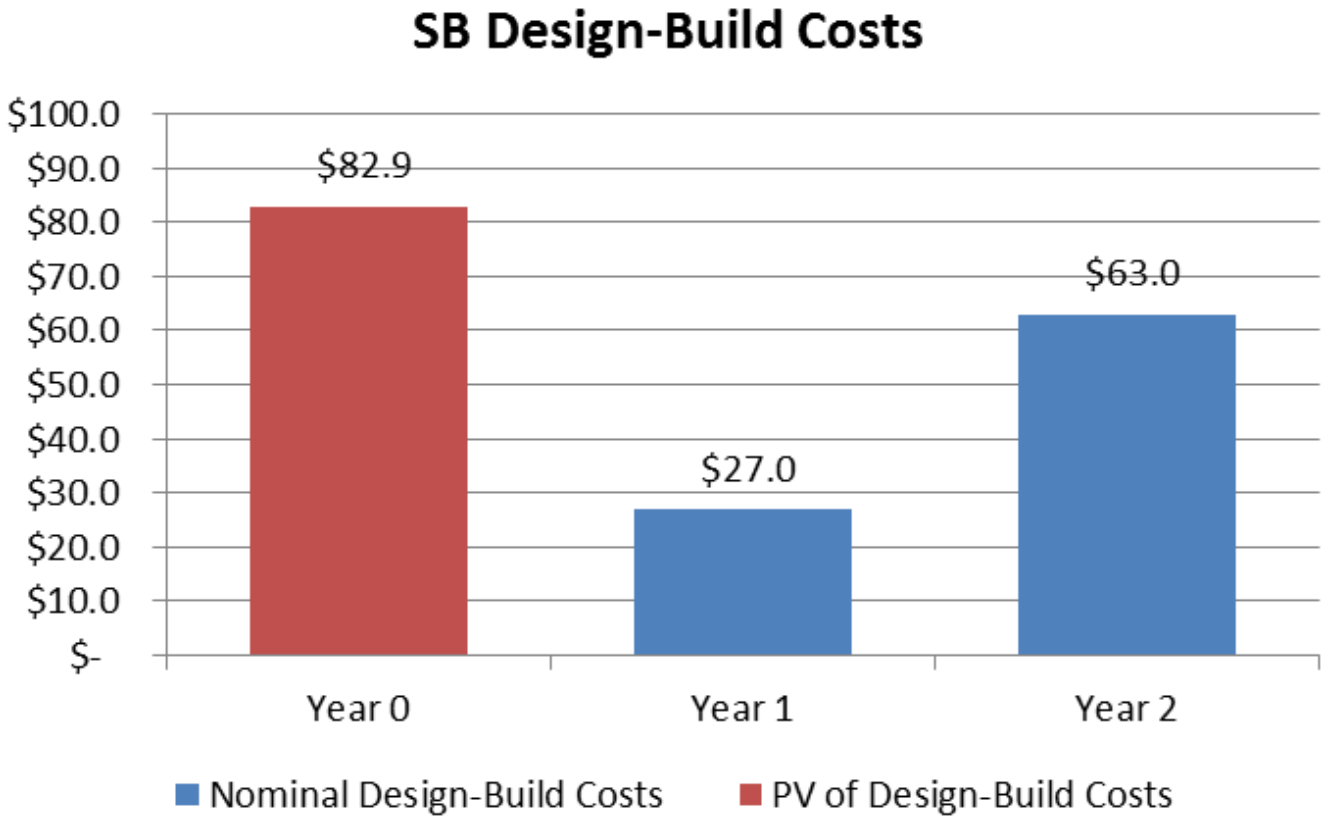
- DBFOM with “availability payments” made by public agency over a 30-year concession term, contingent on meeting performance standards; toll revenue is allocated to the public agency
- 10% DB cost reduction relative to PSC
- 5% O&M cost reduction relative to PSC
- Risk management efficiency
  - 50% of design-build phase risk costs are transferred
  - 100% of operations phase risk costs are transferred
  - 25% lower risk costs for all transferred risks

Hypothetical Shadow Bid Assumptions

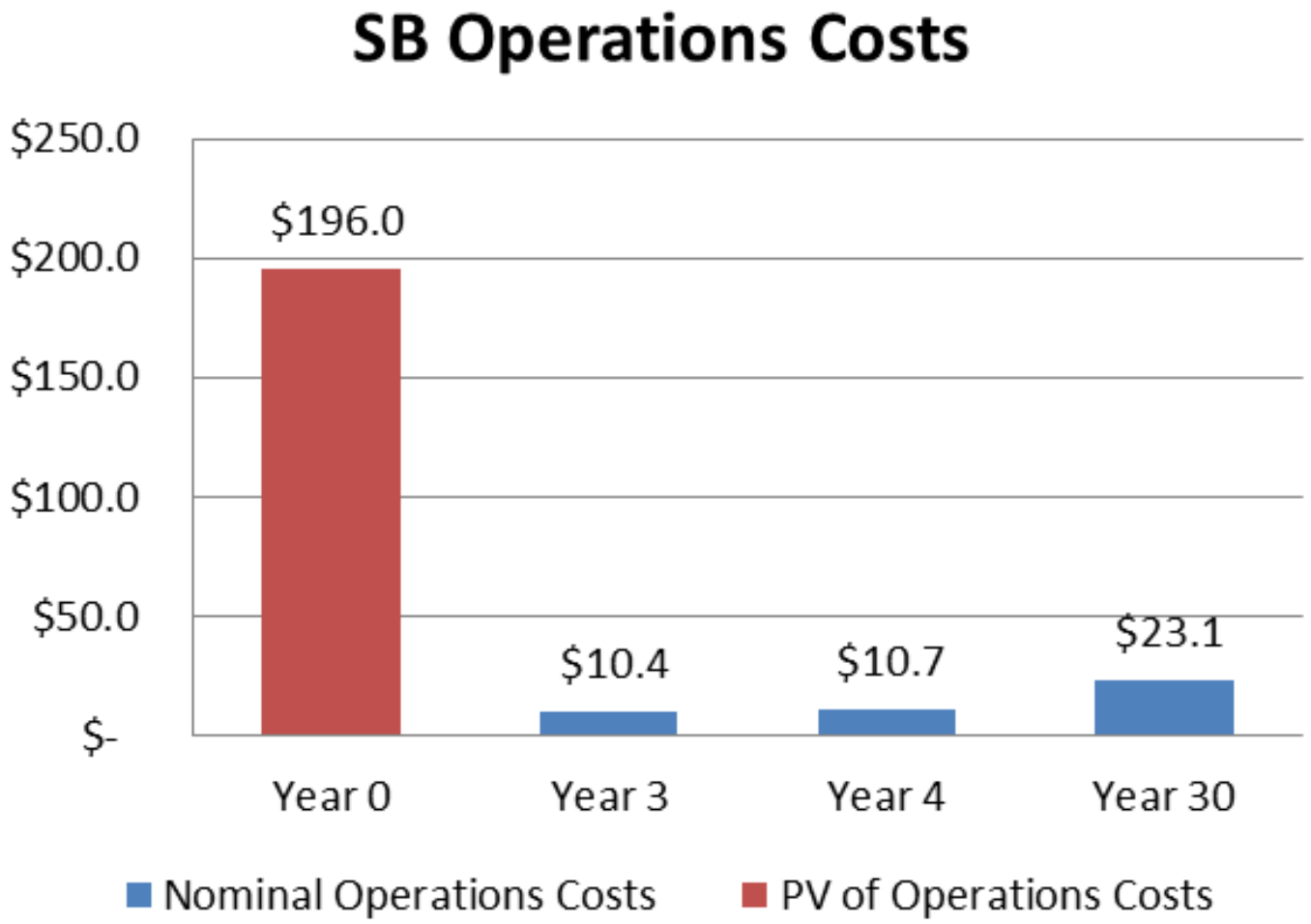
- Financing costs
  - Project funded 80% by bank debt and 20% by equity
  - Average debt interest rate is 6% (vs. 5% for PSC)
  - Required after-tax return on equity is 12% (“hurdle” rate)
  - For simplicity, we assume no reserves are required; reserve requirements (for debt service and O&M) are normally required to be financed
  - For simplicity, there is no consideration of taxes paid by concessionaire, since after-tax equity return is used
- Inflation = 3% annually
- Discount rate = 5%
  - This rate is the same as the public sector borrowing rate
  - It assumes that all project risks are accounted for in the operational cash flows through contingencies, and through risk premiums in financing costs

Base SB Capital Investment Costs

- Nominal costs are $90M (10% reduction relative to PSC), and the present value of those costs are only $82.9M

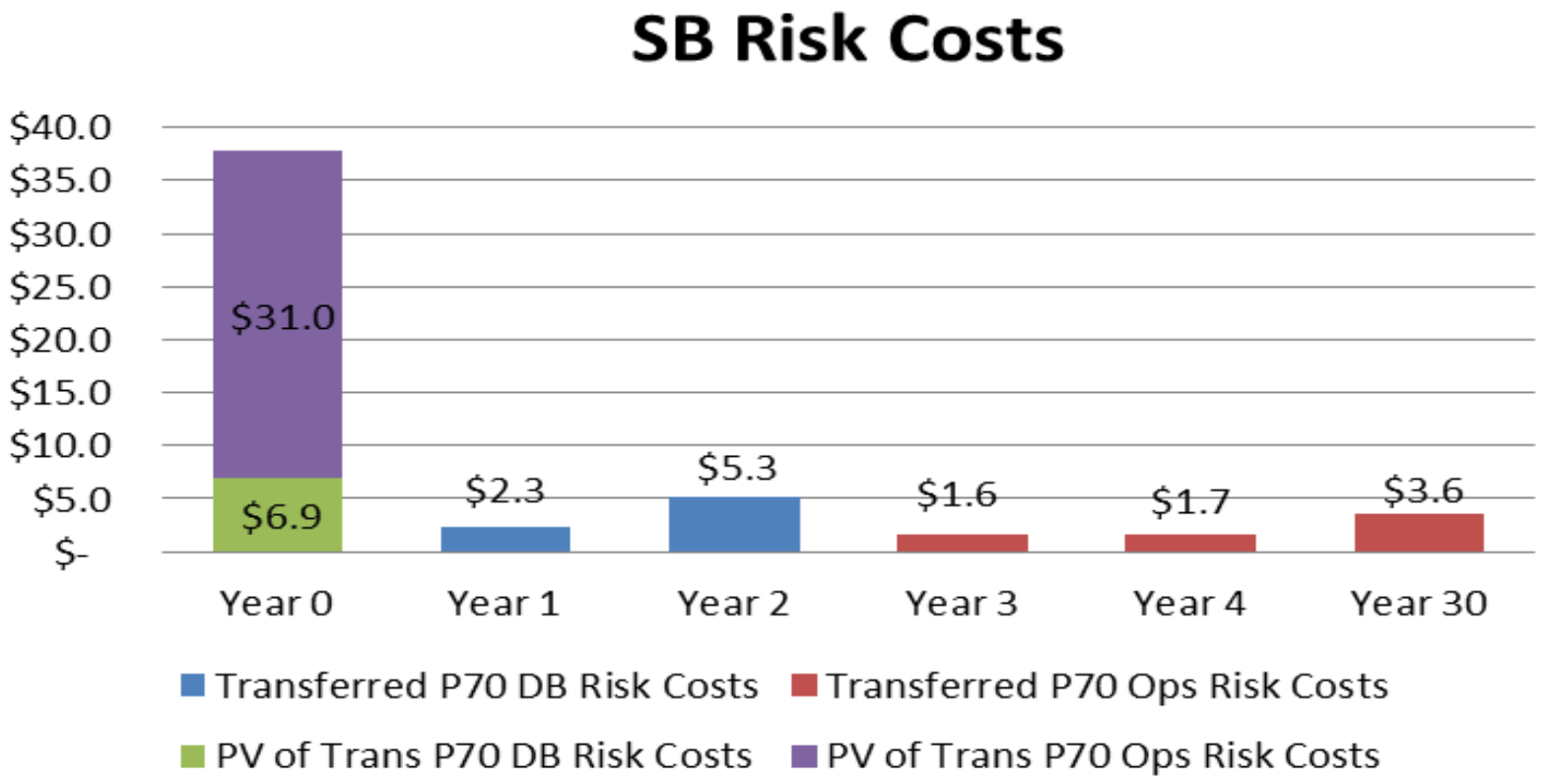


Base SB Operations Costs

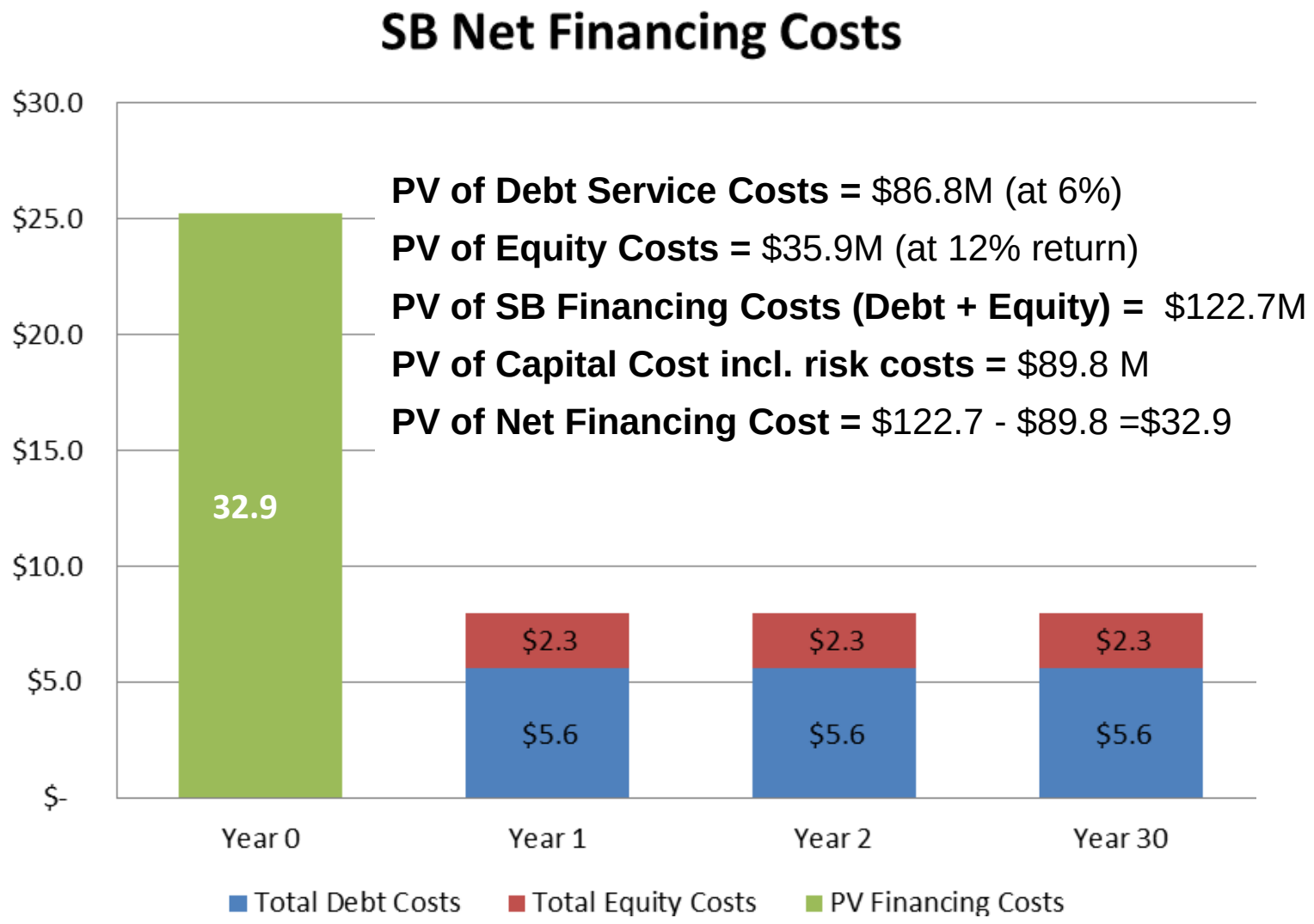


SB Transferred Risk Costs (at P70)

- Nominal costs of DB risks are $7.5 M (25% reduction for the transferred $10M which is 50% of total $20M in risks); the present value of those risk costs is $6.9 M



SB Financing Costs (at P70)



PV of Debt Service Costs = $86.8M (at 6%)

PV of Equity Costs = $35.9M (at 12% return)

PV of SB Financing Costs (Debt + Equity) = $122.7M

PV of Capital Cost incl. risk costs = $89.8 M

PV of Net Financing Cost = $122.7 - $89.8 =$32.9

Summary of Shadow Bid Estimate

SIMPLE MODEL		P3-VALUE	
Discount rate = 5%	Cost ($M)	Discount rate = 5%	Cost ($M)
Base DB costs	82.9		
DB Risks	6.9		
Total investment	**89.8**		
Financing cost	**32.9**		
Base O&M costs	196.0		
O&M risk costs	31.0		
Total O&M costs	**227.0**		
Total concessionaire cost	**349.7**	Availability payments	**351.6**
Retained risks	9.2	Retained risks	8.9
Total cost	**358.9**	Total cost	**360.5**

Shadow Bid Costs (from P3-VALUE)

- **Note:** P70 estimates are in the middle column

Value for Money Analysis Results			
Manual Input	Risk Adjusted Payments ($)		
5.00%	PV of Payments with P10 Risk Adjustment	PV of Payments with P70 Risk Adjustment	PV of Payments with P90 Risk Adjustment
Payment Item			
Availability Payments	$ 329,228,341	$ 351,564,296	374,172,641
Construction Phase Retained Risks	$ 4,434,779	$ 8,869,557	13,304,336
Operations Phase Retained Risks	$ -	$ -	-
Other Project Costs (For Agency)	$ -	$ -	-
Total Payments Before Toll Revenue	$ 333,663,120	$ 360,433,853	387,476,976
Toll and Other Revenue	$ (290,082,714)	$ (290,082,714)	(290,082,714)
Total Payments After Toll Revenue	$ 43,580,406	$ 70,351,139	97,394,262

Availability Payment Calculation (P70)

- **PV of concessionaire's costs**:
  - **Total** = $349.7 M, in year 0
    = $385.5 M, in year 2
- ***Uniform* availability payment over 28 years*:**
  - Similar to mortgage payment, with $385.5 M "borrowed" and an "interest" rate of 5%**
    = **$25.9M**

*Annual availability payments are made by public agency over a 28-year operating period (i.e., 30-year term less 2-year design-build phase), contingent on meeting performance standards

**he PV of total concessionaire costs (i.e., $349.7M) includes the costs for financing with debt and equity, so the 5% discount rate is appropriate in this case

P3-VALUE Availability Payment Results

- With P3-VALUE, the availability payment is inflated over the term of the concession, rather than being uniform throughout – that is why the first year availability payment is lower than we calculated with our simple model

Availability Payment

Payment Calculation

	P10	P70	P90
Annual Nominal Payment Amount:	16,187,500	17,285,714	18,397,321

Test Your Knowledge

Multiple answer:

Which of the following are included in the calculation of ***payments to a concessionaire***:

- Base life-cycle costs estimated for the concessionaire
- Costs of risks transferred to the concessionaire
- Cost of risks retained by the public sector

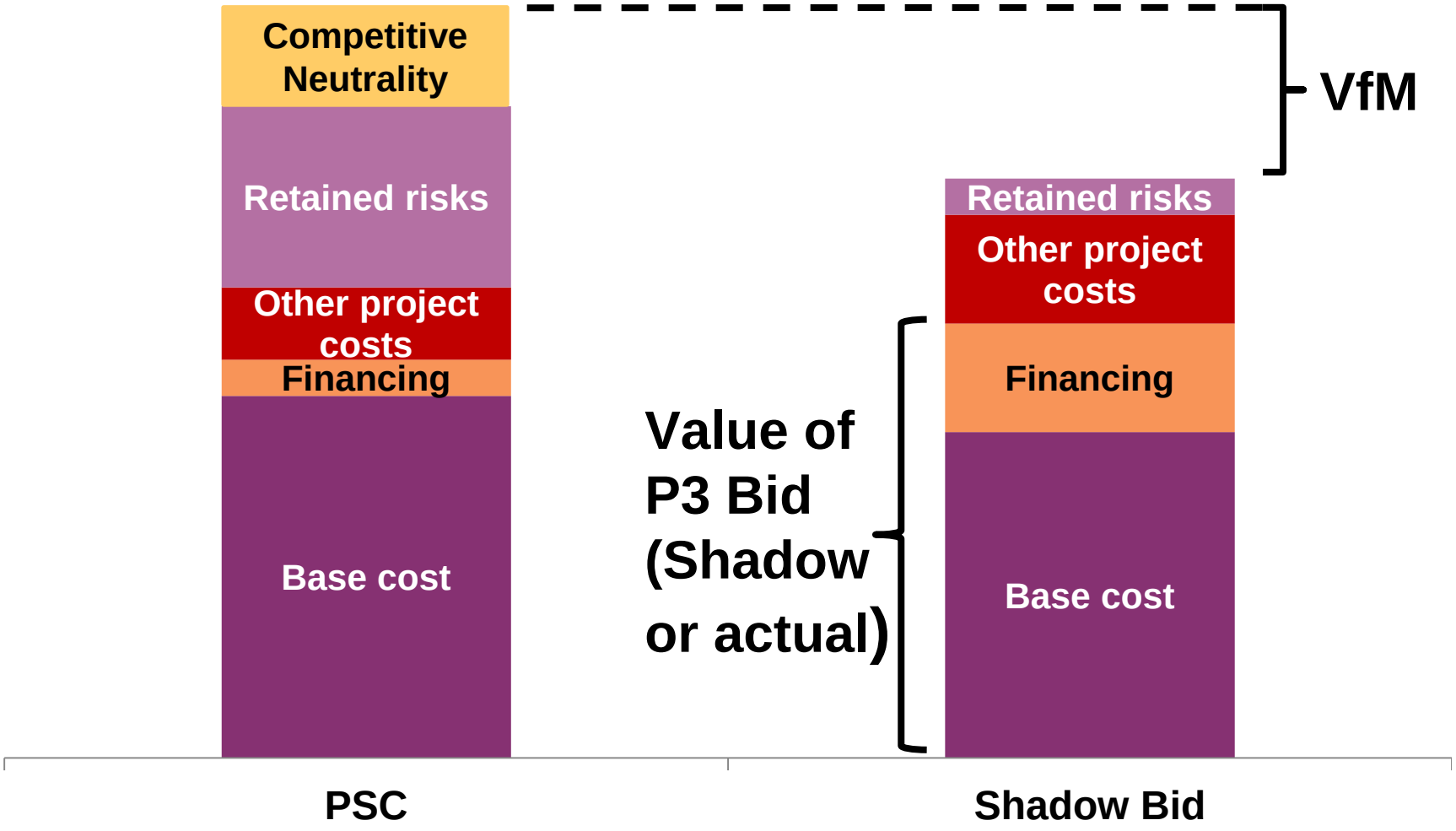
Questions?

Submit a question using the chat box

Lesson 4

Comparing Procurement Options

Comparing PSC to Shadow Bid



Comparison of PSC and SB: Simple Model

- Retained risks on the PSC side are zero because they are included in the PSC total investment
- Financing cost includes risk premiums due to some transferred risks that are ***not*** accounted for in the PSC

	PSC (Draw)	Shadow Bid
Simple Model	Cost ($M)	Cost ($M)
Total investment	110.5	89.8
Total O&M costs	247.6	227.0
Financing costs	2.4	32.9
Retained Risks	-	9.2
Total cost	**360.5**	**358.9**

Concessionaire's Financing Cost

- Cost of financing reflects costs to arrange for the financing, corporate taxes to be paid by concessionaire, and project risks
- Financing is backed only by project revenues (tolls or availability payments) which are riskier than public financing backed by broader revenue sources
- Higher weighted average cost of capital (interest rates and returns on equity) reflect the project risk premium for those risks not transferred to subcontractors:
  - Systematic risks;
  - Project coordination risks; and
  - Long-term performance risks
- But these risks are also not accounted for in the PSC

Adjusted Comparison of PSC and SB

- Project risk costs not accounted for in the PSC estimate may be calculated as a “virtual risk premium”
- The virtual risk premium may be approximated as the difference between financing costs of the PSC and the SB

	PSC	Shadow Bid
Simple Model	Cost ($M)	Cost ($M)
Total investment	110.5	89.8
Total O&M costs	247.6	227.0
Financing costs	2.4	32.9
Retained Risks		9.2
Virtual risk premium	30.5	
Total cost	**391.0**	**358.9**

Qualitative Assessment

- Key qualitative considerations related to project goals:
  - User benefits from accelerated project delivery
  - Safety
  - Service quality
  - Reliability
- P3 contract-related considerations include:
  - **Viability:** Ability to formulate a sound contract
  - **Performance:** Opportunity for innovation
  - **Achievability:** Public agency's capabilities and those of the private sector
  - **Flexibility:** Ability of the public agency to coordinate regional network policies

VfM Analysis Limitations

- Analytical process to assess costs and risks is resource-intensive and may require outside expertise
- Analysis results are entirely dependent on the assumptions, especially regarding risk transfer
- Choice of discount rate can skew the results – extreme care is needed to ensure risk costs are not double-counted in the discount rate
- Does not answer the question: “Can the government agency afford the costs of delivering a project as a P3?”
- Does not quantitatively assess non-financial costs and benefits of a project (e.g., benefits of project acceleration)

Course Summary

Course Recap

Lesson 1	Introduction to P3s, Value for Money and the P3 Toolkit
Lesson 2	Developing a Public Sector Comparator
Lesson 3	Developing a Shadow Bid
Lesson 4	Comparing Procurement Options

Homework Assignment

- Run a Value for Money analysis using the P3-VALUE tools with the hypothetical project data presented in this webinar:
  - Availability payment concession
  - Toll concession
- Technical assistance options:
  - E-mail questions to: P3-VALUE@dot.gov
  - Participate in “Office-Hours” webinar on February 21, 2014 at 1:30 p.m. (EST)
  - Registration is not required for the Office Hours webinar – you may connect directly to the webinar at: https://connectdot.connectsolutions.com/ipdp3/

Resources

IPD's P3 Website:
http://www.fhwa.dot.gov/ipd/p3/

P3-VALUE Website:
http://www.fhwa.dot.gov/ipd/p3/toolkit/analytical_tools/index.htm

FHWA Value for Money Assessment Primer:
http://www.fhwa.dot.gov/ipd/pdfs/p3/p3_value_for_money_primer_122612.pdf

FHWA Value for Money Analysis Factsheet:
http://www.fhwa.dot.gov/ipd/pdfs/p3/factsheet_03_vfm.pdf

P3-VALUE PSC and Shadow Bid Tools:
http://www.fhwa.dot.gov/ipd/p3/toolkit/analytical_tools/index.htm

P3-VALUE PSC Tool User Manual:
http://www.fhwa.dot.gov/ipd/pdfs/p3/p3_value_psc_manual_v1.pdf

P3-VALUE Shadow Bid Tool User Manual:
http://www.fhwa.dot.gov/ipd/pdfs/p3/p3_value_shadowbid_manual_v1.pdf

Resources (Cont.)

I-595 Corridor Value for Money Analysis:
http://www.transportation-finance.org/pdf/funding_financing/financing/i595_vfm_0609.pdf

Presidio Parkway Value for Money Analysis:
http://www.presidioparkway.org/project_docs/files/presidio_prkwy_prjct_bsnss_case.pdf

Sea-to-Sky Highway Value for Money Analysis:
http://www.presidioparkway.org/project_docs/files/presidio_prkwy_prjct_bsnss_case.pdf

Upcoming P3-VALUE Training

- **Feb. 21:** Office Hours: Value for Money Homework Assignment Review
- **Mar. 13:** P3 Financial Assessment 201
- **Apr. 18:** Office Hours: Financial Assessment Homework Assignment Review

To register for the March 13 webinar, please visit
http://www.nhi.fhwa.dot.gov/resources/webconference/eventcalendar.aspx

Contact Information

Patrick DeCorla-Souza

P3 Program Manager

Office of Innovative Program Delivery

Federal Highway Administration

(202) 366-4076

Patrick.DeCorla-Souza@dot.gov

Contact Information

Thay N. Bishop, CPA, CTP

Senior Program Advisor/Capacity Builder

Office of Innovative Program Delivery

Federal Highway Administration

(404) 562-3695

Thay.Bishop@dot.gov

Questions?

Submit a question using the chat box

Or

Dial *1 to call in your question by phone