

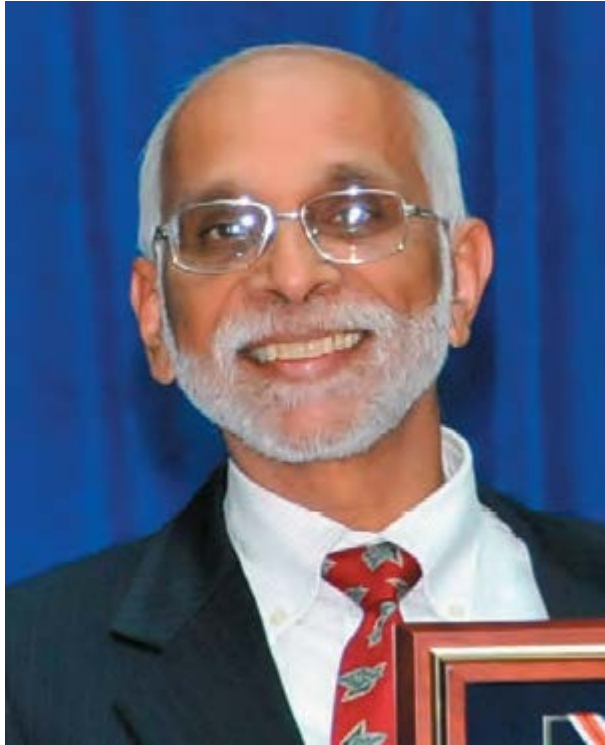


# Value for Money Analysis

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**P3-VALUE 2.0 Webinar**  
***February 8, 2016***

# Instructors



**Patrick DeCorla-Souza**

P3 Program Manager  
Office of Innovative Program Delivery



**Marcel Ham**

Vice President  
IMG/Rebel

# 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

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## 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

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## 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)**

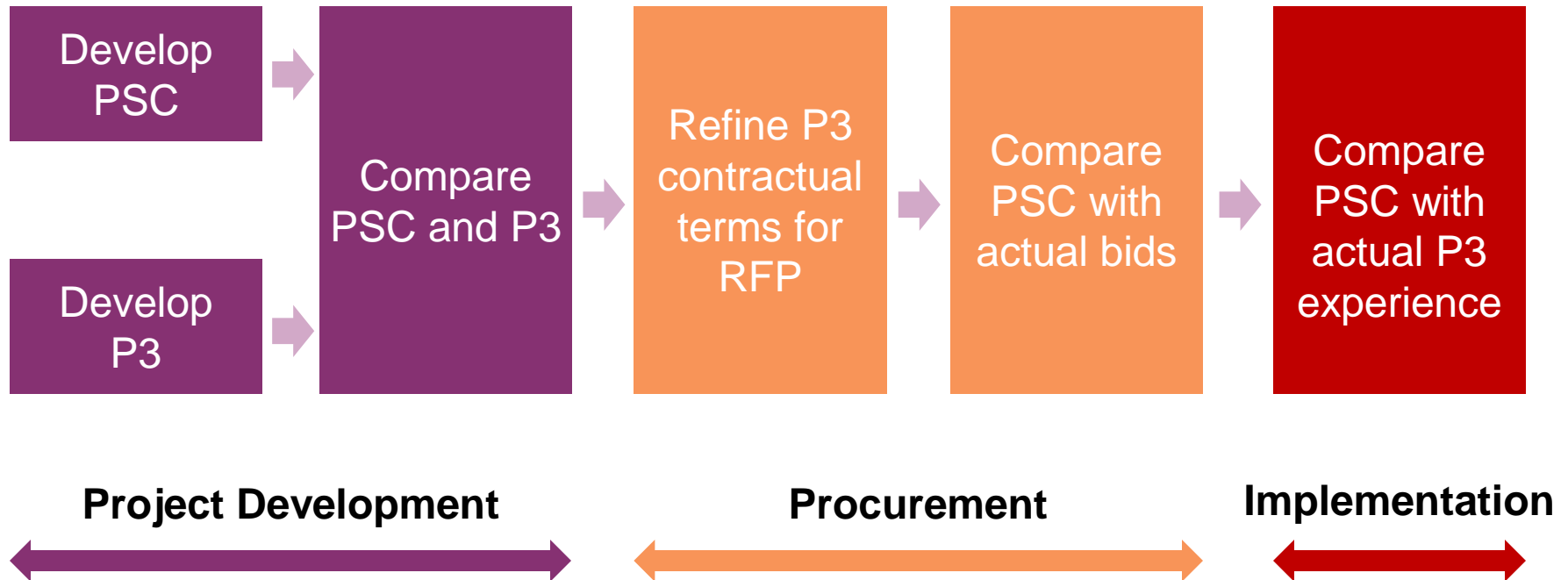
Conventional procurement's baseline cost against which P3 option will be compared

- **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



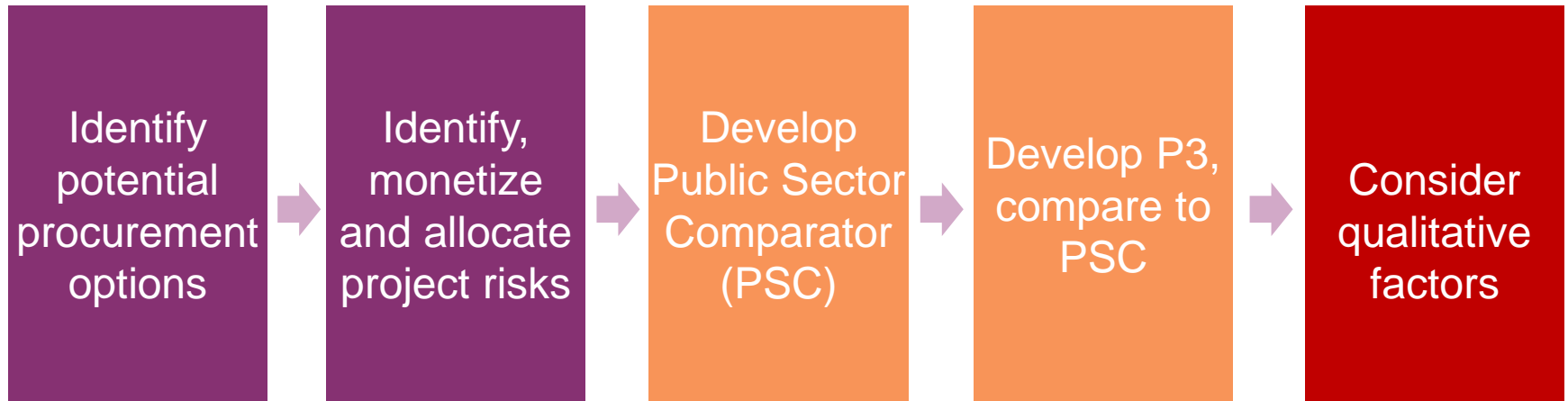
# Timing of VfM Analysis







# P3 Evaluation in Project Development



**This VfM Webinar**



# 1. Identify Procurement Options

## PSC

### Conventional

- Design-Bid-Build
- Design-Build
- Design-Build-Finance
- Other

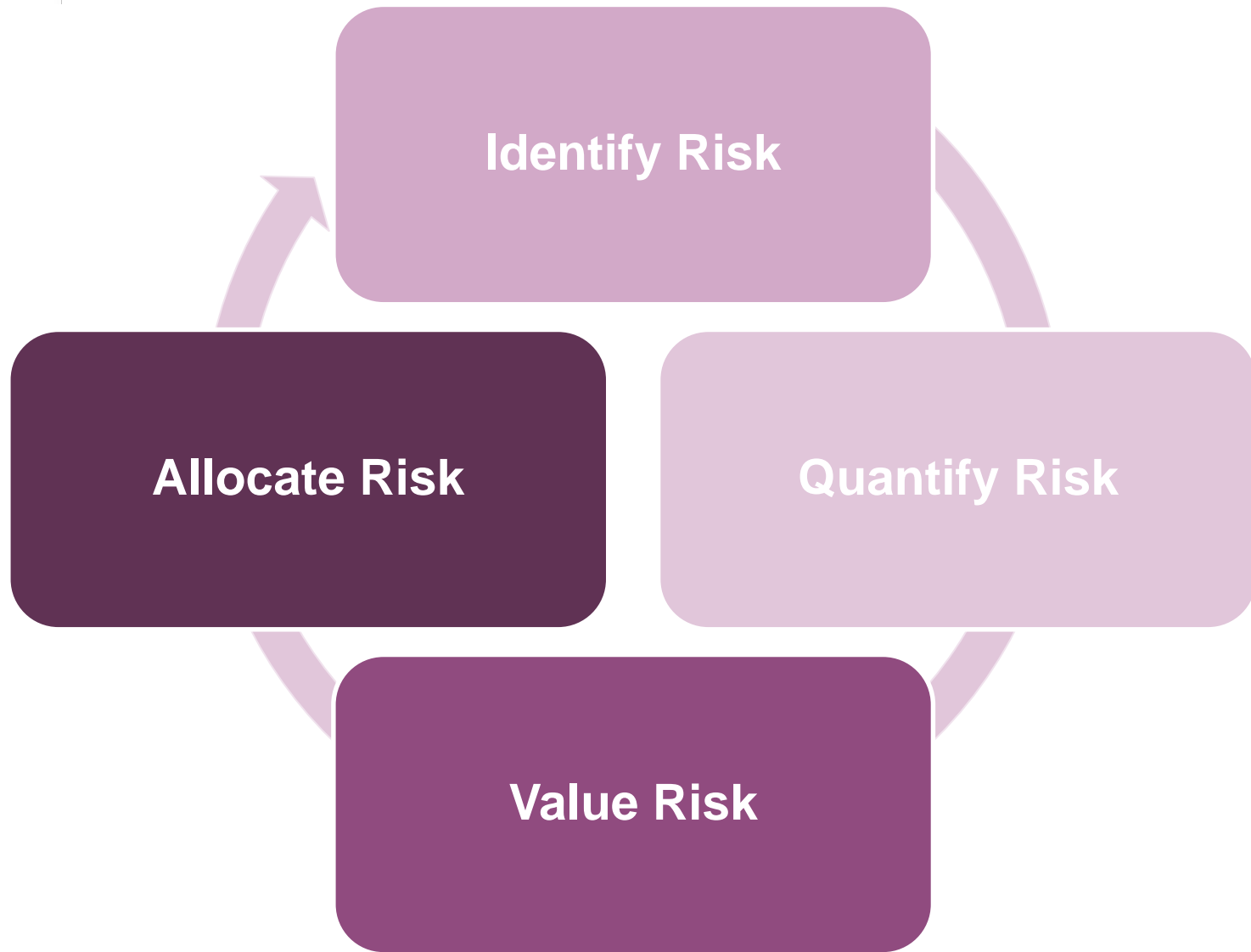
## P3

### P3 Options

- Design-Build-Finance-Operate-Maintain (DBFOM) toll concession
- DBFOM with availability payments



## 2. Risk Assessment and Allocation



## 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

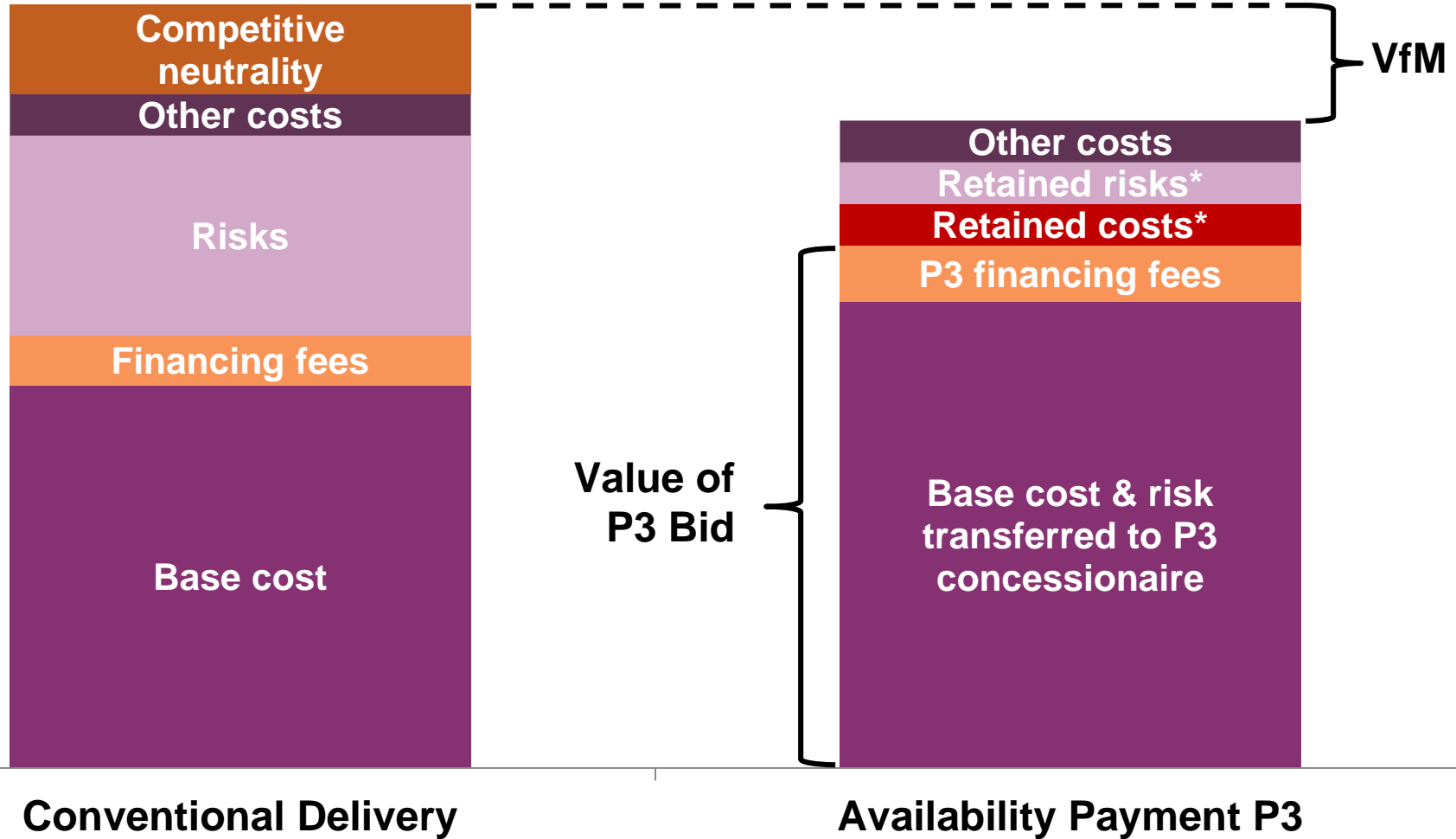
### Definition

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



\* Retained by Agency

## 6. Qualitative Assessment

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- 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

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## 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?

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Submit a question using the chat box





## Part 2

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# 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

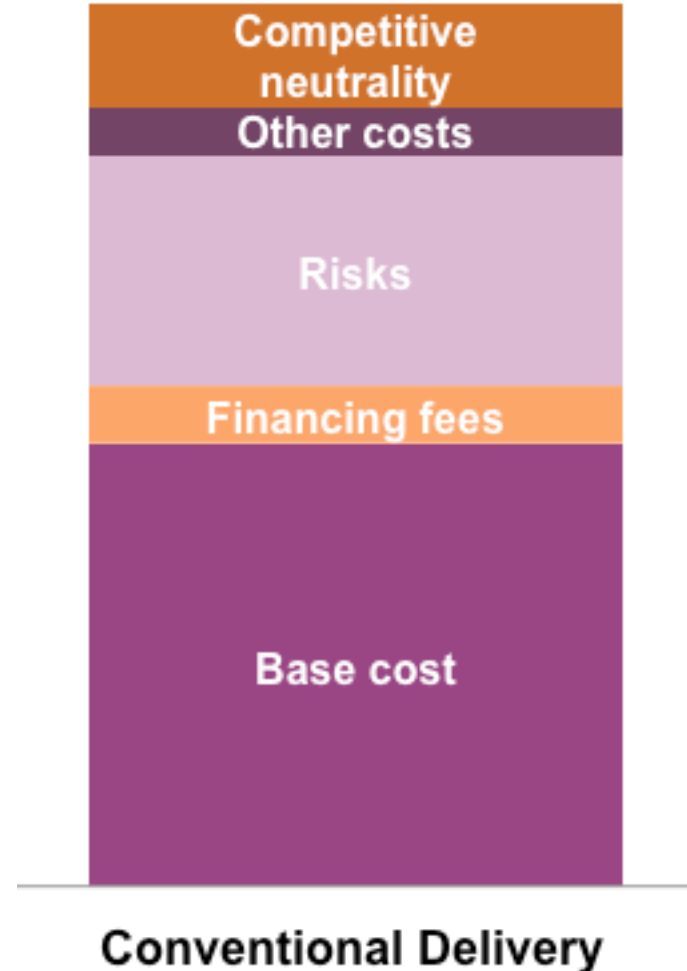
## B. Risk values

- Base variability
- Pure risk
- Lifecycle performance risk

## C. Financing fees

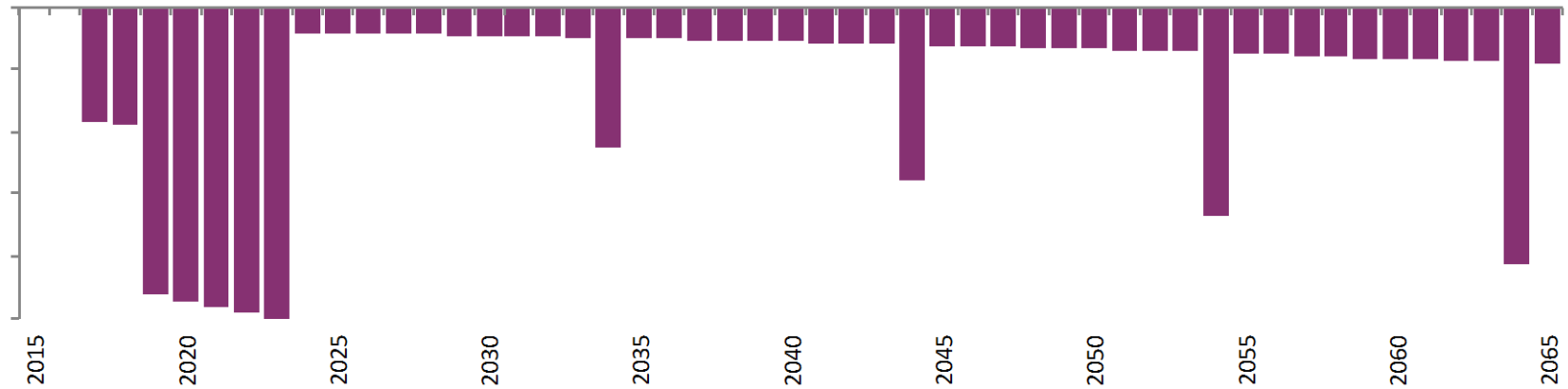
## D. Other project costs

## E. Competitive neutrality



# A. Base Costs

- Pre-construction and construction (capital) costs
- Operations cost
- Maintenance costs
- Reconstruction & rehabilitation costs



## B. Cost Impacts of Risk

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- 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

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- 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

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- Procurement costs
- Monitoring & oversight costs







## E. Competitive Neutrality Adjustment

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- 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)

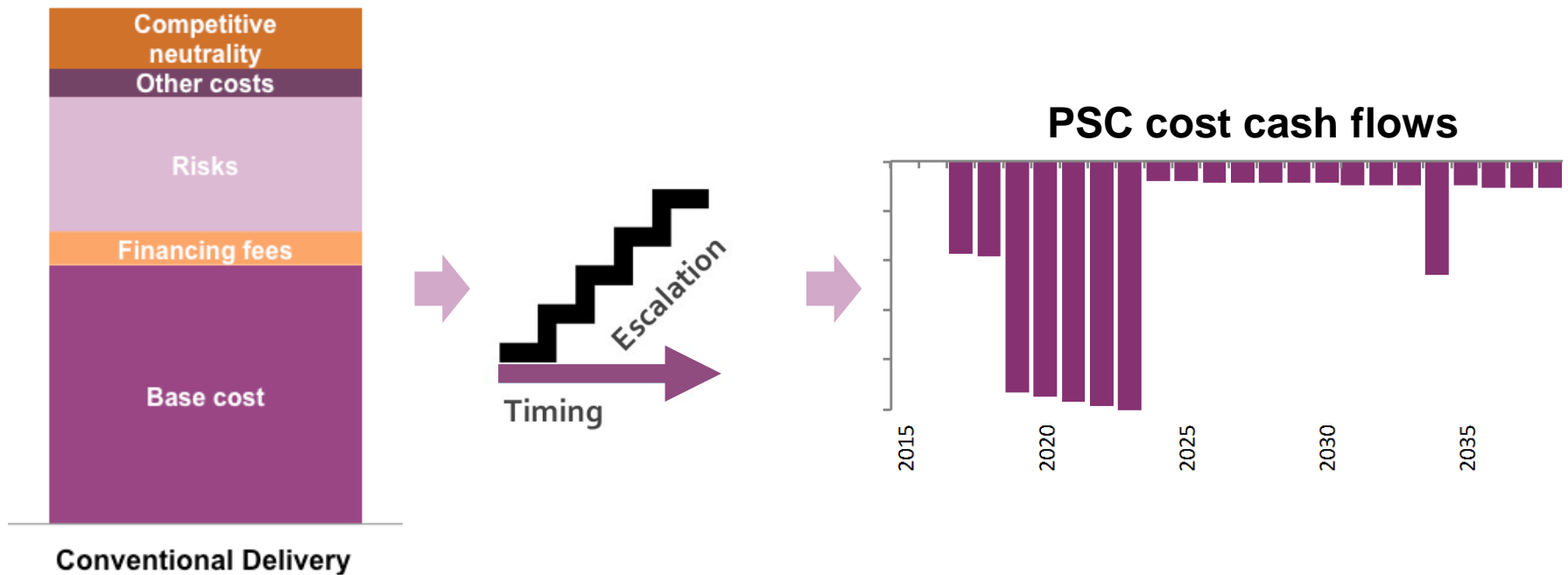


# Perspective on Competitive Neutrality

Perspective	Competitive Neutrality Adjustment
Agency	Ignore taxes from P3 that it does not receive?
State	Ignore taxes paid to Federal government?
National	Include subsidy cost for Federal loans and taxes paid to Federal government?

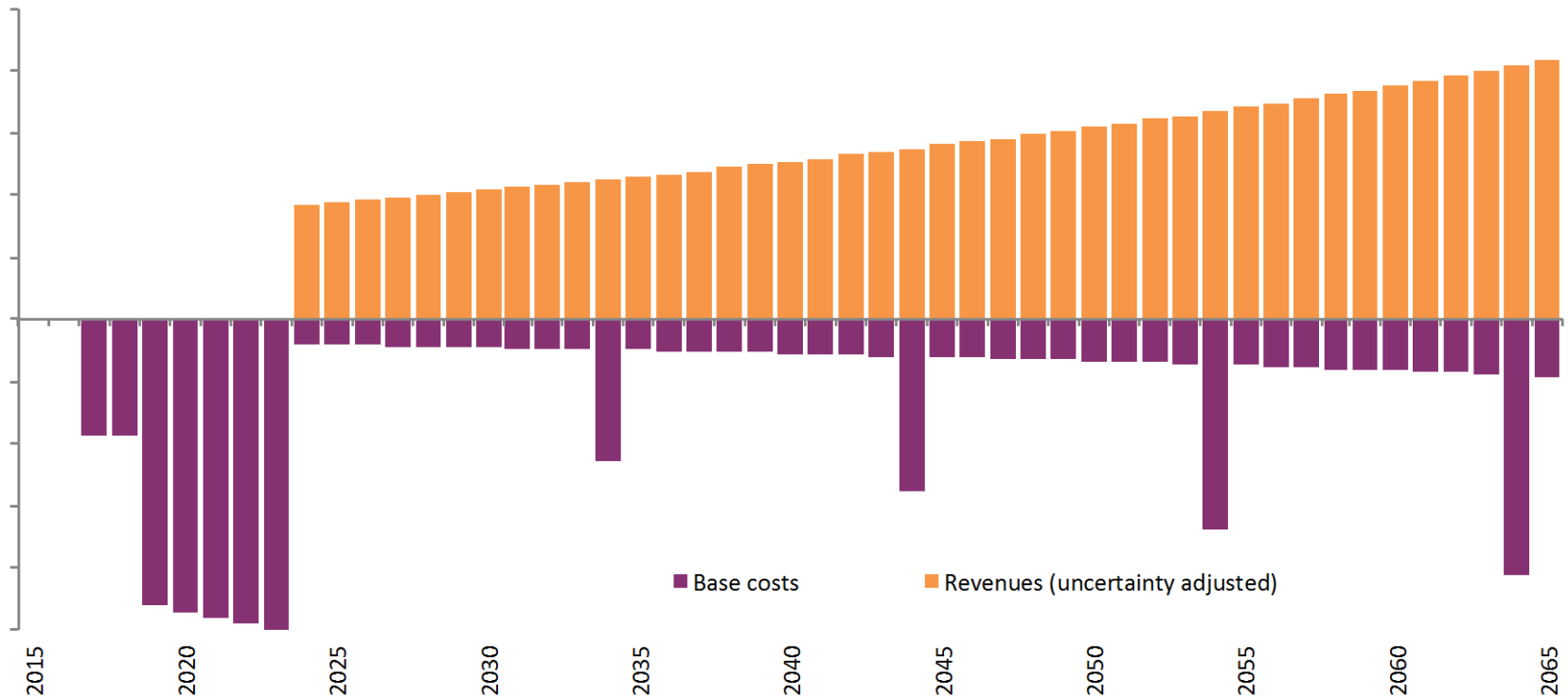
# Timing and Escalation of Costs

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



# 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

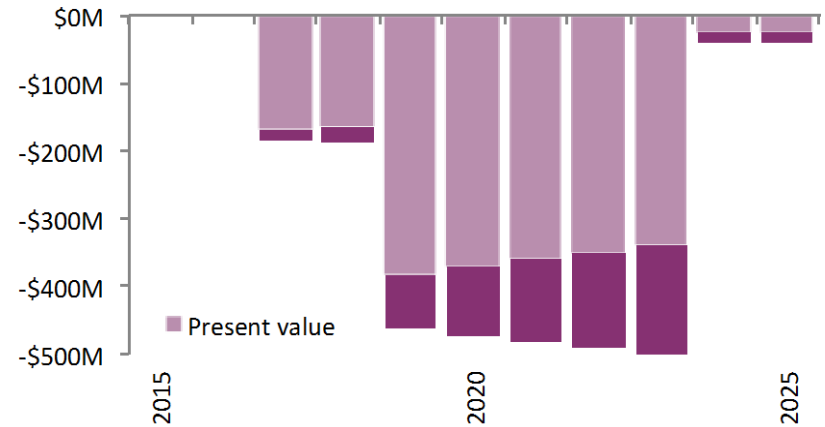
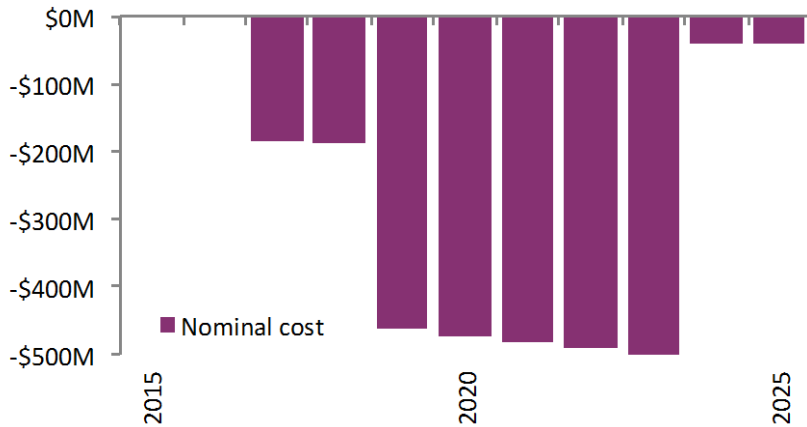
$CF_n$  = Cash Flow in year  $n$

$r$  = discount rate

$n$  = year

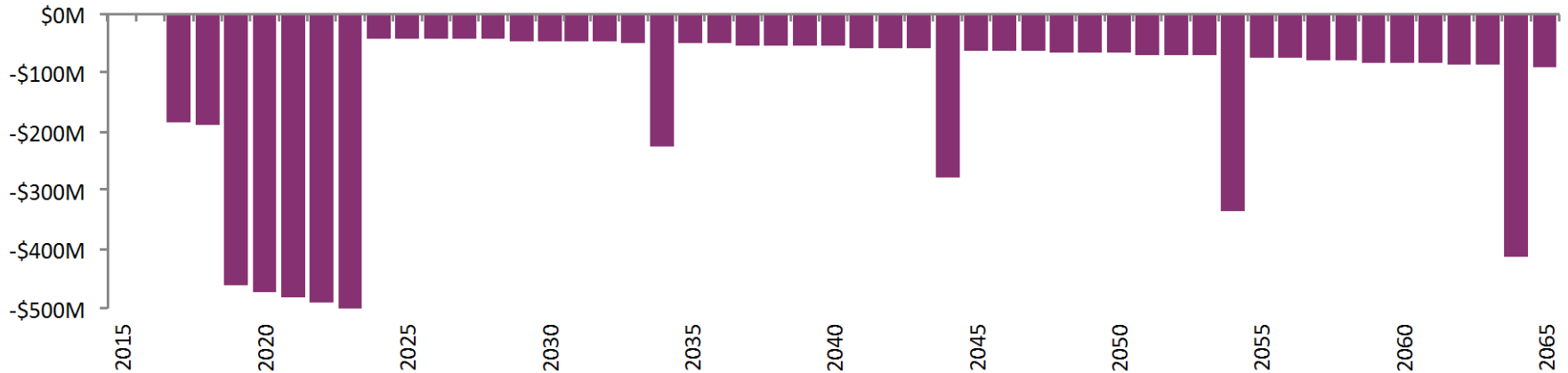
# Effects of Discounting

- 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

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## 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



# Questions?

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Submit a question using the chat box





## Part 3

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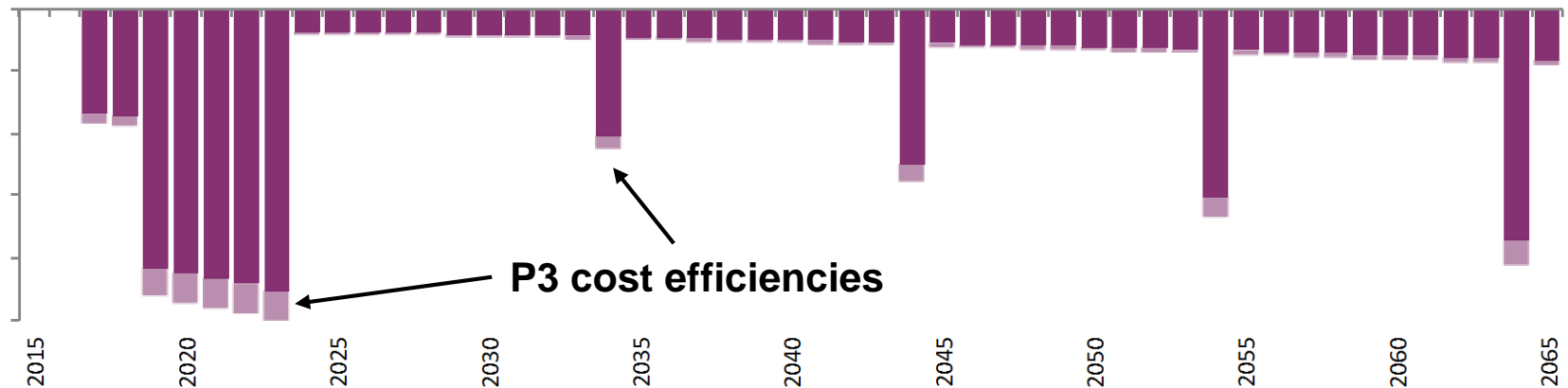
# Develop P3 Option and Compare to Public Sector Comparator

# Process to Develop a P3 Option



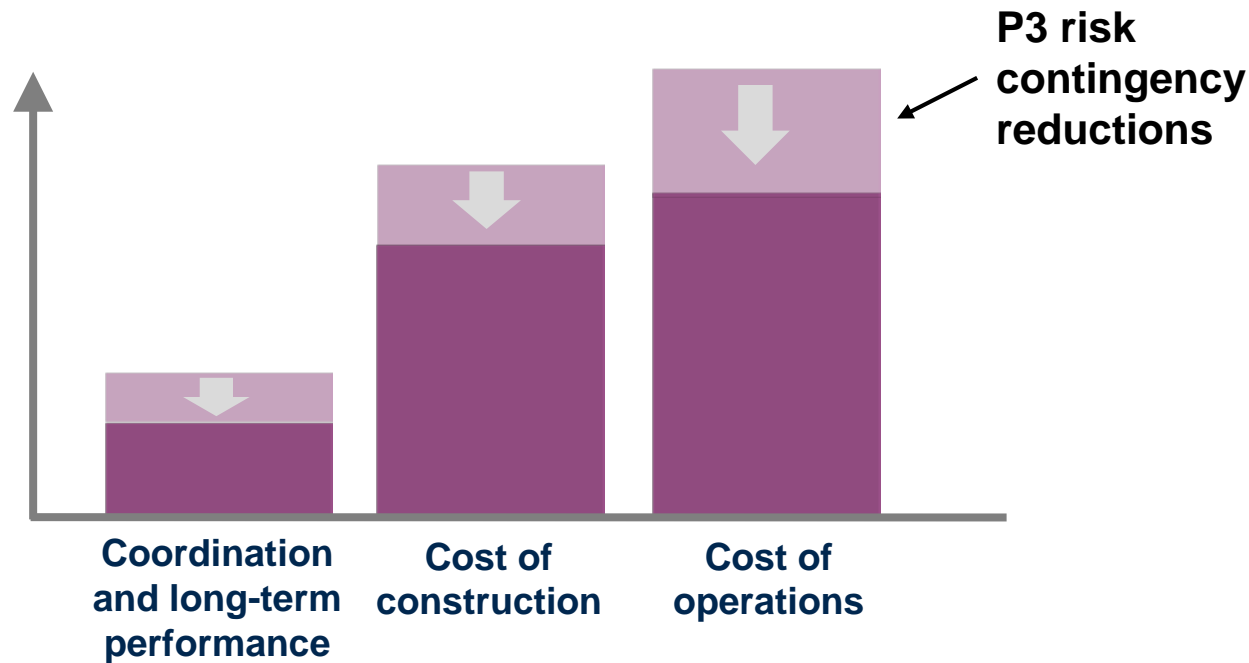
# 1. Private Sector Efficiencies

- **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



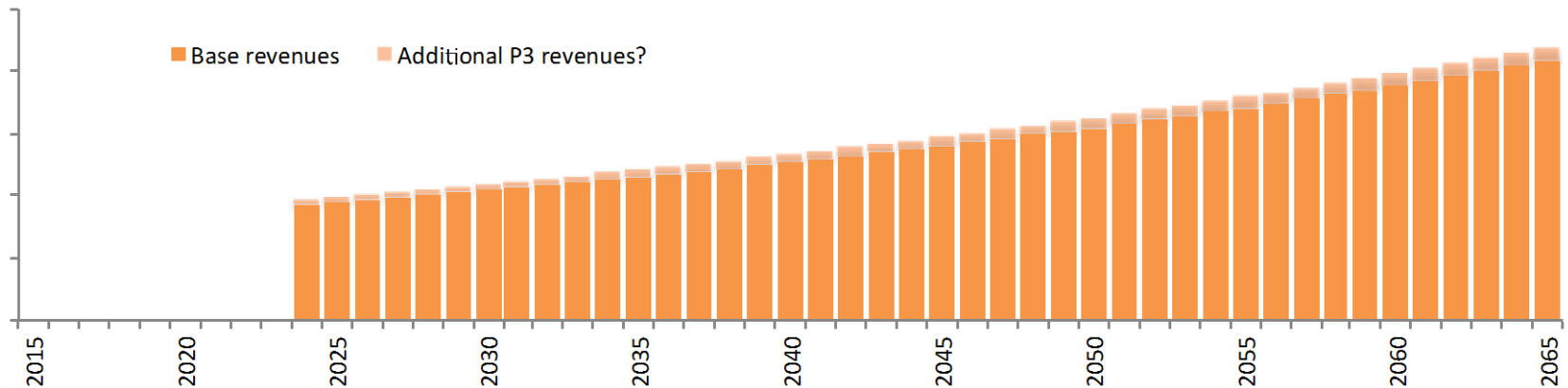
## 2. Costs of Transferred Risks

- 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

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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

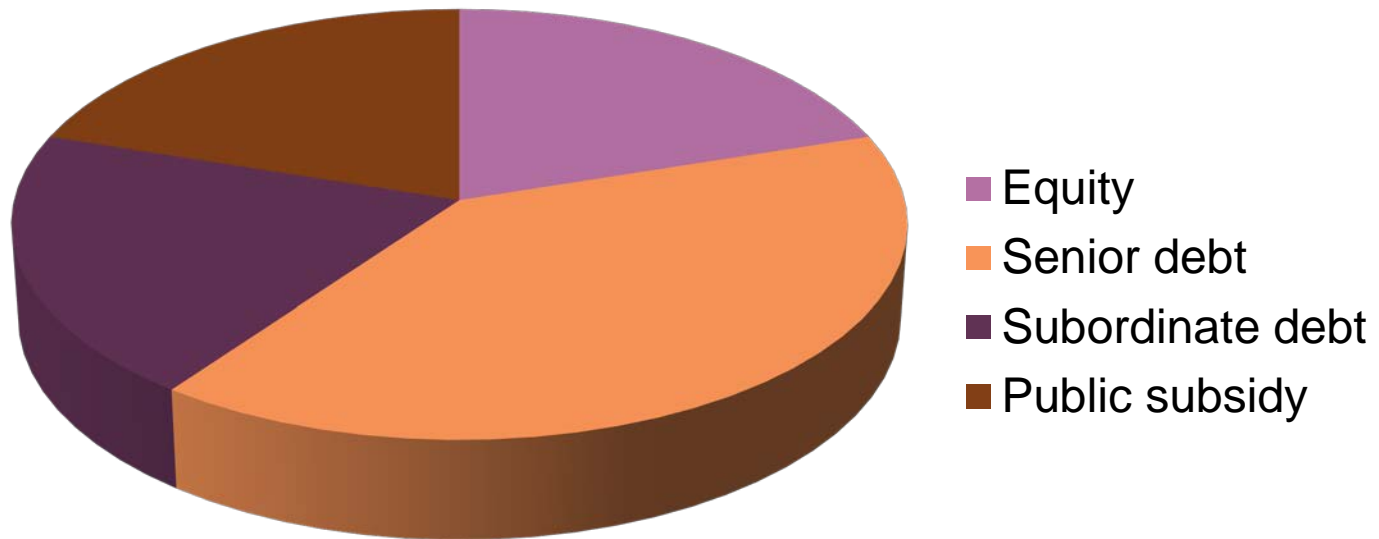
- Concessionaire takes on additional (federal and state) tax liabilities that would not exist under conventional delivery
- Subcontractors are subject to taxation as well, but this may be the same as under conventional delivery





# 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



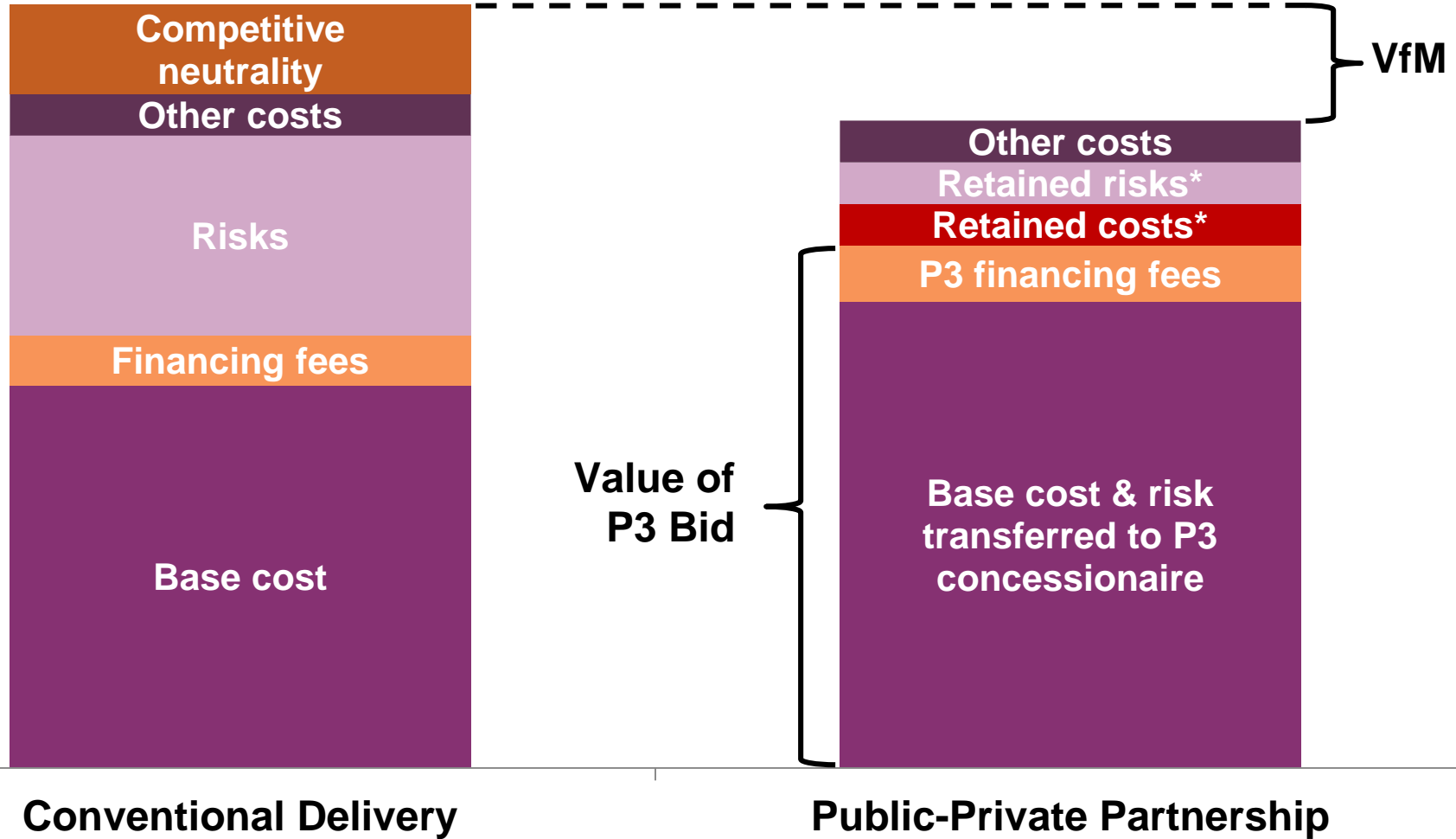
# Public Agency Costs under P3

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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



# Test Your Knowledge

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## 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?

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Submit a question using the chat box



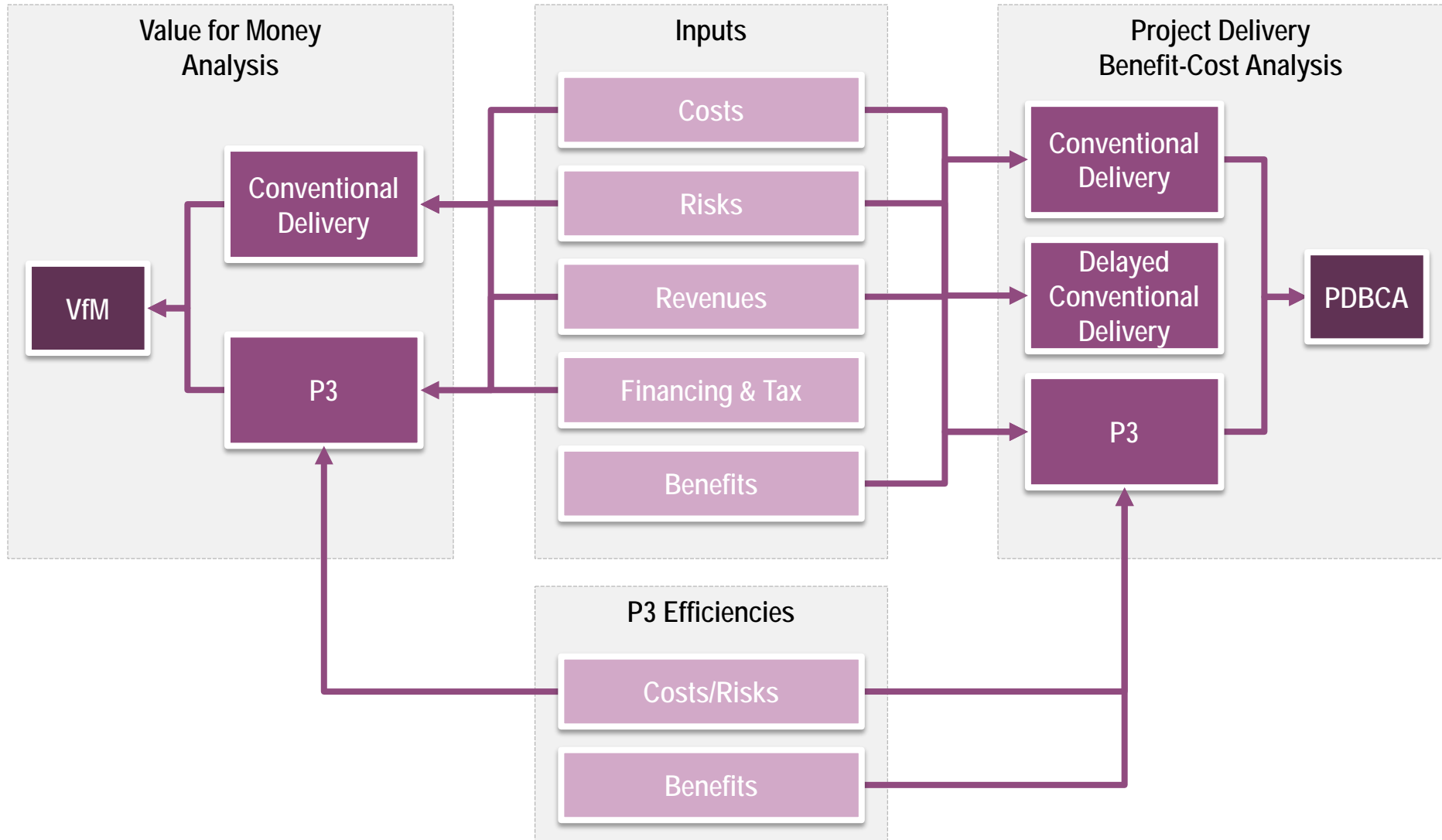


## Part 4

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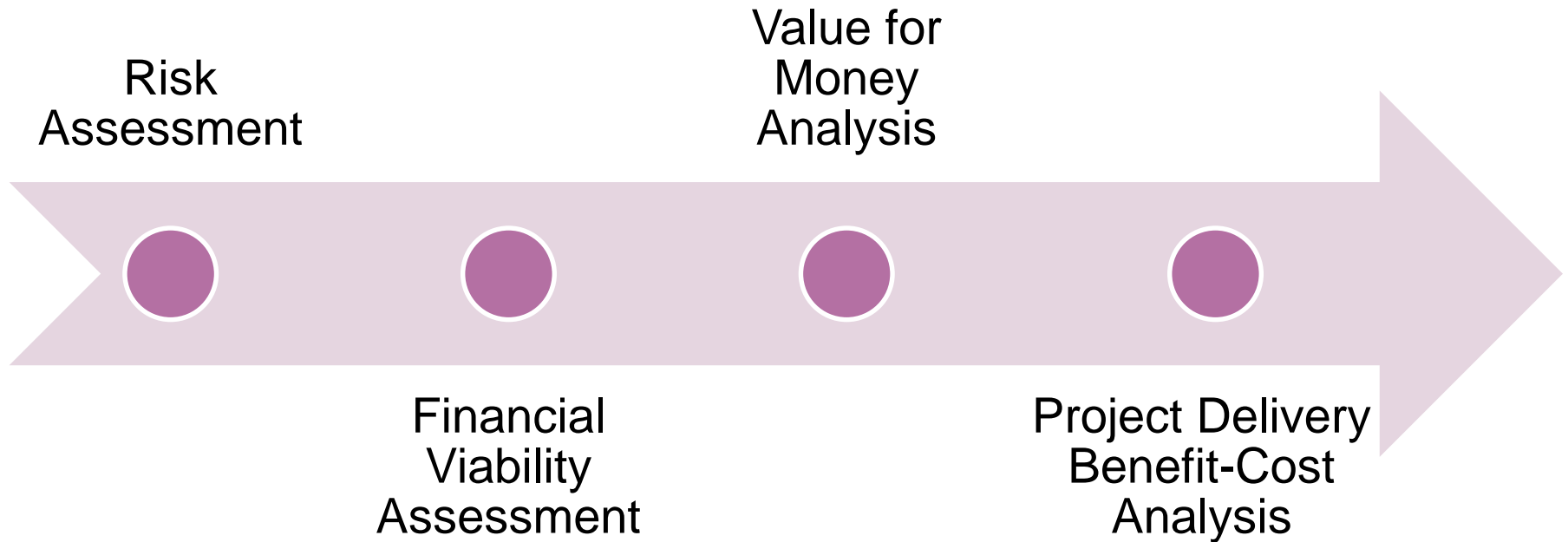
# Value for Money Analysis in P3-VALUE 2.0

# FHWA's P3-VALUE 2.0





# Training Modules



# Training Navigator User Interface

Training Navigator
×

**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.

Go to Model Navigator

**Training Module Selection**

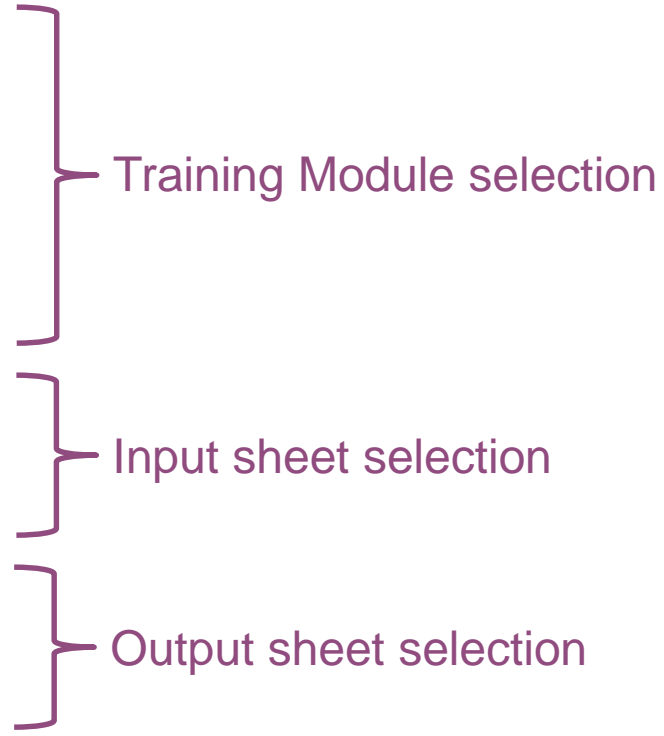
<b>Module 1</b> Risk Assessment	<b>Module 2</b> Financial Viability Assessment
<b>Module 3</b> Value-for-Money Analysis	<b>Module 4</b> Project Delivery Benefit-Cost Analysis

**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





# Demonstration of VfM Module

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Please stand by as we open the Excel file

# Tool and References

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P3-VALUE 2.0 Excel  
Spreadsheet

User Guide

Primers &  
Guidebooks



# Webinar Summary

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# Webinar Recap

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## Part 1

Introduction

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Develop Public Sector Comparator

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Develop P3 Option and Compare to  
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Value for Money Analysis in P3-VALUE 2.0



# Upcoming P3-VALUE Training

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- **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>**
- **Telephone: 1-888-363-4749, Passcode: 6139168#**



# Resources

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**FHWA's Office of Innovative Program Delivery Website:**

<http://www.fhwa.dot.gov/ipd/>

**P3 Website:**

<http://www.fhwa.dot.gov/ipd/p3/>



# Questions?

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Submit a question using the chat box

