

# Benefit–Cost Analysis for Public–Private Partnership Project Delivery



## P3 TOOLKIT

### Quick Facts

Value for Money analysis has the following limitations:

- It does not quantify all benefits to society, such as mobility benefits.
- It necessarily assumes that conventional delivery is possible in the same timeframe as P3s.
- It cannot quantify societal impacts of project scope changes proposed by a P3 bid.

Benefit–cost analysis can overcome these limitations and provide a more comprehensive evaluation of societal costs and benefits of P3 delivery in comparison to conventional delivery.

### For Further Information

See FHWA's *Benefit–Cost Analysis for Public–Private Partnership Project Delivery: A Framework*, available at:

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

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## Introduction

Value for Money (VfM) analysis is frequently used to evaluate public–private partnership (P3) highway concession proposals. VfM considers the financial impacts of choosing a P3 delivery model over a more conventional approach. The analysis is undertaken from the perspective of the procuring agency and does not quantitatively estimate nonfinancial public benefits. For example, the public benefit from accelerated project delivery is one of the key reasons why State and local governments in the United States pursue P3s. The current VfM approach, however, is not yet able to account quantitatively for benefits to travelers and others from delivering a project earlier than would have been possible under conventional procurement. Few attempts have been made to quantify and monetize benefits from accelerated project delivery or other improvements in service quality under a P3. Benefit–Cost Analysis (BCA) could complement VfM analysis to address these issues and contribute to transparency and accountability in the P3 procurement process.

## Differences Between VfM and BCA

A basic assumption in VfM analysis is that conventional procurement is possible with public financing in the same timeframe as the P3. This may, however, not be true if the procuring agency is faced with budgetary or debt–capacity constraints that limit its ability to tap into future revenue streams to pay for investment today. Thus, the benefits to users that may accrue from earlier delivery of the project under a P3 are not considered in quantitative VfM analysis, although they may be considered in a qualitative fashion.

Another assumption in VfM analysis is that the project scope under the P3 will be exactly the same as under conventional delivery; therefore, any modifications to scope proposed in a P3 bid would need to be included in the conventional delivery option to make the VfM evaluation valid. BCA, however, can compare projects with differing



*The Downtown Tunnel and the Berkley Bridge east of the Southern Branch of the Elizabeth River, South Hampton Roads, VA*

scope and is able to capture benefits or disbenefits from changes in scope proposed in a P3 bid.

Finally, VfM analysis does not quantitatively capture benefits to users from changes in service quality provided to users under a P3. For example, a P3 may provide higher pavement ride quality, improved incident response, or reduced traffic disruption during construction and maintenance activities. BCA can account for these benefits to users quantitatively, whereas VfM either ignores them or relegates them to qualitative assessment.

The perspective taken with BCA is much broader than that taken with quantitative VfM analysis. Societal costs and benefits, broader than those that accrue mainly to the public sponsor, are quantified and monetized to the extent practicable. Thus, BCA is a more appropriate framework to use than is VfM in answering the question: “From society’s perspective, will P3 delivery constitute an improvement when compared to the conventional approach?”



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**PROJECT DELIVERY**

IPD's project delivery team covers cost estimate reviews, financial planning, and project management and assists FHWA Divisions with statutory requirements for major projects (e.g., cost estimate reviews, financial plans, and project management plans).

**PROJECT FINANCE**

IPD's project finance program focuses on alternative financing, including State Infrastructure Banks (SIBs), Grant Anticipation Revenue Vehicles (GARVEEs), and Build America Bonds (BABs).

**PUBLIC-PRIVATE PARTNERSHIPS**

IPD's P3 program covers alternative procurement and payment models (e.g., toll and availability payments), which can reduce cost, improve project quality, and provide additional financing options.

**REVENUE**

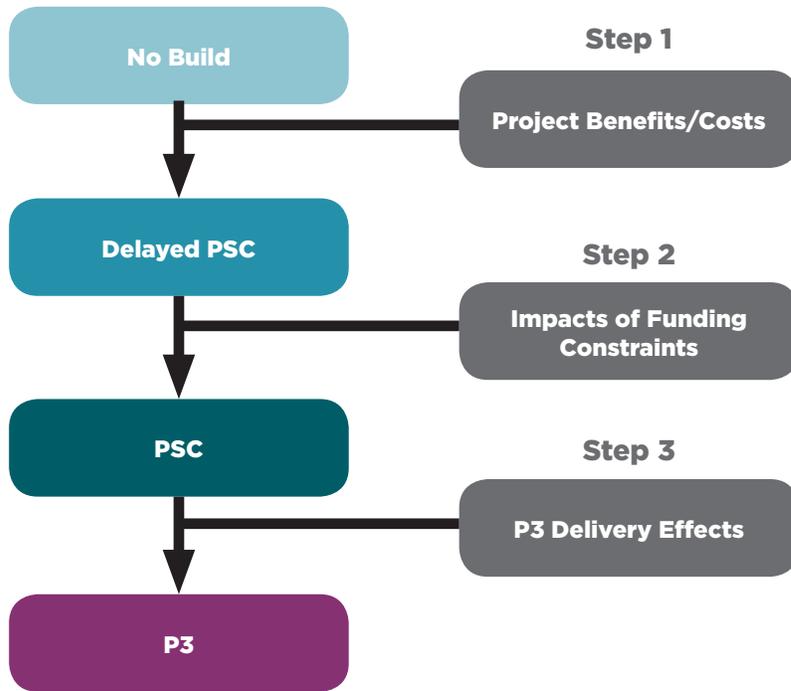
IPD's revenue program focuses on how governments can use innovation to generate revenue from transportation projects (e.g., value capture, developer mitigation fees, air rights, and road pricing).

**TIFIA**

The Transportation Infrastructure Finance and Innovation Act (TIFIA) program provides credit assistance for significant projects. Many surface transportation projects—highway, transit, railroad, intermodal freight, and port access—are eligible to apply for assistance.



# Benefit-Cost Analysis Framework



## Benefit-Cost Evaluation Process

In the context of P3 project delivery, BCA may be conducted in three steps:

1. **Project evaluation** (including evaluation of funding policy choices, such as funding through broad-based tax sources vs. direct user charges): Assumes conventional delivery of the project based on a financially feasible schedule, which may delay delivery compared with a P3 option.
2. **Incremental evaluation of an accelerated delivery schedule**: Assumes that the project can be conventionally procured in the (earlier) time frame proposed under the P3.

3. **Incremental evaluation of the P3 procurement type**: Focuses on the direct impacts of P3 delivery.

The first two steps assume conventional delivery of the project. In the final step, the efficiency impacts that relate directly to P3 procurement are estimated relative to accelerated conventional delivery of the project. This will include impacts of a P3 on costs, schedule, quality of service, and travel demand relative to accelerated conventional delivery, as well as impacts of any modifications to scope proposed by a P3 bidder in response to a request for proposal (RFP). The economic efficiency analysis in the final step parallels VfM analysis, which (necessarily) assumes that conventional procurement is possible in the same timeframe as the P3.