



P3 TOOLKIT

Quick Facts

Analytical studies and tools used by public agencies to conduct P3 evaluations include:

- Traffic and revenue (T&R) studies.
- Preliminary design and cost estimates.
- Risk assessment.
- Financial cash flow and valuation models.
- Value for Money (VfM) analyses.

For Further Information

Learn more about FHWA's P3 Toolkit, available at

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



Once public agencies have identified a project as having the potential to be procured as a public–private partnership (P3), they typically conduct a series of progressively more rigorous evaluations to determine the best approach to delivering the project. These evaluations help decisionmakers choose how best to structure and procure a potential P3 project. There are several analytical studies and tools used by public agencies to conduct these evaluations:

- Traffic and revenue (T&R) studies.
- Preliminary design and cost estimates.
- Risk assessment.
- Financial cash flow and valuation models.
- Value for Money (VfM) analyses.

These tools are often used in combination to assess potential procurement approaches, agreement structures, and private sector bids. Revenue forecasts, risk assessment, and cost estimates serve as inputs to a financial model. Risks identified inform any sensitivity analysis conducted with the financial model and may be quantified and monetized for use in the VfM analysis.

Forecasting Revenues

A key issue is forecasts of revenue, especially on toll-based projects. T&R studies are used to forecast traffic on toll roads under various toll rate structures and macroeconomic scenarios. The studies are important in deciding whether to transfer, retain, or share revenue risk, and in understanding what to expect from private sector bids.

Preliminary Design and Cost Estimates

Agencies need to have a reasonable understanding of the costs to design, build, operate, and maintain a facility in order to make a meaningful comparison of anticipated revenues and costs. Preliminary designs will also identify the risk factors in a project

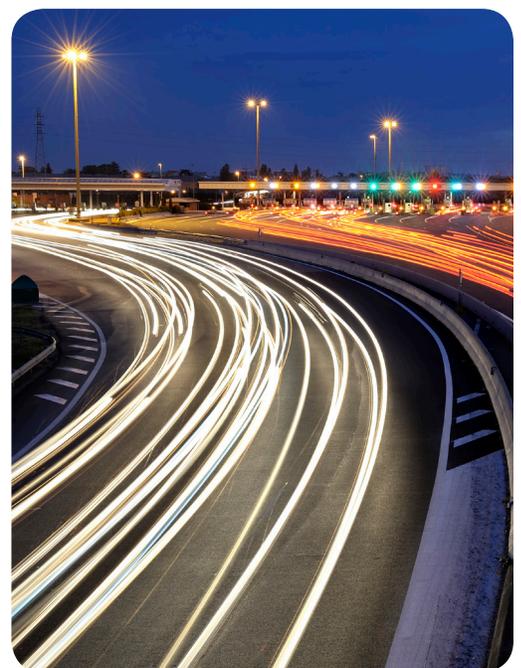
(e.g., geotechnical, right-of-way acquisition and hazardous materials).

Risk Registers

The risk register (also called a *risk matrix*) provides a format for capturing information on risks, the probability of risks occurring, the consequences if a risk is realized, and strategies to reduce the probability of negative events occurring or to mitigate the consequences if a negative event were to occur. Although many risk registers include only qualitative information, agencies can take the risk register a step further by quantifying the probability of risks and assessing the potential consequences in monetary terms. A risk register can help a public agency decide which risks to transfer to the private sector, which to retain, and which to share.

Financial Models and Cash Flow Analysis

Agencies use financial models to understand the costs of traditional delivery of a project versus P3 delivery and the potential commercial viability of a project as a P3 under different agreement structures and macroeconomic scenarios. Financial models include assumptions about revenue, project





costs, financing costs, tax and inflation rates, and discount rates to estimate potential concession fees and/or public subsidies and to estimate appropriate toll rates, if the facility will be tolled.

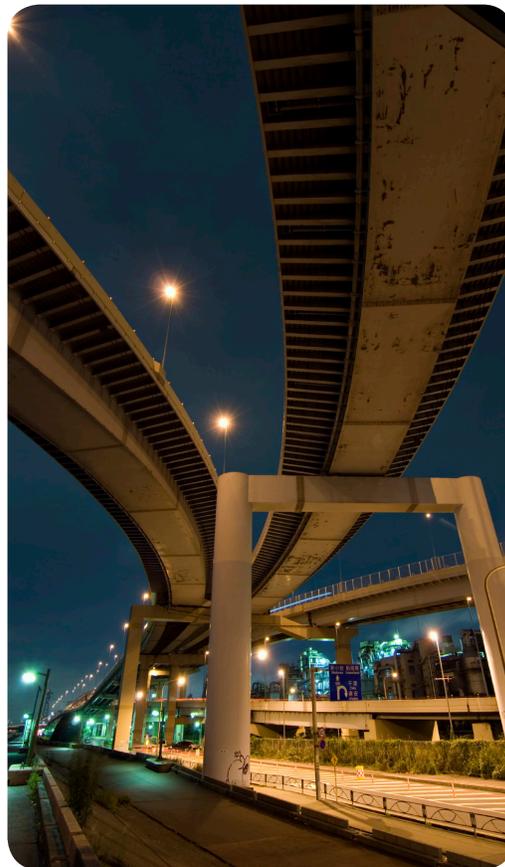
Public agencies use financial models primarily to gain a better understanding of cash flow requirements, but they can also use these models to better understand the private sector’s perspectives and incentives, which are dependent on net revenues and the internal rate of return on invested private capital. The financial model allows the agency to conduct a sensitivity analysis based on uncertainties regarding critical inputs, such as long-term project costs and the probabilities of uncertain events or risks that may affect revenues and costs.

Value for Money (VfM) Analysis

A VfM analysis compares the projected risk-adjusted life-cycle costs of a project delivered through a P3 to a Public Sector Comparator (PSC). A PSC is an independent, objective assessment of project costs if delivered using the delivery approach that would otherwise be used by the public sector, against which potential and actual private sector contract bids may be judged. Generally, a P3 proposal must outperform (i.e., cost less than) the PSC to be preferable to a traditional procurement approach; however, even if P3 costs are higher, qualitative factors not included in the quantitative analysis may still make the P3 approach preferable.

VfM is used to guide decisions regarding potential P3 projects, including which procurement approach to take, which risks to allocate to the private sector, and which private sector bid to accept. Agencies employ VfM analysis to compare the costs of different project delivery options by assessing the value of transferring risks to the private sector, as well as the value of any efficiency gains that may be obtained through P3s. Agencies can also use VfM to evaluate the extent to which higher financial costs and risk premiums associated with P3 delivery are offset by efficiency gains from the transfer of project risks and costs to the private sector.

FHWA has developed a suite of VfM tools known as *P3-VALUE* to provide a hands-on understanding of the techniques used for risk assessment, VfM analysis, and financial feasibility analysis.



PROGRAM AREAS OF THE OFFICE OF INNOVATIVE PROGRAM DELIVERY

IPD provides a one-stop source for expertise, guidance, research, decision tools, and publications on program delivery innovations. Our Web page, workshops, and other resources help build the capacity of transportation professionals to deliver innovation.

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.

