

# Types of Public-Private Partnerships (P3s)

## Transportation Finance Innovations

### Quick Facts

- **Design–build (DB)** projects are set up as fixed-price contracts between a private entity and a public agency to jointly manage the design and construction of a new roadway facility.
- With **design–build–finance (DBF)** projects, the private partner provides the necessary up-front capital and is generally repaid by a State or local government in a series of installments funded by taxes, fees, or tolls.
- With **design–build–finance–operate–maintain (DBFOM)** projects, the private partner additionally agrees to perform operations and carry out maintenance on the highway for a specific period.

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The use of public–private partnerships (P3s) marks a shift away from traditional ways of procuring and financing highway projects. Under traditional procurement processes, private contractors construct projects based on a public design by using public funding. The projects are then operated and maintained by public agencies. With the P3 model, a private partner may participate in some combination of design, construction, financing, operations, and maintenance, including the collection of toll revenues (see Table 1).

Three main types of P3s have been used for highway projects in the United States:

1. Design–build (DB).
2. Design–build–finance (DBF).
3. Design–build–finance–operate–maintain (DBFOM).

These types of P3s are discussed in this fact sheet. Although the term *public–private partnerships* may be applied to a range of contract types—as well as to the lease of existing assets—the focus of the Federal Highway Administration’s (FHWA’s) Office of Innovative Program Delivery is on DBFOM projects, that is, P3s



Interstate 595 Raising Ramp.

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that involve private partners that design, build, finance, operate, and maintain new highway capacity over a long term.

### Design–Build Projects

DB projects are the most common type of P3. They are set up as fixed-price contracts between a private entity and a public agency to jointly manage the design and construction of a new roadway facility. Under such an arrangement, the private party accepts most or all of the risk of any increase in costs associated with the project’s design, eliminating a common source of “change orders” that add to the cost of traditional design–bid–build projects. Having the same party design and construct the project allows

Table 1. Key Differences Between Conventional and P3 Procurement Approaches.

Conventional Projects (design–bid–build)	P3 Projects (design–build, design–build–finance, & design–build–finance–operate–maintain)
• Public sector burdened with all risks.	• Risks shared between public and private partners.
• Succession of separate (and multiple) contracts.	• Integration of two or more project phases.
• Public financing.	• Private financing (except design–build).
• Lowest bidder.	• Best-suited bidder.

the DB contractor to propose innovations in design that may result in construction savings or better value. Financing is provided by the public partner and comes from tax revenues or direct user charges, such as tolls. The public partner retains ownership of the highway and control of its financing, operations, and maintenance. According to *Public Works Financing (PWF)*, a monthly newsletter that has reported on P3s for roughly 25 years, 79 DB transportation projects valued at \$50 million or more were undertaken in the United States between July 1989 and September 2012, including three that also involved operations.

### Design–Build–Finance Projects

The same type of contract that is used for a DB effort can be used in a DBF arrangement, except that in this case, the private partner provides the necessary up-front capital and is generally repaid by a State or local government in a series of installments funded by taxes, fees, or tolls. *PWF* indicates that between July 1989 and September 2012, eight DBF (or build–finance) projects valued at \$50 million or more were undertaken in the United States. DBF projects are typically short-term financing arrangements, ending 5–7 years after construction. They spread out payments for a large project in order to make them more affordable.

### Design–Build–Finance–Operate–Maintain Projects

The broadest private role encompasses the elements of the DBF structure but also includes operations and maintenance performed by private firms. These types of partnerships use the same kind of contract as that used for DBF projects, except that in this case, the private partner agrees to perform operations (e.g., the removal of snow and debris and the collection of tolls) and carry out maintenance on the highway for a specific period. Long-term operation by the same party can provide incentives



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Port of Miami Tunnel Entry.

for better life-cycle cost management. Under traditional procurement, the construction contractor is not required to consider ongoing maintenance costs or difficulty. With a long-term DBFOM, the concessionaire has incentives to spend more up front on construction if there will be a payback in reduced maintenance costs over the life of the project.

The contract spells out how the private partner is to be repaid for up-front and ongoing expenses. Repayments are often made through future tolls or other fees imposed on users of the road. Alternatively, *availability payments* or *shadow tolls* funded by State or local governments may be used to repay the private partner. The payments may be funded by receipts from toll collections and/or taxes that are not linked directly to the use of the road. Availability payments are periodic payments from the public partner to the private partner based on the availability of a facility at the specified performance level. Shadow tolls are set payments for each vehicle that uses the facility, which may be adjusted based on safety, congestion, or pre-established floors and ceilings.

DBFOM projects are sometimes called *build–own–operate–transfer (BOOT)* partnerships if the private partner owns the road during the term of the agreement but then transfers ownership to the public partner at the end of the term. *PWF* indicates that between July 1989 and September 2012, P3s undertook 13 DBFOM projects in the United States valued at \$50 million or more.



### PROGRAM AREAS OF THE OFFICE OF INNOVATIVE PROGRAM DELIVERY

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#### PROJECT FINANCE

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#### 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., concessions, 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. Most surface transportation projects—highway, transit, railroad, intermodal freight, and port access—are eligible for assistance.



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