



How Public Private Partnerships Can Create Real Value in Water Projects

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Cadagua's Valdelentisco desalination plant



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cadagua

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agroman

 **Pepper**
Construction

The Ferrovial Group

Development Over The Entire Infrastructure Lifecycle

INFRASTRUCTURE DEVELOPMENT

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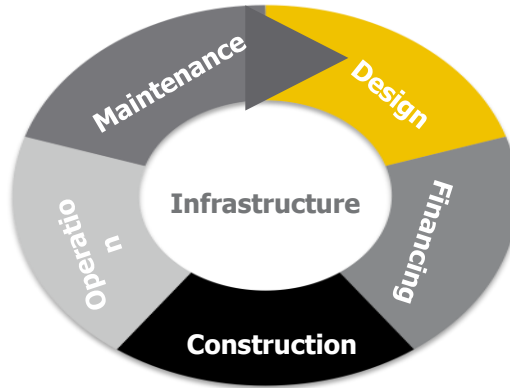
- Leader in transportation development. 47 years of experience
- Investor in greenfield and brownfield assets
- Manage 28 Concessions in 10 countries (\$23 billion of managed investment)
- North American Infrastructure Developer of the Year (2013)

SERVICES

ferrovial

services

- Municipal services and waste management
- Facility management
- Infrastructure maintenance
- Focus on intelligent cities, waste reuse and energy efficiency
- Broad spectrum (acquisition)



CONSTRUCTION

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- Civil engineering
- Webber - TX Construction
- 80 years of construction experience
- Specializing in large and complex projects
- Cadagua water
- ENR US Transportation Ranking: #7 (2015)

AIRPORTS

ferrovial

airports

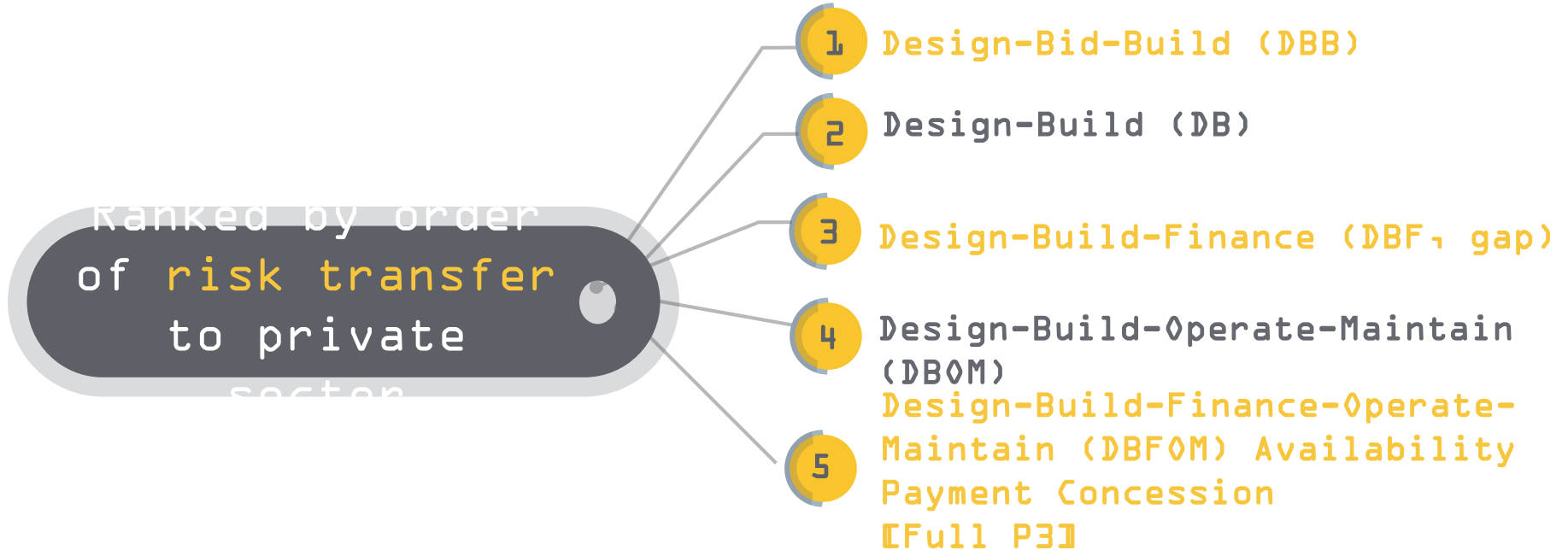
- Largest private investor in airports
- Manages 5 airports, including Heathrow
- 87 million passengers per year

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Infrastructure Delivery Methods



Design-Bid-Build (DBB) [non-P3]

- Owner hires designer
- Owner/designer develop program and complete documents
- After the project documents are completely designed, they are put out to bid with prequalified GCs
- Low bidder is usually selected
- Communication is directed through the designer to the owner

Advantages

- Owner has greatest control over the design and construction
- Widely accepted, well understood, and has well-established and clearly defined roles for all parties
- Well suited for uncomplicated projects with straight forward objectives and adequate time
- Public retains major project risks including: design, schedule, costs, operations, revenue and finance. Little to no risk transfer to private sector

Disadvantages

- Change orders and claims (time and money) are more likely with DBB. [On average 18% late and 18% over budget]
- No ability to integrate and lower life-cycle costs
- No innovation/ATCs vs. P3 or DB

Design-Build (DB) [non-P3]

- Owner hires a Design-Build team
- Design-Build team is responsible for the delivery of the project
- Fixed-price, date-certain contract is established
- Public sector finances the project through issuance of provincial debt and public subsidy

Advantages

- Single point of accountability
- Transfers the majority of design & construction risk to private sector - less change orders than DBB method
- Reduces project oversight

Disadvantages

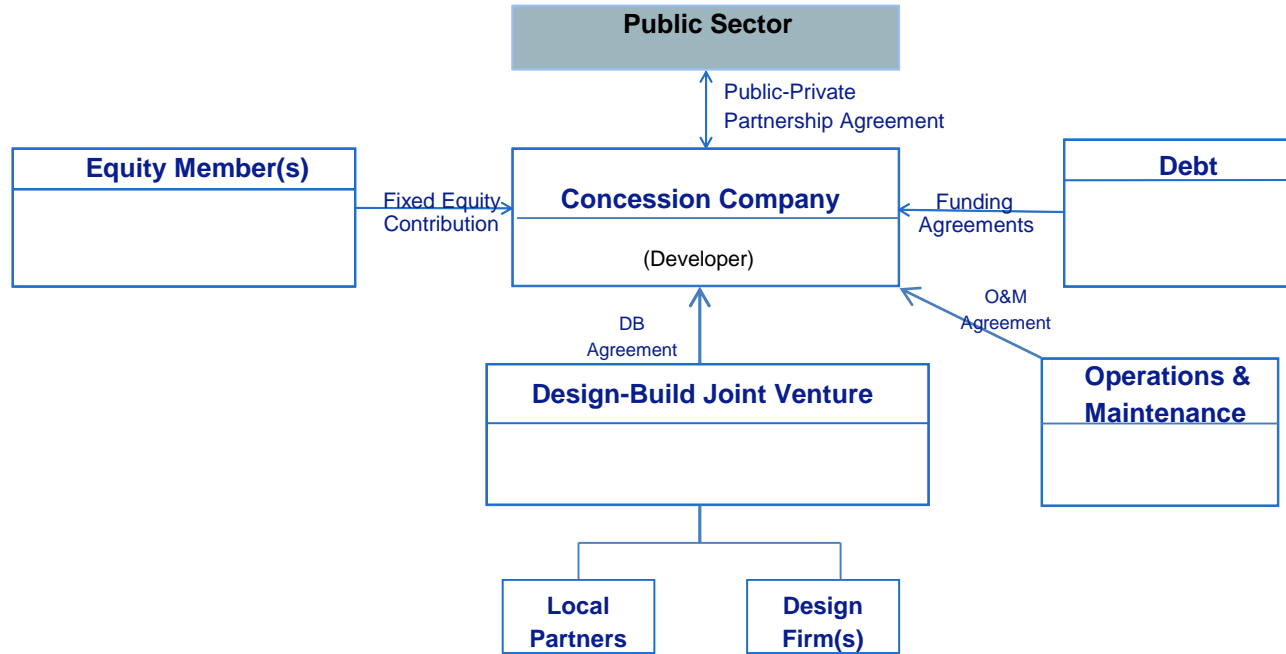
- No incentive to reduce traffic congestion, lower cost or provide improved customer service
- Public sector retains risk for OM&R + demand risk
- Limited ability to integrate and lower life-cycle costs
- Lower quality innovation/ATCs vs. P3
- Construction contract is subject to change orders (time and cost) [On average 11% late and 6% over budget]

What is a Public Private Partnership?

A Public Private Partnership involves the public and private sector partnering to share the risk and rewards of services traditionally delivered by the public sector

- No two P3s are identical. P3s are tailored to meet the public agency's financial, policy and operational goals.
- A P3 is *not* an outright sale of a public asset. The public agency maintains ownership of the asset and sets operational, maintenance and safety standards.
- At the end of the concession the asset is handed back to the owner with preset hand-back criteria.
- Can be structured to protect Public sector jobs.

Typical PPP Structure



P3s Transfer Risk to the Private Sector

The Heart of a P3

Risk	Design-Bid-Build	Design-Build	DBFOM - P3 (Availability)
Scope Changes (owner requested)	Public	Public	Public
Environmental Approvals	Public	Public	Public
Permits & Approvals	Public	Shared	Shared
Right of Way	Public	Public	Shared
Utility Relocation	Public	Shared	Shared
Rail Relocation	Public	Public	Public
Design (errors & omissions)	Public	Private 80/20	Private
Ground Conditions	Public	Shared	Shared
Environmental Contamination (pre-existing & unknown)	Public	Public	Shared
Construction Delays	Shared	Private 80/20	Private
Construction Cost Overruns	Shared	Private 80/20	Private
Labor Disputes	Public	Private	Private
Quality Assurance/Control	Public	Shared	Private
O&M + CapEx/Life-cycle	Public	Public	Private
Financing	Public	Public	Private
Interest Rate/Credit Spread	Public	Public	Public
Changes in Law	Public	Public	Shared
Force Majeure	Public	Shared	Shared

Key Benefits of P3s Versus DB Procurement

Risk Transfer to Private Sector	Infrastructure projects have significant risks including construction, design, revenue, utilities, funding and O&M. A P3 provides the public sector with a valuable insurance policy against these and other risks.
Increased Innovation	P3 delivery will yield significantly more innovation savings through superior ATCs, an emphasis on performance specifications and a whole-life costing approach.
Project Acceleration & Funding	With accelerated funding from private partners, projects can be put in place years ahead of when they might otherwise be, providing needed transportation improvements sooner and reducing inflationary costs.
On Budget & On Time	P3s have a history of significantly lower contractor change orders for cost and time. These benefits are driven largely by the fixed-price, date-certain construction contract, and the oversight role of the private sector financing.
Superior Customer Service & Guaranteed O&M + Lifecycle	P3s motivate the concessionaire to reduce congestion and deliver superior customer service. P3 projects are typically better maintained than conventional projects since the concessionaire is subject to both contractual standards and market pressures.

Water PPP Case Study

Santa Paula Water Recycling Facility

Capital Cost	\$62 million
Opening Date	May 2010
Design & Construction cost savings	\$18 million or 15%
O&M cost savings	\$1.8 million per year
Delivery	7 months ahead of schedule
Facility Footprint	Reduced by 70%
Energy Consumption	30% savings

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