Transportation Infrastructure: The Next Generation of Public-Private Partnerships

Deeper Partnerships that Align Incentives and Reduce Risk

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Huge Transportation Investments Needed

- The American Society of Civil Engineers reports that America needs $265 billion to replace and upgrade existing transportation infrastructure.

- Cities and regions must build new infrastructure to attract business, support population growth, and offer address future transportation needs.

- Even without the recession, and if voters were in a mood to support large public capital outlays, we could still benefit from private investment to meet infrastructure needs.
Public-Private Partnerships for Infrastructure Development

- Public-private partnerships (P3s) are becoming more common throughout the world.
- The relevant P3 model is Design-Build-Finance-Operate (DBFO).
- A private partner designs, builds, and finances an infrastructure project.
- The public partner grants concession rights to operate and collect tolls to pay for costs and a reasonable rate of profit.
The US P3 Experience So Far (Toll Roads)

More than a dozen significant P3s, but a very high failure rate:

- **Bankrupted:**
  - Camino Columbia Toll Road (Texas)
  - SR-91 Express Lanes (Los Angeles)
  - South Bay Expressway (San Diego)
  - Pocahontas Parkway (Washington D.C.)
  - Several more are in trouble

- **Results:**
  - Opportunistic politics
  - Public buyouts of concessions worth hundreds of millions to taxpayers
France and Spain started doing highway P3s in the early 1960s

A high rate of P3 failure
- Buyouts were common
- A tremendous amount of public subsidy to private financiers
- Politics dictated a series of flip-flops from P3 finance, to public finance, and back to P3

The 50-year experience of France and Spain is similar to what is happening in the US today. Same mechanisms, same results.
Fundamental Problems

- **Poor planning**
  - Ill-defined frameworks for risk allocation.

- **No ability to deal with traffic risk and economic recessions**
  - Recession will happen over the course of 30-50 years. We don’t make provisions for them.

- **Bad systems for public subsidy**
  - Concessions in failure don’t have buyers other than the public sector.
  - Why is there no middle ground between outright purchase of the concession and keeping the private partner in operation with smart subsidy?
Bad Tools in the Traditional P3 Model

- **Uncompetitive Bidding Process**
  - Ineffective checks on important deal terms

- **Traffic estimation is highly inaccurate**
  - Traffic drops during recessions and private partners can’t collect enough tolls to pay their debt.
  - When traffic is overestimated, private partners can’t pay their debt.
  - When traffic is underestimated, private partners make more than a reasonable profit.

- **Fixed-term operating contract**
  - The private partner can’t pay all their debt if their operating contract is too short and traffic is lower than expected.
  - Contracts that are too long don’t keep up with demographic and technological change. They block progress.

- **Arcane finance**
  - Higher-risk debt, too much debt, messy ownership transfers, defaults, bankruptcies
In the late 1990s, France and Spain overhauled their broken P3 systems. Chile was just starting P3s, but took cues from France and Spain.

**Major areas of reform:**
- **Procurement** – new legal frameworks to allocate risk, introduce competition
- **Public financing tools** – income guarantees and debt financing to keep private partners in place
- **Flexible contracts** to deal with traffic drops from recessions

**Selected highlights in the slides to follow**
Procurement Reforms - France

France – thorough system of checks on quality and contract health

- **Highly structured bids**: RFP, pre-qualification, bidding, detailed face-to-face negotiations

- **Scheduled renegotiations every 5 years** for contract maintenance

- **Extensive detail on contract parameters**, incl. social and environmental clauses, similar to utility regulation.
Procurement Reforms - Spain

- **Risk management** based on four legal principles:

1. **The private sector** takes on most **market risks**

2. **The public sector** takes on most **non-market risks**

3. **Risks mitigated by the public sector should not negatively impact the public sector budget.** Subsidies can be considered, but most mitigation involves changes to toll levels and concession length.

4. **Risk is understood to be symmetrical** and either favoring the public or private partner. If a risk is not held by one partner, it is held by the other.

No risks are legally treated as outside the scope of the contract.
Financing Reforms - Spain

- **Subordinated Public Participation Loans**
  - Loans act like junior debt
    - **Lower interest rate**, repaid only after private senior debt (favors private partner)
    - **Interest rate varies with project performance** (favors public)
    - Limited to >50% of total debt (favors public)

- **Purpose:**
  - Make projects viable that can’t be fully supported by the market
  - **Give private partners a buffer** against low performance by lowering their debt service
The solid black line shows interest paid. Where the line is parallel to the x-axis, interest owed is based on loan principal; where it is not, interest owed is based on traffic. Base rate is 1.75%.

Finely dotted represent the dollar amounts paid associated with each way of calculating interest. Band A adds 15% of traffic revenues; Band B 35%.

The solid line is kinked where one way of calculating interest overtakes the other in value.
We can think of concession contracts as two variables: contract length and amount of revenue.

- The traditional model fixes the contract length and lets revenue vary.

- Spain & Chile let the contract length vary, while the revenues are fixed to an original bid.
  - Contracts end on a trigger instead of a pre-defined end
  - Variable length helps the private side cover debt service when traffic is very low and prevents outsized private gain when traffic is very high
Spain – Accumulated Present Value of Revenue Contracts

Low Traffic Case

- The contract does not end until accumulated revenues are equal to the Bottom Band.
- The private partner retains some downside risk, but not what it would if term ended as predicted.
- The Top and Bottom Bands are risk-based guidelines for setting toll rates.

If revenues are much lower than expected, the operating term is extended.
The contract ends when real accumulated present value revenues equal the top band (same height on APVR axis).

Private partner retains some upside, but not what it would if term did not end early.
Chile - Revenue Distribution Mechanism

- Converted fixed-term contracts to variable to let private partners survive a severe recession (1998-2002) that sunk traffic and threatened private partners’ finances.

- Guaranteed contract until revenues achieved are 3.5%-4.5% above predicted traffic.

- Requires private capital investments equal to the guarantee minus the predicted traffic.

- Effectively eliminates private risk in exchange for capital improvements
What the Old Generation Gets Wrong

1. A concession that cannot be flexible with respect to traffic risk will be more prone to failure.

2. A concession that is financially overleveraged will be more likely to fail when traffic falls.

3. Infrastructure asset markets are not competitive enough to provide ready buyers for failed/failing concessions, so the public partner is the only potential workout option.

The result: public partners are highly exposed to opportunistic contract renegotiations or buyouts. They now have to pay for the infrastructure they could not.
What the New Generation Gets Right:

1. Well planned projects with realistic parameters due to competitive bidding
2. Smart tools for public subsidy
3. Projects can withstand dips in traffic

- The result:
  - Risks are reduced between the partners instead of just allocated
  - Less renegotiation and opportunism
  - A “deeper” form of P3