Understanding Public-Private Partnerships

National Governors Association Illinois Policy Retreat
Chicago, IL
June 9-10, 2014

Jonathan L. Gifford, Ph.D., Director
Center for Transportation Public-Private Partnership Policy
George Mason University School of Public Policy
jgifford@gmu.edu / 703-993-2275 / p3policy.gmu.edu / #p3policy
Presentation Outline

• Background
  – Surface Transportation: Funding Models for Highways
  – Issues with the Traditional Highway Funding Model

• What are Public–Private Partnerships (P3s)?
  – Procurement Model
  – Project Arrangement
  – Economic Rationale
  – Advantages & Disadvantages
  – Project Evaluation
  – Financing P3s
  – Types of Government Support for Financing P3s
  – Project Risks

• US P3 Market Condition

• P3 Case Studies

• Critical Policy Discussion
Surface Transportation: Funding Models for Highways

Revenue sources

• User fees
  – Excise tax on gasoline: Highway Trust Fund
  – Federal – 18.3 cents/gallon
  – Some states have their own gasoline taxes
  – Car registration fee (state)
  – Tolls (state / project)

• Non-user fees
  – Sales tax, etc. (state)

• Debt-Financing: Bonds issued by state and local governments
  – Tax-exempt municipal bonds
  – Various bond products (Private Activity Bond, GARVEE, ARRA, etc.)

• Debt-Financing: Loans for state and local governments
  – Transportation Infrastructure Finance and Innovation Act (TIFIA) loan
  – State Infrastructure Bank loans
  – Private loans

• Equity investors
Issues with the Traditional Highway Funding Model

**Funding Crisis:**
- Increasing costs of construction
- Aging infrastructure = increasing costs of maintenance / renewal
- Improving fuel efficiency (e.g. electric vehicles do not pay a dime for the roads they use)
- Political inability to raise gas tax

---

**Highway Trust Fund Balance and Deficit Projection, 1957-2019**

![Chart showing highway trust fund balances and deficit projections from 1957 to 2019.](http://www.fhwa.dot.gov/highwaytrustfund/)

---

**Source:** [http://www.fhwa.dot.gov/highwaytrustfund/](http://www.fhwa.dot.gov/highwaytrustfund/)

What are Public –Private Partnerships (P3s)

An emerging procurement model to address issues of public provision model

• P3s: long-term contractual agreement between public and private partners to provide services traditionally done by the governments

• A wide range of P3 contract types have been used
  – Design-Build
  – Design-Build-Finance
  – Design-Build-Operate-Maintain
  – Design-Build-Finance-Operate-Maintain
  – Build-Operate-Transfer
  – Lease, etc.
- U.S. Non-Military P3 Projects underway or Completed, 1986 -2013

Source: Public Works Financing
- Types of US P3 projects that reached financial close, 1986-2013

Source: Public Works Financing

- Water/Wastewater: 50
- Airport: 23
- Building: 60
- Miscellaneous: 5
- Motorway: 63
- Parking: 5
- Rail: 30
- Seaport: 8
- Toll bridge: 16
- Toll motorway: 46
- Toll tunnel: 4
- Water: 43
- Wastewater: 101
P3s: Economic Rationale

• Bundling of project components – reduce life-cycle costs
  – Example: pavement (upfront costs ↑ life-cycle costs ↓)

• Allocation of project risks to the parties best able to manage

Risk allocation example:

<table>
<thead>
<tr>
<th>Risk</th>
<th>Govt</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Environmental permitting</td>
<td>x</td>
<td>?</td>
</tr>
<tr>
<td>Construction cost</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Geotechnical</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Construction schedule</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Revenue (demand)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Land acquisition</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Force majeure</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Political risk</td>
<td></td>
<td>?</td>
</tr>
</tbody>
</table>
P3s: Advantages & Disadvantages

Advantages

• Cost saving through innovative practices of the private sector
• On-budget, on-time delivery
• Utilization of private financial resources

Disadvantages

• Substantial transaction costs
  – Legal, financial and technical consulting service fees
  – Higher interest costs in cases of private debt-financing
• Complexity makes the projects more prone to risks
Readiness for Successful P3 Implementation

Factors for successful P3s (OECD Action Points)

• A credible pipeline of robust projects
• A legal and regulatory framework that commands confidence
• A capable public interface with the private operator
• Political will to use private sector operators
• Strong investor protection
• Project assessment and appraisal norms that focus on value for money
• Transparent budgeting practice to minimize sovereign fiscal risk
P3s: US State of Affairs – Market Conditions (Cont)

*Source: Federal Highway Administration Office of Innovative Program Delivery (retrieved: June 2014)
Evaluating Project Procurement Alternatives

- Value-for-Money (VfM) Analysis (Public Sector Comparator)
  - Compares the costs for public provision and P3 arrangement scenarios
  - VfM calculation enables the selection of the best method of project delivery among alternatives (i.e., traditional procurement vs. P3)
  - P3 agencies base their recommendations on a value for money basis: e.g., can the private sector better manage project’s risks?
  - Not standardized in the US yet

- Limitations of VfM
  - Doesn’t recognize benefit of early delivery (instead Benefit-Cost Analysis is used)
  - Doesn’t recognize limited public budgets
P3s Are Not Free Money: Financing P3s

Revenue Sources
• Direct User Charges (Tolls, Transit Fares, User Fees)
• Shadow Tolls
• Public Subsidies
• Availability Payments

Debt & Equity Sources: repaid through revenue sources
• Private shareholder equity
• Non taxable bonds (private activity bonds)
• Taxable bonds
• Bank debt (senior and/or subordinate)
• State infrastructure bank loans
• Federal loans (TIFIA)
Types of Government Support for Financing P3s

Equity participation

• Direct or indirect government contribution to a project

• Assures public involvement in a project, supporting its implementation and operation

• Helps achieve a more favorable debt-equity ratio when other sources of equity capital are not available or limited
Types of Government Support for Financing P3s

Government loans
- Loans with favorable terms to reduce financing costs
- Example: TIFIA
  - Subordinated loans to transportation projects with dedicated funding sources (e.g., tolls), but might not be fully financeable without assistance
  - Can account for no more than 49% of the project cost

Other policy tools
- Performance guarantees (e.g., revenue guarantee)
- Tax benefits
- Protection from competition (e.g., non-compete clause)
- Debt guarantee programs (e.g., infrastructure banks)
P3 Project Risks

Broader Sets of Risks for the Developer/Contractor

• Political
  – Project politicizing / approval risk
  – Changes in law (e.g., environmental regulation)
  – Changes in elected leaders
  – Lawsuits

• Capital Expenditures
  – Project schedule overrun
  – Inflation / material and labor costs

• Revenue
  – Lower than projected traffic and toll revenue/income

• Operation & Maintenance (O&M)
  – Performance risk
  – Operating cost overrun

• Financing
  – Spread between O&M and revenue growth rates
P3 Project risks (Cont)

Project Development Cycle
Risk vs. Reward

PSs: Case Study I: I495 Capital Beltway Express Lanes Project

- Original concept: a study by VDOT of HOV lanes (1994)
  - Excessive costs: $2.68-3.25B, 170 acre of right of way to displace 300 residences, 32 commercial properties and 8 public parks
  - Not approved
- Fluor Corporation: unsolicited proposal of HOT lanes, less costly design features
- 14-mi stretch of Express Lanes, $1.7B total cost
- Design-Build-Finance-Operate-Maintain
- 75 year concession
- Construction
  - Construct Express Lanes
  - Rebuild existing 14-mile freeway, over 50 bridges and overpasses, and upgraded 12 key interchanges
  - Completed on-time, on-budget
- Began operation in November 2012
- Lower than projected traffic in the 1st year: projected 66K/weekday vs. actual 37K/weekday
- Traffic level increasing (2014 2nd Quarter 36.3% higher than 2013 2nd Quarter), average 38K workday trips,
P3s: Case Study II – VA SR895 Pocahontas Pkwy

- Original concept: developed in 1980s but no available funding then
- Concept developed in 1980s but no funding
  - Design-Build-Finance-Operate-Maintain
  - 8.8-mi highway with a 675’-high bridge
  - $354M tax exempt bond issued by the non-profit project company (a “63-20” corporation), with toll revenue dedicated for repayment
- Opened in 2002, but traffic and revenue was lower than projected
- Transurban submitted an unsolicited proposal in 2004 for a 99-yr lease, total funding of $611M
- In June 2012, Transurban wrote down the asset value to zero, after severe losses

Source: www.pocahontas895.com
Critical Policy Discussions: How are P3s Actually Doing?

Both successes and failures:

• Are they really achieving value for money?
• Failures (e.g. bankruptcy) are more visible than successful continuing operation
• Small Number of US P3 concessions that have reached maturity
• Comprehensive analysis is difficult : US P3 market highly fragmented
  – Diverse legal & Policy Institutions across states
• Relationships between the states’ P3 institutions and their usage of P3s
Summarize: Readiness for Successful P3 Implementation

Factors for successful P3s (OECD Action Points)

• A credible pipeline of robust projects
• A legal and regulatory framework that commands confidence
• A capable public interface with the private operator
• Political will to use private sector operators
• Strong investor protection
• Project assessment and appraisal norms that focus on value for money
• Transparent budgeting practice to minimize sovereign fiscal risk
Center for Transportation Public-Private Partnership Policy at George Mason University School of Public Policy

• Conducting P3 Case Studies
• White Papers
  – Research & policy issues white paper
  – Best practices white paper
• Co-sponsoring National Conference on P3s
• Planning Graduate & Executive Education Activities
• Conference Participation & Outreach Activities
• Center Website: p3policy.gmu.edu
For more information:

Jonathan L. Gifford, Ph.D., Director
Center for Transportation Public-Private Partnership Policy
George Mason University School of Public Policy
3351 Fairfax Drive, Arlington, VA 22201 USA
jgifford@gmu.edu / +1(703)993-2275

Visit p3policy.gmu.edu
Follow #p3policy