RENEGOTIATION OF TRANSPORTATION PUBLIC-PRIVATE PARTNERSHIPS:
THE U.S. EXPERIENCE

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Roundtable
Public Private Partnerships for Transport Infrastructure:
Renegotiations, how to approach them and economic outcomes

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Presentation Outline

• Defining P3 renegotiations
• Theoretical perspectives
• U.S. P3 Market Overview
• Highway P3s and renegotiations in the U.S.
• Six case studies on highway P3 renegotiations in the U.S.
• Discussion
• Conclusions
• Q&A and general discussion
Defining P3 Renegotiations

Concept

Modifications to P3 contractual agreements involving associated legal processes, including but not limited to:
- Changes in tariff arrangements, service requirements
- Buy-outs of the private consortium
- Bankruptcy filings

Analysis

- Public concern about rent seeking and opportunism
- No clear test to evaluate motives (opportunism, external shocks, contract complexity, and winner’s curse)

Gifford et al., Renegotiation of PPPs (2014)
Theoretical Perspectives (1)

Opportunism and Exogenous Changes

Renegotiation occurs as one of the parties aims to extract rents opportunistically, taking advantage of the incompleteness of the contract

Renegotiation occurs as one or both parties aim to adapt the original contract to current unexpected exogenous events

Variables

Public:
- Change of leadership (‘roving bandit,’ political contestability)

Private:
- Experienced with renegotiations

Variables

Macroeconomic variables
- Inflation (consumer, producer)
- Economic growth (stagnation)
- Unemployment
- Interest rates

Gifford et al., Renegotiation of PPPs (2014)
Theoretical Perspectives (2)  
Contract Complexity and Winner’s Curse

P3s are common for complex projects, which may exacerbate uncertainty, and trigger renegotiations

Renegotiation occurs when, in the presence of uncertainty, the winner is the bidder with the most optimistic expectations

Variables

- Design (length, bridges/tunnels)
- Contract design (type, duration)
- Experience (novelty of the P3s)
- Political env. (ethnic fractionalization)
- Institutional env. (state management capacity and regulatory body)

Variables

- Process to award the P3
- Number of bidders
- Bids

Gifford et al., Renegotiation of PPPs (2014)
U.S. P3 Market Overview

33 States, 1 Territory with Enabling Legislation

Source: U.S. Federal Highway Administration Office of Innovative Program Delivery (retrieved: June 2014)

Gifford et al., Renegotiation of PPPs (2014)
U.S. P3 Market Overview – Historical Number of Projects

**Number of P3 Financial Closes in the U.S. 1988-2013, Transport and All Sectors**

- **Transportation**
- **Total**

Source: Public Works Financing

Gifford et al., Renegotiation of PPPs (2014)
Sectors of U.S. P3 projects that reached financial close, 1986-2013

Water/Wastewater (50)
Water (43)
Wastewater (101)
Toll motorway (46)
Toll tunnel (4)
Toll bridge (16)
Seaport (8)
Rail (30)
Parking (5)
Motorway (63)
Miscellaneous (5)
Building (60)
Airport (23)

Source: Public Works Financing

Gifford et al., Renegotiation of PPPs (2014)
Geographic Distribution of Highway P3s in the U.S.

Puerto Rico not shown. Source: Public Works Financing and InfraDeals

Gifford et al., Renegotiation of PPPs (2014)
Location of Highway P3 Renegotiations in the U.S.

Source: Public Works Financing and InfraDeals

Gifford et al., Renegotiation of PPPs (2014)
History of Highway P3 Renegotiations in the U.S.

Cumulative Highway P3 Projects (total and renegotiation) by financial close, 1993-2014

Source: Public Works Financing and InfraDeals

Gifford et al., Renegotiation of PPPs (2014)
## The 6 Case Studies Under Analysis

- **California**
  - SR 91 Express Lanes (SR19)
  - South Bay Expressway (SBX)
- **Indiana**
  - Indiana Toll Road (ITR)
- **Virginia**
  - Dulles Greenway (DG)
  - Pocahontas Parkway (PP)
  - Downtown Tunnel / Midtown Tunnel / MLK Extension or Elizabeth River Crossings (ERC)

### Table: Case Studies Under Analysis

<table>
<thead>
<tr>
<th>State</th>
<th>P3 Highways</th>
<th>P3 Highways with renegotiations</th>
<th>Cases Under Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>California</td>
<td>4</td>
<td>2</td>
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<tr>
<td>Colorado</td>
<td>2</td>
<td>1</td>
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</tr>
<tr>
<td>Florida</td>
<td>13</td>
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<tr>
<td>Georgia</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Indiana</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Michigan</td>
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<tr>
<td>New Mexico</td>
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<tr>
<td>North Carolina</td>
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</tr>
<tr>
<td>South Carolina</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Texas</td>
<td>10</td>
<td>4</td>
<td></td>
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<tr>
<td>Virginia</td>
<td>6</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>45</strong></td>
<td><strong>18</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

Source: Public Works Financing and InfraDeals

Gifford et al., Renegotiation of PPPs (2014)
## Case Study 1 – SR 91 Express Lanes (SR91)

<table>
<thead>
<tr>
<th>Concessionaire</th>
<th>Level 3 Communications, Vinci Autoroute, &amp; Granite Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial close</td>
<td>1993</td>
</tr>
<tr>
<td>Facility Open</td>
<td>1995</td>
</tr>
<tr>
<td>Revenue source</td>
<td>Toll</td>
</tr>
<tr>
<td>Contract type</td>
<td>DBFOM</td>
</tr>
<tr>
<td>Original cost (US$)</td>
<td>88.3 million (1990)</td>
</tr>
<tr>
<td>Constructed Length</td>
<td>10 miles (16.1km)</td>
</tr>
<tr>
<td>Bridge / Tunnels</td>
<td>No / No</td>
</tr>
</tbody>
</table>

### Renegotiations

- 2003: OCTA purchases the project for $341.5M to eliminate non-compete clause, after attempts to breach the contract by the public sector

Los Angeles, California

Gifford et al., Renegotiation of PPPs (2014)
Case Study 2 – South Bay Expressway (SBX)

<table>
<thead>
<tr>
<th>Concessionaire</th>
<th>PB, Egis Projects, Fluor Daniel, Prudential Bache; then Macquarie</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial close</td>
<td>2003</td>
</tr>
<tr>
<td>Facility Open</td>
<td>2007</td>
</tr>
<tr>
<td>Revenue source</td>
<td>Toll</td>
</tr>
<tr>
<td>Contract type</td>
<td>DBFOM</td>
</tr>
<tr>
<td>Original cost (US$)</td>
<td>400 million (1990)</td>
</tr>
<tr>
<td>Constructed Length</td>
<td>12.7 miles (20.4 km)</td>
</tr>
<tr>
<td>Bridge / Tunnels</td>
<td>Yes / No</td>
</tr>
</tbody>
</table>

San Diego, California

Renegotiations

- 2010: SPV files for bankruptcy (Chapter 11)
- 2011: Exits bankruptcy. MIG equity to zero. Owners are lenders, incl. USDOT
- 2011: SANDAG purchases part of the equity share.

Changes in USDOT’s stake in the project:

Pre2011: $140M TIFIA debt & $32M in capitalized interest
Post2011: $6M equity & $93M debt obligation from toll revenues, 32% ownership

Gifford et al., Renegotiation of PPPs (2014)
## Case Study 3 – Indiana Toll Road (ITR)

<table>
<thead>
<tr>
<th><strong>Concessionaire</strong></th>
<th>Cintra &amp; Macquarie</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial close</strong></td>
<td>2006</td>
</tr>
<tr>
<td><strong>Operation began:</strong></td>
<td>2006</td>
</tr>
<tr>
<td><strong>Revenue source</strong></td>
<td>Toll</td>
</tr>
<tr>
<td><strong>Contract type</strong></td>
<td>DBFOM + OM</td>
</tr>
<tr>
<td><strong>Original cost (US$)</strong></td>
<td>3,778 million (2006)</td>
</tr>
<tr>
<td><strong>Constructed Length</strong></td>
<td>10 miles (16 km) to build &amp; 150 miles (240 km) to maintain</td>
</tr>
<tr>
<td><strong>Bridge / Tunnels</strong></td>
<td>No / No</td>
</tr>
</tbody>
</table>

### Renegotiations

- 2006: “Toll freeze” until electronic tolling in place in exchange for $60 million. Reduction in investment obligations
- 2007: Reduction in investment obligations to build a toll plaza.
- 2008: Reimbursement of $60 million due to electronic tolling
- 2010: Delays on investment obligations (1.5 miles – 3 years; 3.4 miles – 1 year)
- 2014: ITR filed for bankruptcy (Chapter 11)
## Case Study 4 – Dulles Greenway (DG)

<table>
<thead>
<tr>
<th><strong>Concessionaire</strong></th>
<th>Shenandoah Group, Kellogg Brown &amp; Root</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial close</strong></td>
<td>1993</td>
</tr>
<tr>
<td><strong>Facility Open</strong></td>
<td>1995</td>
</tr>
<tr>
<td><strong>Revenue source</strong></td>
<td>Toll</td>
</tr>
<tr>
<td><strong>Contract type</strong></td>
<td>DBFOM</td>
</tr>
<tr>
<td><strong>Original cost (US$)</strong></td>
<td>350 million (1993)</td>
</tr>
<tr>
<td><strong>Constructed Length</strong></td>
<td>14 miles (22.5km)</td>
</tr>
<tr>
<td><strong>Bridge / Tunnels</strong></td>
<td>Yes / No</td>
</tr>
</tbody>
</table>

### Renegotiations

- 1995: Owners defaulted on debt.
- 1997: Tolls increased and speed limit increased
- 1999: Debt restructured. Project modified (from 2*2 lanes to 3*3 lanes)
- 2001: Extension of concession period (+20 years)
- 2004: Change in tolls (variable peak and discounted off-peak point-to-point rates)
- 2005: Macquarie Infrastructure Group (MIG) buys it
- 2013: Mechanism to define tolls is changed (highest: CPI+1%, real GDP, or 2.8%).
# Case Study 5 – VA SR895 Pocahontas Pkwy (PP)

<table>
<thead>
<tr>
<th><strong>Concessionaire</strong></th>
<th>Fluor Daniel &amp; Morrison Knudsen</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial close</strong></td>
<td>1998</td>
</tr>
<tr>
<td><strong>Facility Open</strong></td>
<td>2002</td>
</tr>
<tr>
<td><strong>Revenue source</strong></td>
<td>Toll</td>
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<tr>
<td><strong>Contract type</strong></td>
<td>DBFOM</td>
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<tr>
<td><strong>Original cost (US$)</strong></td>
<td>381 million (1998)</td>
</tr>
<tr>
<td><strong>Constructed Length</strong></td>
<td>8.8 miles (14km)</td>
</tr>
<tr>
<td><strong>Bridge / Tunnels</strong></td>
<td>Yes / No</td>
</tr>
</tbody>
</table>

### Renegotiations
- **2006**: Transurban USA buys it, concession period is extended to 99 years and investment increases: 1.6 mile, four-lane road and electronic tolling
- **2012**: Transurban USA writes off equity but operation continues
- **2014**: Transurban USA transfers operations to DBi Services

Gifford et al., Renegotiation of PPPs (2014)
### Case Study 6 – Downtown Tunnel/Midtown Tunnel/MLK Extension or Elizabeth River Crossings (ERC)

<table>
<thead>
<tr>
<th>Concessionaire</th>
<th>Skanska &amp; Macquarie</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial close</td>
<td>2012</td>
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<tr>
<td>Facility Open</td>
<td>Expected 2017</td>
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<tr>
<td>Revenue source</td>
<td>Toll</td>
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<tr>
<td>Contract type</td>
<td>DBFOM</td>
</tr>
<tr>
<td>Original cost (US$)</td>
<td>2,089 million (2012)</td>
</tr>
<tr>
<td>Constructed Length</td>
<td>2.2 miles (3.5km)</td>
</tr>
<tr>
<td>Bridge / Tunnels</td>
<td>Yes / Yes</td>
</tr>
</tbody>
</table>

**Renegotiations**

- 2012: toll delayed in exchange for $100 million (2012)
- 2014: toll decrease in exchange for $82.5 million (2014)
Discussion

Opportunism

Evidence
Public:
- CA: SR91 – govt attempted to breach non-compete clause
- CA: Professional Engineers in California Governments’ alleged influence on SBX?
- VA: high contestability; possible source

Private:
- Concessionaires experienced with renegotiations

Problem:
- Evidence of opportunism limited
- Additional analysis is needed to evaluate the relationship between the variables and opportunism

Exogenous Changes

Evidence
- Economic growth and unemployment may have affected: DG, SBX, PP, partly ITR
- SBX may have been affected by sudden price increases in construction machinery manufacturing and iron and steel mills
- Interest rate changes affected DG and ITR

Gifford et al., Renegotiation of PPPs (2014)
## Discussion

### Contract Complexity

**Evidence**
- Technical complexity: high in SBX, considerable in other projects
- Novelty of the P3 model: SR91, ITR, DG, SBX, and PP
- Political viability (e.g., fiscal/tolling, environmental, civil rights concerns)
- VA strongest institutional environment
- Technical complexity, duration, and complicated political environment a potential problem for ERC

### Winner’s Curse

**Evidence**

ITR appears to have been subject to some degree of winner’s curse:
- Bidding process
- Four bidders
  - Cintra & Macquarie: $3.8 billion
  - Indiana Road Co LLC: $2.8 billion
  - Itinere I S.A.: $2.5 billion
  - Indiana TRP LLC: $1.8 billion

Gifford et al., Renegotiation of PPPs (2014)
Conclusions

• Factors associated with renegotiations in the U.S. P3 market:
  – External shocks: e.g., economic growth, inflationary pressures, and interest rate hikes (Dulles Greenway, South Bay Expressway, Pocahontas Pkwy, and Indiana Toll Road)
  – Contract complexity, due to the novelty of these type of projects
  – Political environment: e.g., resistance to private provision of public goods
  – Complex projects, with high uncertainty, difficult to account for in contracts

• No definitive evidence of opportunism.

• Winner’s curse effect may have been present in Indiana, given the gap between the winner’s bid and what others submitted.

• Government losses to date: South Bay Expressway may bring losses to TIFIA; Dulles Greenway 20-year term extension

• Further research needed
Expanding the evidence base, enhancing agency capacity, educating the workforce and community about P3s

For more information:

Visit us at: p3policy.gmu.edu

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