Public-Private Partnerships for Highway Infrastructure Scan Trip

June 2008

International Technology Scanning Program

Sponsors: FHWA, AASHTO, NCHRP
Outline

- Scan Trip Overview
- Host Nation PPP Program Characteristics
- Principal Findings
- Case Example
- Key Recommendations
Scan Trip Overview

Scanning Program

- Connects US highway & transportation officials with counterparts worldwide by:
  - Sending teams to visit host nations
  - Collecting information about international technologies/policies/practices
  - Disseminating lessons learned
  - Recommending actions that will have impacts
PPP’s for Highway Infrastructure

- US Highway Agencies Are Struggling to Fulfill:
  - Expansion,
  - Modernization, &
  - Restoration Requirements

- PPP’s Could Potentially Be Part of the Solution

- BUT Contemporary Familiarity with PPP’s for Highway Infrastructure in US Is Limited

- International PPP Experience Is More Mature
PPP Scan Trip

Purpose:
- Examine host nation programs, policies, practices
- Document lessons learned
- Recommend implementation actions

Major Issues of Interest
- Environment for PPP’s
- Procurement & Contracting
- O&M and Closeout
- Program Performance
Scan Trip Overview

PPP Scan Team

Bob Pieplow, Jeff Seiders, Roger Driskell,
Steve Gaj, Mike Garvin, Jan Brown,
Art Smith, Dusty Holcombe, Mike Saunders

Representing FHWA, CalTrans, IDOT, NCPPP, TxDOT, VDOT, Virginia Tech

8/7/2008 PPP Scan Trip
Host Nations

- Portugal
- Spain
- United Kingdom
- Australia
Itinerary

Scan Trip Overview

1. Lisbon, Portugal
2. Madrid, Spain
3. London, England
4. Sydney, Australia
5. Melbourne, Australia
6. Brisbane, Australia
PPP Scan Implementation Strategy

- Team member presentations
  - Multiple audiences
- Summary report
  - Submission in August
- Final report
  - Publication Winter 2008-09
- Scan technology implementation plan (STIP)
Host Nation PPP Programs

- **Similarities**
  - Network demands exceed conventional resources
  - Role in national/regional highway network
  - Institutional learning

- **Significant Differences**
  - Funding mechanisms
  - Procurement processes
  - Risk allocation & management
Differences – Funding Mechanisms

- **Portugal**
  - Real tolls or
  - Real tolls + shadow tolls

- **Spain**
  - Primarily shadow tolls

- **United Kingdom**
  - Direct payment mechanisms

- **Australia**
  - Real tolls
Differences – Procurement Processes

**Portuguese Process**

- **Two steps tendering process**
  - Advertising (JOUE)
    - Bids preparation: 4 months
  - Bids Presentation
    - Evaluation: 3 months
  - 2 bids short listed
  - Negotiation: 2 months
  - Contract Award
    - Requirements and contract terms: 1 month
  - Financial Closing

- **Portugal**
  - Evaluate bids and short-list 2 bidders
  - Negotiate & select preferred bidder

- **Spain**
  - “Open competition model”
  - Receive binding bids & select winner

- **United Kingdom**
  - Multi-stage competitive process
  - Negotiate & select preferred bidder from short-list

- **Australia**
  - Multi-stage competitive process
  - Negotiate & select preferred bidder from short-list
Differences – Risk Allocation & Management

- Portugal
  - Consider restructuring agreement when actual conditions differ from expected (market risks particularly)

- Spain
  - Re-balance contract if expected “economic-financial equilibrium” is not maintained
  - Sustained, material effect necessary

- United Kingdom
  - Robust, auditable allocation of risk
  - Limited regime to accommodate uncertainties & changes

- Australia
  - Private investors bear down-side market risks
  - Limited regime to accommodate uncertainties & changes
General Findings

- **PPP’s Small BUT Critical Percentage of National Roadway Networks**
  - UK: 3% of all roadways but **33% of all traffic** and 62% of freight

- **Significant Institutional Learning Has Occurred**
  - Opportunity for U.S. as a “late-mover”

- **Highway PPP Arrangements Are NOT Primarily Financial Transactions**
  - Rather, selected project delivery strategy based upon VfM

- **Highway PPP Arrangements Do NOT “Automatically” Require User Fees**
  - Various schemes utilized

- **Maximum Contract Period Observed Was 45-Years**
  - Most ranged from 30-40 years
Spain’s Motorway Concessions
General Findings

- **PPP’s Appear to Allow the Delivery of Projects Sooner**
  - All public agencies made similar claims compared to conventional route.

- **Change in Public Sector Mindset & Skills for PPP Programs Necessary**
  - UK Highways Agency: network operator not network provider.

- **Innovation in PPP Arrangements Is Evident**
  - Private innovation stimulated by competition for a commercial enterprise.

- **PPP Contracts Must Balance Technical, Commercial, & Legal Conditions**
  - Commercial & Legal Team “road test” developed technical provisions.

- **Emphasis Upon Partnership (i.e. ppP**
  - Both sectors recognizing strength of long-term relationship is critical.
EastLink in Victoria, Australia
Project Lifecycle Findings

- **Front-end or Preliminary Planning Crucial**
  - Must understand *business case* and drivers of *lifecycle value*
- **PPP Projects Typically Large and Complex**
  - Scale offsets *transaction costs* and complexity compels *novel solutions*
- **Identify and Convey Outputs Desired without Comprising Technical Standards**
  - Outputs are what *project’s customers* focus upon
- **Risk Analysis and Allocation Paramount**
  - Optimal *risk allocation* instead of *maximum risk transfer*
- **Government Commitment to Close Procurements**
  - Reliability of process promotes *market development and stability*
Preliminary Economic Analysis in Spain

Scenario: IRR 7%, Average Toll 0.06€/Km, 10% equity, Interest rate 7%

Cost per Km (M€/Km)

- New radial highway
- Intercities motorway
- Highway for regional development

ECONOMIC VIABILITY AREA
- Madrid-Guadalajara
- Madrid-Arganda
- Madrid-Ocaña
- Madrid-Navalcarnero
- Segovia-San Rafael
- Ávila-N VI
- Alicante-Cartagena
- León-Astorga
- Santiago-Alto de Sto. Domingo
- Estepona-Guadiaro

NON ECONOMIC VIABILITY AREA
- Madrid-Guadalajara
- Madrid-Arganda
- Madrid-Ocaña
- Madrid-Navalcarnero
- Segovia-San Rafael
- Ávila-N VI
- Alicante-Cartagena
- León-Astorga
- Santiago-Alto de Sto. Domingo
- Estepona-Guadiaro

Public fund

35 year term
50 year term
75 year term
Multiple Claims that PPP Projects Provide Greater Design & Construction Price and Time Certainty
- Several public and third-party studies suggested such advantages

Independent Verifier Utilized in Design & Construction
- Administers and reviews project on behalf of government

Key Performance Indicators (KPI’s) Define and Measure Outputs Desired
- Monetary rewards or debits for good or poor performance

Effective Contract Management Vital in PPP Projects
- Perhaps what differentiates success from failure in each contract

- Typically provisions specify residual service life requirements; aspect that is untested
UK Contract Management

- Deficiency Reporting
  - Level 1: Comments
  - Level 2: Non-conformance Report
  - Level 3: Remedial Notice
  - Level 4: Penalty Point Notice
  - Level 5: Warning Notice
    - Increased monitoring
    - Step-in rights

Increased monitoring
Step-in rights
Case Example

**EastLink**

*Victoria, Australia*

- 39 km of freeway standard road
- Twin 3-lane 1.6km tunnels
- 17 interchanges
- 88 bridges
- Two toll free bypass roads
- 40km of shared use path
- $AU2.5bn construction cost ($2.4Bn)
Case Example

CityLink Lessons in EastLink

Victoria, Australia

- Toll escalation CPI annually not quarterly
- KPI’s – long term performance
- Operator involvement in the design process
- Road & transport policies unencumbered
- Introduction of proof engineer & construction verifier
- Emphasis upon urban design
EastLink Concession
Victoria, Australia

- Concession Deed Executed Oct ‘04
- 39-Year Concession Period
- Contract Completion Date Nov ‘08
- No Restrictions on Road Network Changes
- Extensive KPI Regime to Ensure Service
- State Shares Refinancing Gains
- State Shares on Super Profits
Case Example

EastLink Project Parties
Victoria, Australia

Victorian Government

SEITA

ConnectEast

Thiess John Holland

Debt providers

Transfield Services Operations & Maintenance

Independent Reviewer

Sub-contractors

Designers

Tolling system supplier
Case Example

EastLink KPI’s
Victoria, Australia

- Customer Service
- Road Maintenance
- Landscape & Environment
- Tolling Accuracy

Penalty – Up to $17 Million Annually
Collections – Allocated to Customers
Case Example

EastLink Outcomes
Victoria, Australia

- Largest urban road project & PPP to date
- Delivered 5 months ahead of schedule
- Government and private sector teamwork
- No claims or significant issues for the state
- High quality urban design
What’s the End Game?

Overarching outcome desired would be the prolific use of a project development process by state and local highway agencies that selects an effective project delivery system – where an effective system is defined as one that provides the most advantageous benefits to society and meets the objectives of government. And PPP arrangements should be available as project delivery options.
Key Recommendations

**Recommendation Categories**

- **Education:** Short-Term (within 1 year)
- **Research:** Medium-Term (between 2-3 years)
- **Transfer:** Long-Term (beyond 3 years)
Key Recommendations

Education

- Convene executive workshops at regional sites
- Create set of “state of practice” publications
- Update FHWA web-site with new material
- Develop guidebooks describing attributes of PPP program and projects
- Encourage AASHTO to establish group focused on PPP’s
- Engage industry organizations to develop medium and long-term educational strategies

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Key Recommendations

Research

- Develop in-depth case studies of representative projects (past & present)
- Examine strengths & weaknesses of open competitive procurement process and negotiated competitive procurement process
- Examine & identify knowledge, skills, & abilities needed for PPP:
  - Program Managers
  - Procurement Officers
  - Contract Managers
  - Financial & Legal Specialists
- Investigate the determinants of concession length both domestically and abroad
- Evaluate methodologies for establishing & managing toll structures
- Investigate & identify appropriate metrics for assessing benefits/costs of PPP programs and projects
Transfer

- Develop & publish principles and guideline documents
  - Establishing a PPP program
  - Identifying and evaluating candidate PPP projects
  - Procuring PPP projects
  - Creating PPP contracts
  - Managing PPP contracts
  - Measuring PPP program and project performance

- Establish national working groups to identify best practices