



# Role Of Operational Research In The PFI Bid Process

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HVR Consulting Services Ltd

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# CONTENT

- ① **WHAT IS PFI?**
- ② **CHALLENGES OF THE BID PROCESS**
- ③ **THE ROLE OF OR**
- ④ **CASE STUDIES - C VEHICLE CAPABILITY PFI**
- ⑤ **FINAL THOUGHTS**



# THE PUBLIC FACE OF PFI

1

**Brown takes on critics with £26bn gamble**

The Guardian - March 22, 2006

**County in £200m schools PFI deal**

BBC News - 23 December 2005

**AirTanker closes in on £13bn MoD contract**

The Guardian - March 1, 2005

**£56m offer after PFI scheme fails**

BBC News - 6 January, 2005

**PFI hospitals face huge overspend**

BBC News - 19 May 2006

**PFI blamed for trust cash crisis**

BBC News - 9 July 2004

**£7m claim after PFI deal scrapped**

BBC News - 20 June 2006

**Ministers ground airport PFI deal**

BBC News - 17 June, 2005

**Mowlem writes off £70m from PFI contracts**

The Guardian - September 21, 2005

**PFI hospital deal was 'unacceptable face of capitalism'**

The Times - May 03, 2006

**PFI critics line up to attack huge windfalls**

The Times - May 10, 2006

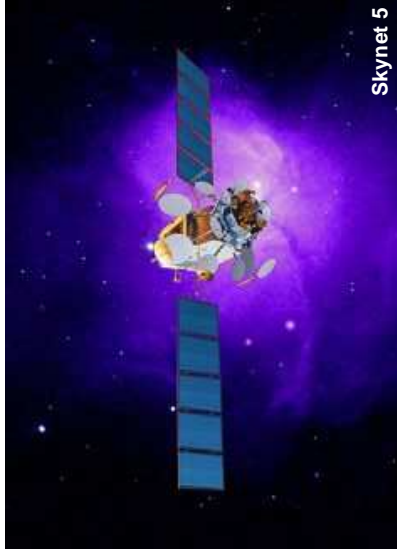


# “TYPICAL” PFI PROJECTS

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Cumberland Infirmiry



Skynet 5



Puckchurch Remand Centre



C-Vehicles Capability



Wynstream school



Future Strategic Tanker (FSTA)



# THE PRIVATE FINANCE INITIATIVE (PFI)

1

- Procurement approach announced in 1992
- Long-term service contract for a Government department (e.g. MOD, NHS)
  - Provision of capital assets
  - Associated services to manage the assets
- Annual payment to the contractor for services provided
  - Associated performance related payment mechanism
  - Guaranteed annual income
- Contractor handles the finance of the project



## Advantages to Procurer

- Guaranteed level of service
- Incentivise contractors to improve management and service efficiency
- Encourages innovation
- Integration of services
- Flat budget line
  - This allows more concurrent capital-intensive projects to be implemented simultaneously
- Greater capital investment

## Disadvantages to Procurer

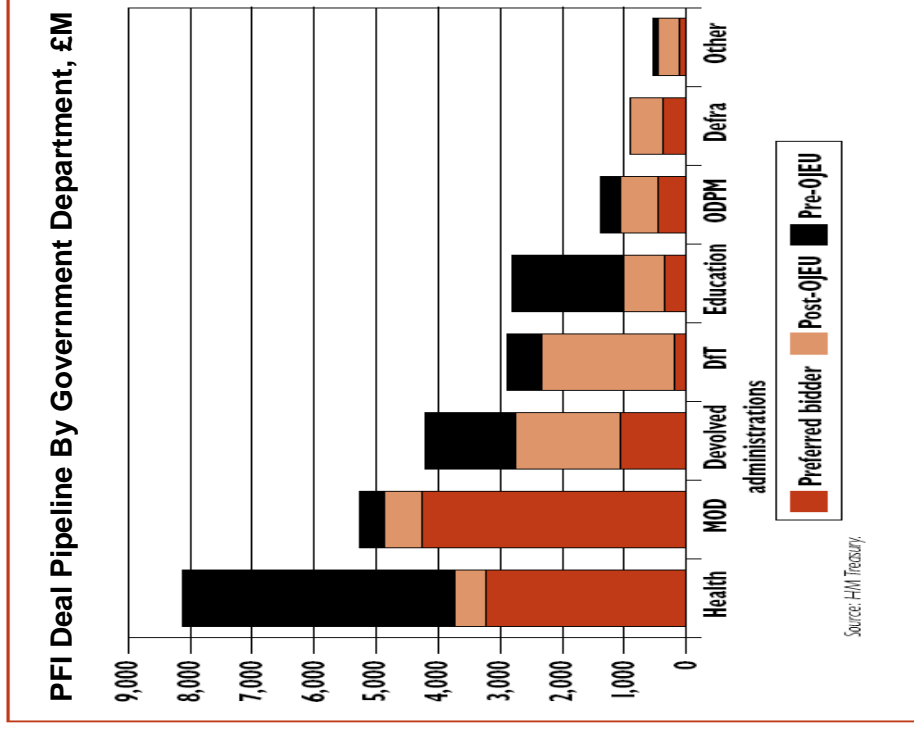
- Are we still going to need the service in 15-30 years time?
- Long term lock in of financial commitment



# SCALE OF THE UK'S PFI PROJECTS

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- PFI is now delivering 590\* operational projects, including:
  - > 185 new or refurbished health facilities
  - > 230 new or refurbished schools
  - **47 MOD projects**
- There are around 200 projects with a capital value of £26 billion in the procurement pipeline to 2010
- One of the largest committed programmes of new investment in public service infrastructure through PPP/PFI projects



PFI: Strengthening Long-Term Partnerships , March 2006, HM Treasury



# CONTENT

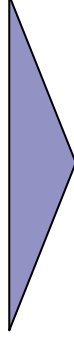
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# BID PROCESS AIM FOR THE BIDDER

2

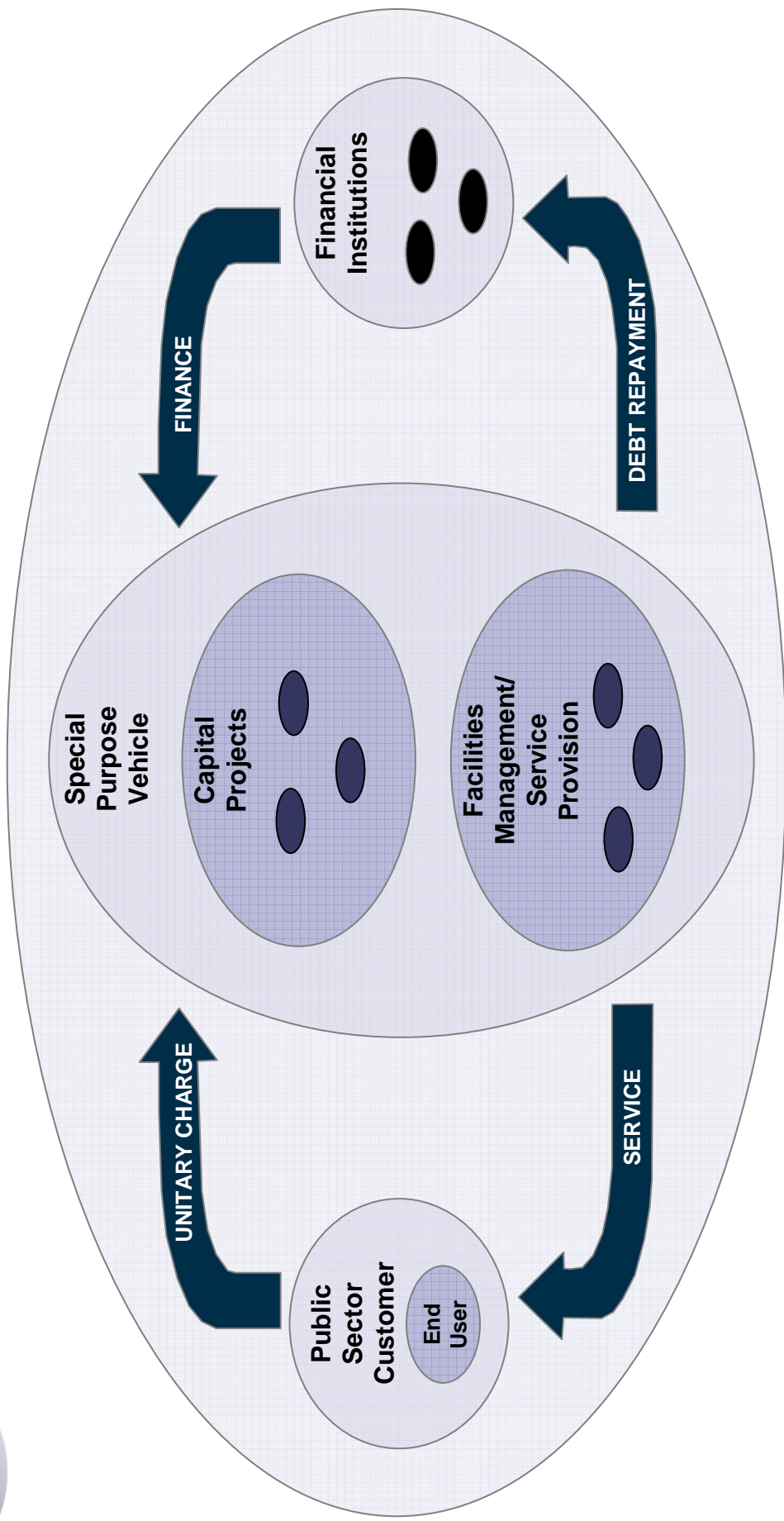
## BID STRATEGY



- To produce a service solution which demonstrates service quality and innovation at a price that is acceptable to the government authority and still results in a suitable profit
- The cheapest bid doesn't always win...
  - Service Quality
  - Measured against the Public Sector Comparator
  - Project may be cancelled



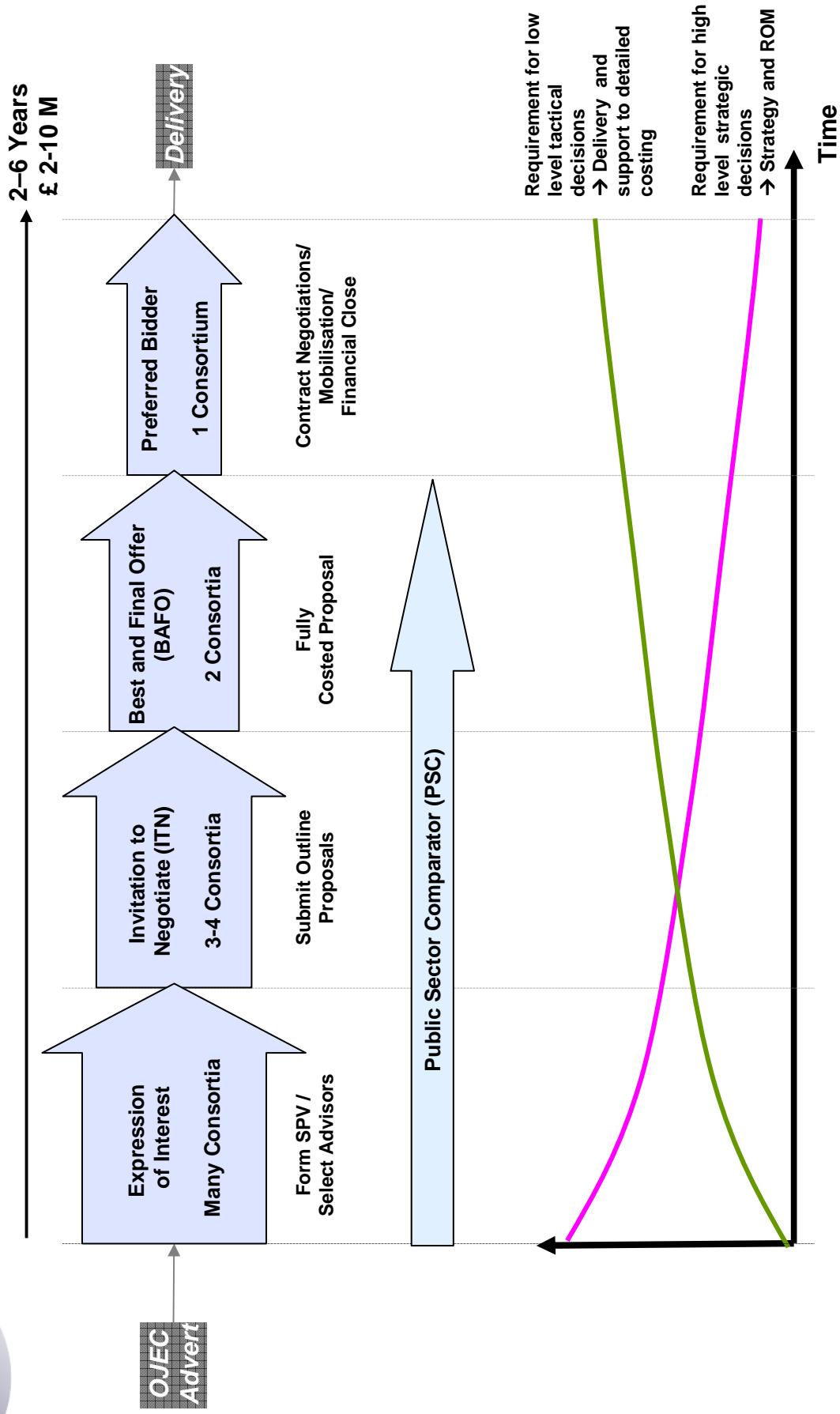
# TYPICAL PFI STAKEHOLDER MAP





# THE PFI BID PROCESS

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# OPERATIONAL RESEARCH (OR)

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Application of advanced analytical methods to help make better decisions

Identification available options

Data analysis / data gaps

Predictions of outcomes

Estimates of risk

Support implementation

Produce the 'right' solution with the 'right' numbers



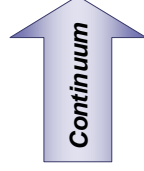
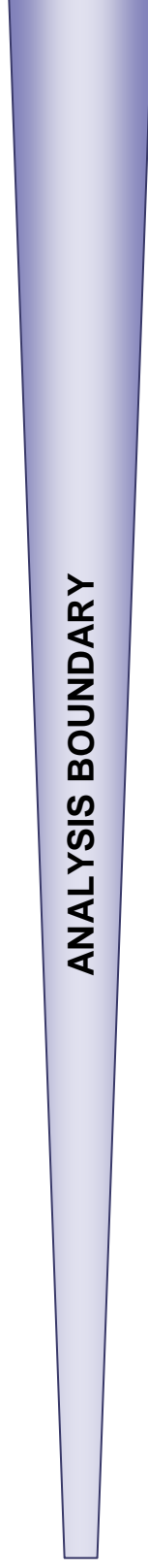
# OBSTACLES TO SOLUTION DEVELOPMENT

- Complexity of the service to be provided
- Understanding the requirement
- Changes to project specification
- Changes to the bid team composition
- Size of the bid team
- Time taken to assess the alternatives
- Data
- Time constraints



# WHERE OR CAN SUPPORT

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## Issue Driven

- Specific problem
- Mini models
- High level of detail
- Spreadsheets

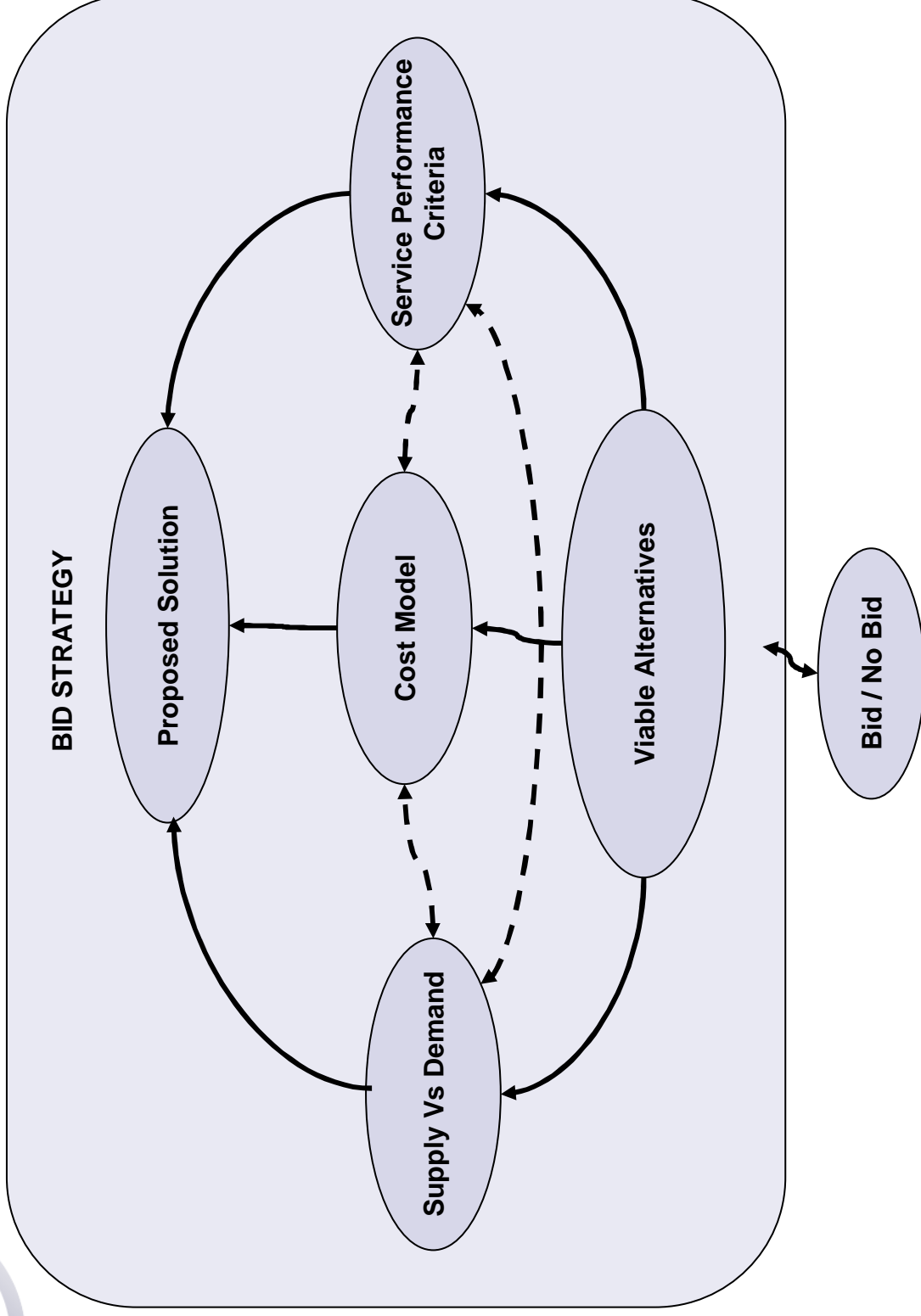
## Whole Systems Model

- A systemic approach where the proposed solution is considered as a whole
  - Link together capital and service provision, performance metrics and finance
  - Auditable decisions
  - Describe/communicate the solution. Brings together the team
- Unintended consequences
- Lower level of detail
- System Dynamics / Discrete Event Simulation
- Rapid Assessment of viable solutions and the impact of changes



# ANALYSIS REQUIREMENTS IN THE FORMULATION OF A PFI BID

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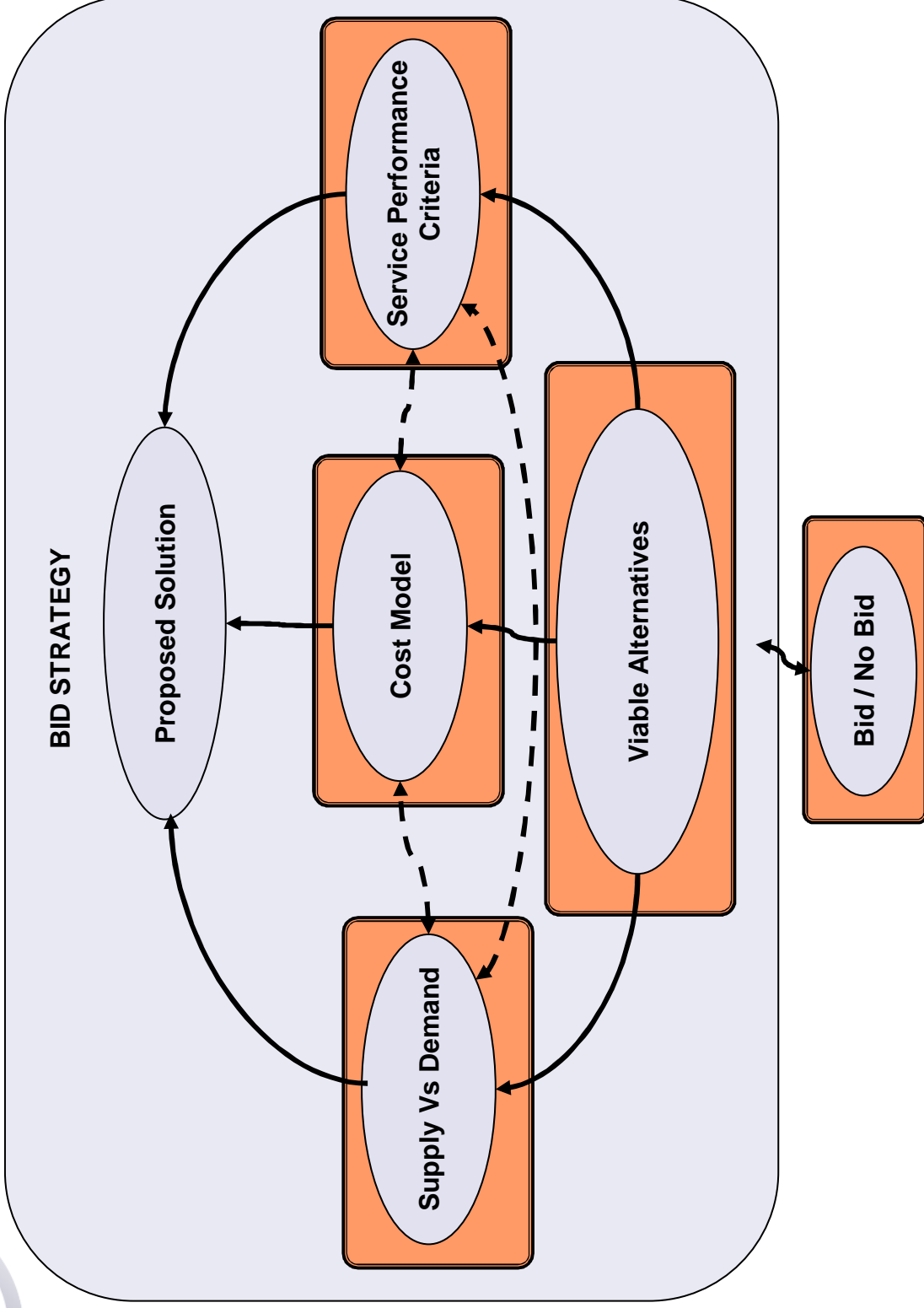
TACTICAL / DELIVERY

STRATEGIC



# ROLE OF OR IN THE FORMULATION OF A PFI BID

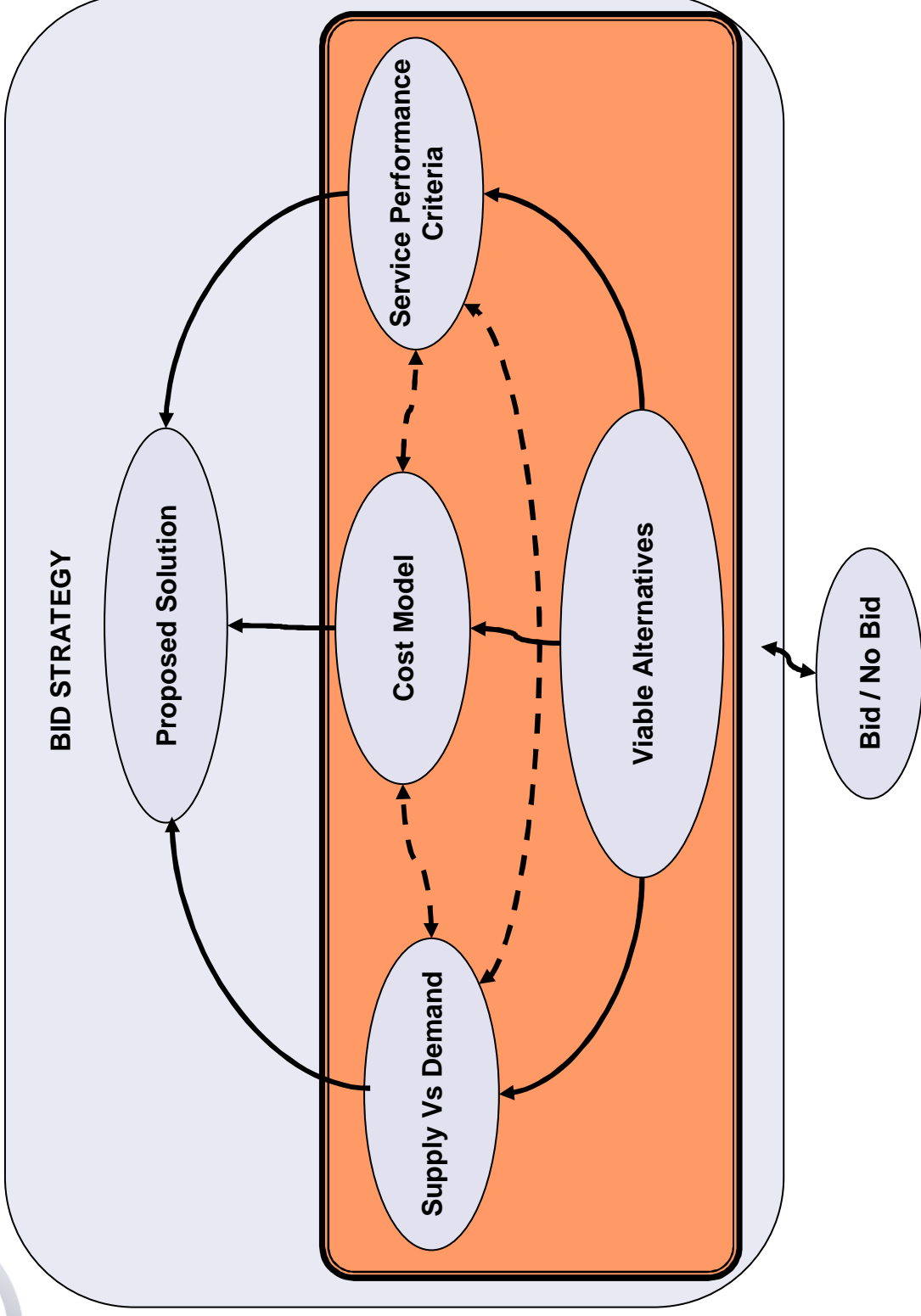
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# ROLE OF OR IN THE FORMULATION OF A PFI BID

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# CASE STUDY – THE C VEHICLE CAPABILITY PFI

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- C Vehicles is the general designation that the MOD uses for engineer and rough terrain material handling equipment
- The MOD maintained a fleet of over 4000 items, of over 160 different types
- The aim of the C Vehicle Capability PFI is to provide a complete C Vehicle service in support of the British armed forces world wide
- It is a Pathfinder PFI to whole fleet management in direct support of front line operations





# C VEHICLE CAPABILITY PFI AND ALC

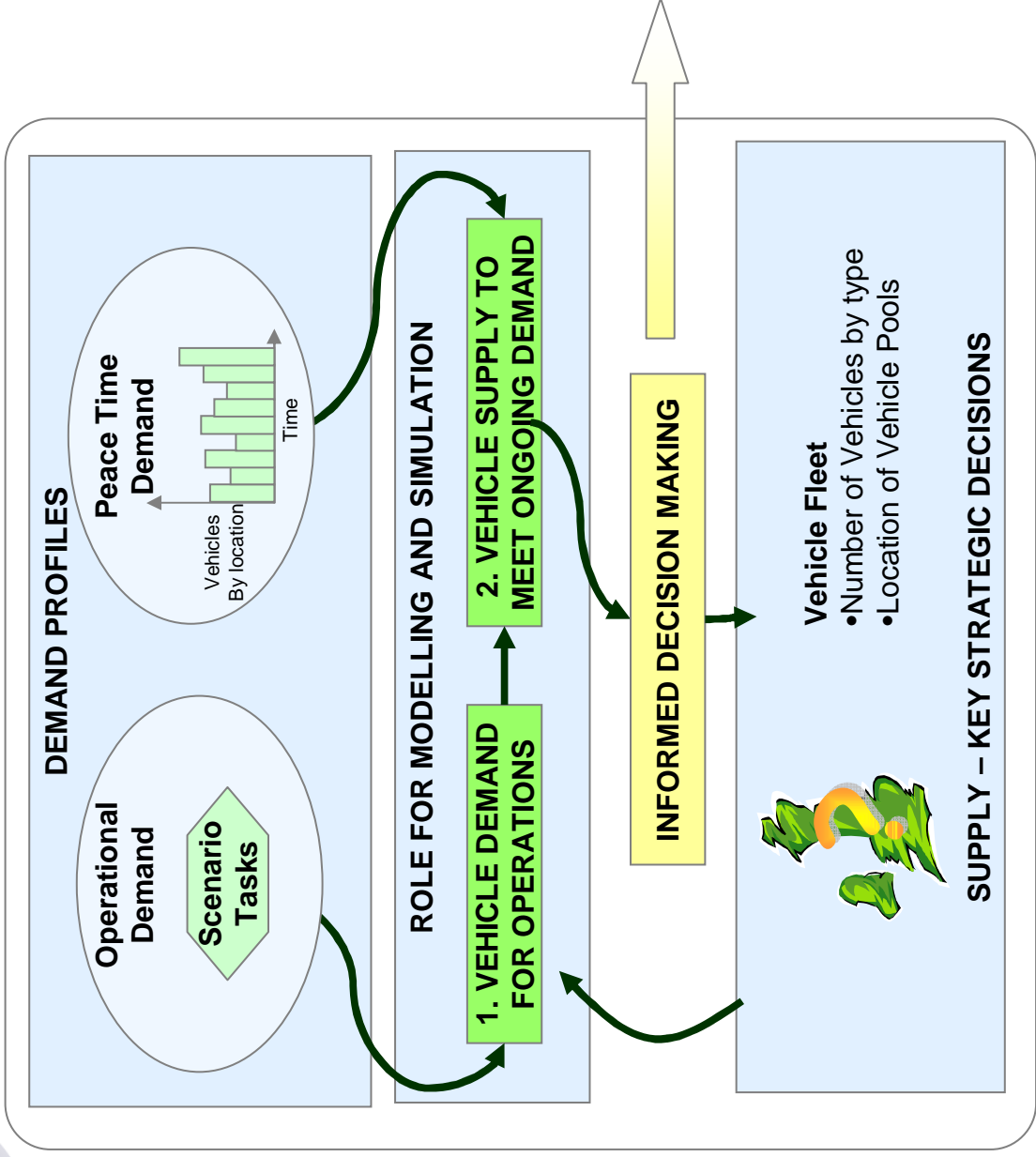


- ALC
  - Lex Defence (now VT Land)
  - Amey
- Time line:
  - PQQ: 2000
  - ITN: 2002
  - Preferred Bidder: December 2003
  - Financial close in June 2005
  - Phased implementation led to the full service being rolled-out in May 2006
- The ALC proposal was to maintain and manage the fleet and provide associated services including:
  - Spares support and inventory management
  - A comprehensive fleet management system
  - Equipment documentation
  - Training for operators, maintainers, managers and instructors
- The ALC solution was designed specifically to meet the service requirement as defined by the MOD using innovation, latest technology and defence and commercial best practice
- The PFI will deliver the required level of service to the MOD in support of the operational fleet against strict performance criteria



**The contract is to be delivered over a 15 year period from full service commencement.**





- Fleet rationalised by about 40% from just over 4000 assets to approximately 2,600 assets
- An optimum fleet size was identified to meet the capability requirement



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# FINAL THOUGHTS

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- OR tools and techniques are used extensively in the generation of robust bid strategies
  - Not always called OR
- Used to build confidence in the proposed solution
  - Get the numbers right
  - Sensitivity of the solution to change
- The models and tools can then be used during project delivery



# ANY QUESTIONS?

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