



Phil Jackson

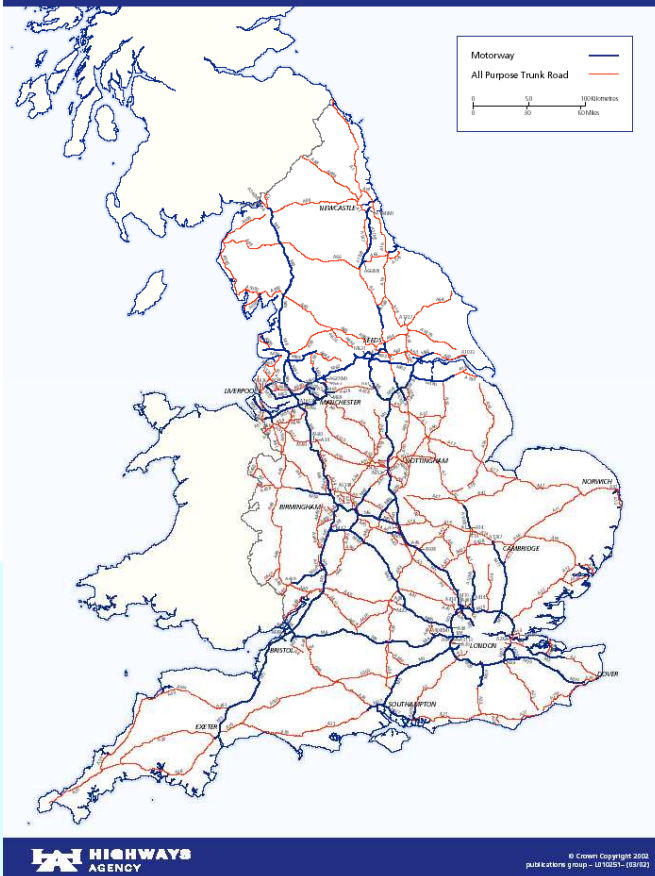
Highways Maintenance PFI

- Background
- M25 Widening PFI
- Birmingham Highways Maintenance PFI
- Why PFI?

- **English regions**
- **Single tier** of local government in most large urban areas
- **Two tiers** of local government in the remainder of England, counties and districts.

- Before 1979
- Conservative Government under Mrs Thatcher
- CCT Legislation 1980 – 1997
- Labour Government 1997 – present
- Best Value and duty to compete
- Employment protection (TUPE)

Trunk Road Network



- 9404 km network
- < 4% of England's roads
- 1/3 of all traffic
- 2/3 of all freight
- Run by Highways Agency – part of national Government
- Sets network management policy and procures contracts

- Before 1996
- Reorganisation of Highways Agency Areas
- Competition
- Between 1996 – 1999 all contracts were let, with 90% being awarded to the private sector costs were dramatically reduced.

- Aims:
 - to develop private sector road operating industry
 - transfer risk to the private sector
 - speed up construction by the use of private money
 - reduce Public Sector (Government) borrowing
 - encourage innovation
- First eight schemes completed by 1996 transferred 6% of English Trunk Roads and Motorways into private hands. (DBFO)
- Highway Maintenance PFI – Highways Agency and Local Government
 - Portsmouth
 - M25
 - Birmingham

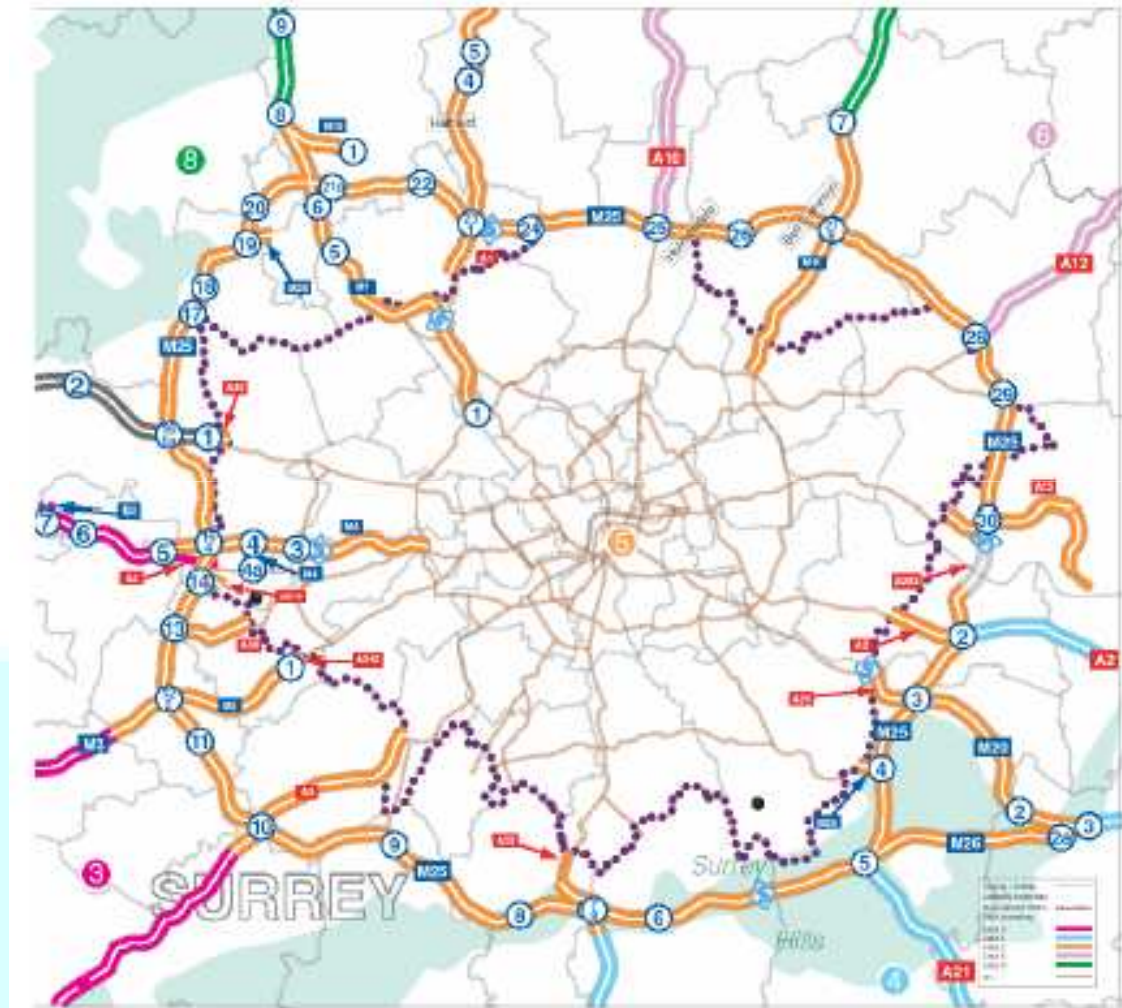




M25 Widening and Operation PFI

The Project Road

- 400km of which 200km is M25
 - 102km widening over 8 years
 - 1 Tunnel refurbishment
 - £2bn capital works
 - £100m/year O&M over 30 years
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- Current workforce
 - Le crossing - 300
 - Area 5 - 500

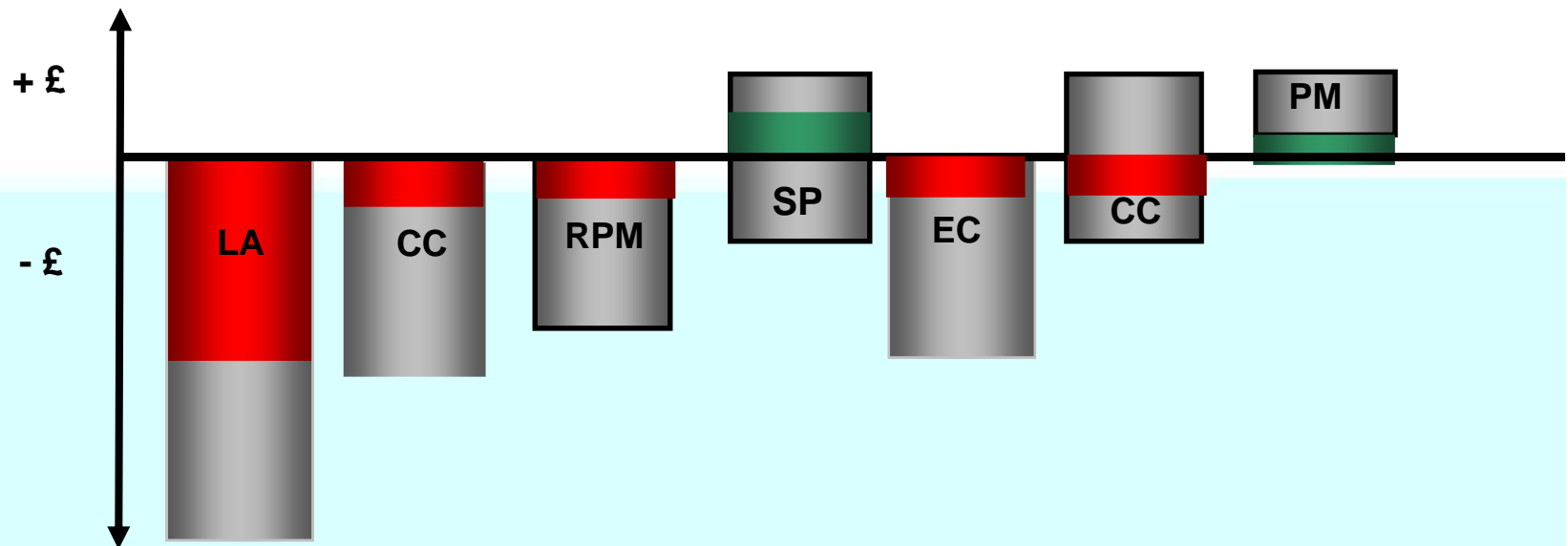


- Routine maintenance
- Winter Maintenance
- Highway Major Maintenance (structures, pavement, drainage & barriers etc.)
- Network Operations
- Dartford Tolling

- Design & price widening of 57km of M25 as early sections (1 & 4)
- Widen 57km of M25 as early sections (1 & 4)
- Refurbishment of Hatfield Tunnel
- Approx value of works £1.2 billion
- Develop design and price adjustment for later upgraded sections
- If agreed, widen 45km of later sections of M25 (sections 2 & 5)

- Safe Roads
- Reliable journeys
- Informed travellers

- Lane Availability
- Condition Criteria
- Route Performance
- Safety Performance
- Exceptional Circumstances
- Critical Incident
- Proactive Management



- Most significant element in monetary terms (70-80%)

- Parameters needed to price this delay are
 - Length of the works
 - Number of lanes normally available
 - Number of closed or narrowed lanes
 - Normal and temporary speed limits
 - Expected hourly volumes and link capacities

- Tables provided for volume and standard capacity, on each link over 30 years!

- Similar in concept to “lane closure” and “lane rental” charges, but simpler and more flexible

- Payment deduction if normal flow of traffic is restricted for routine and planned maintenance and renewals

- No deductions
 - for agreed traffic management on sections being widened
 - during core night time period
 - due to accidents and incidents
 - for traffic management installed on behalf of other HA contractors

- Equation has two components

$$D_1 = LS_1 + \left(\left(\frac{V}{C_1} \right) \times \frac{1}{0.94} \right)^{7.5}$$

delay from temp speed limit

delay from reduced capacity

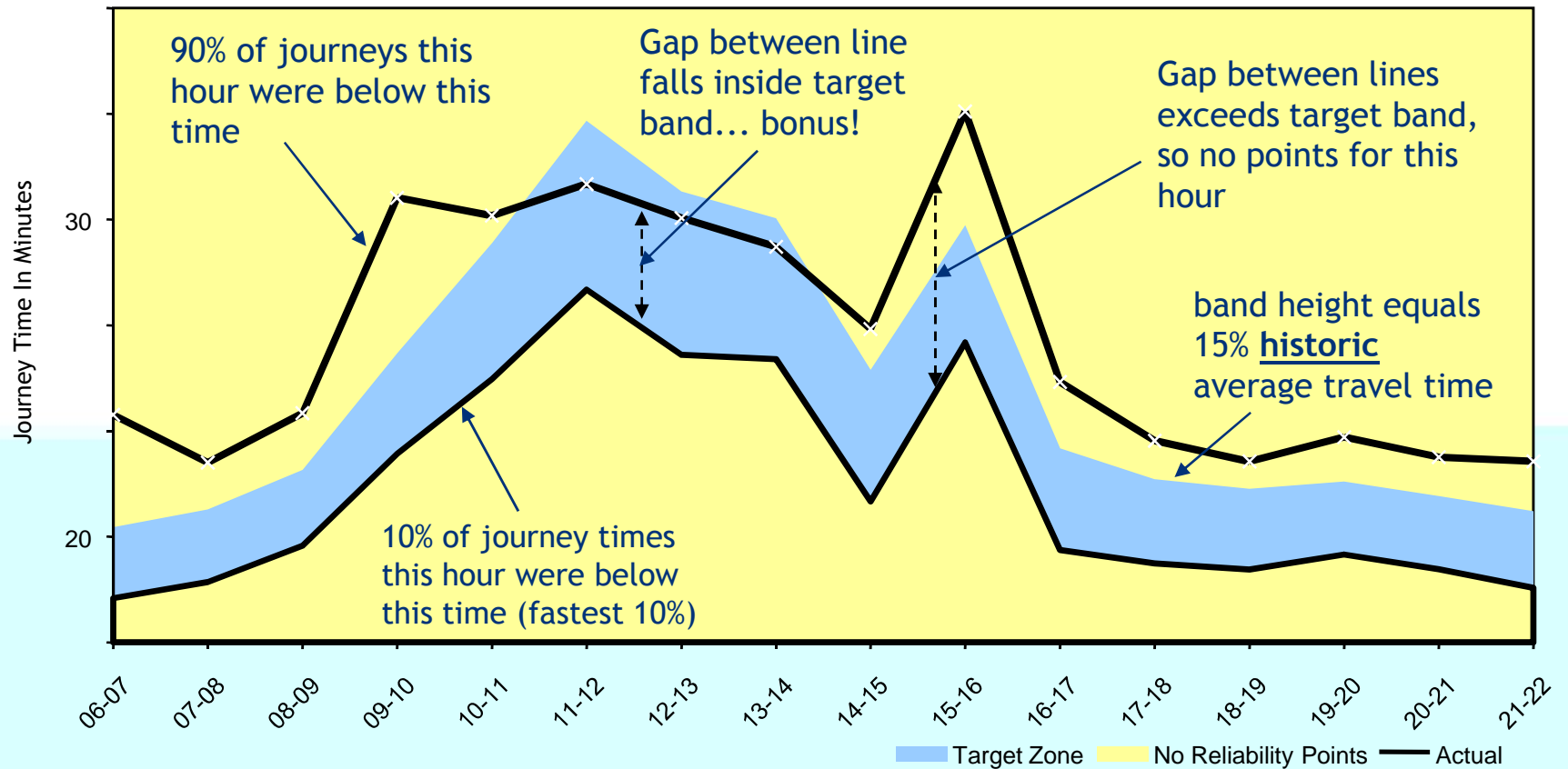
- Calculated for “normal conditions” and under “traffic management”, the difference is multiplied by (25% × £11 × PCU)
- Partially capped to reflect limitations of formula, serious delays are reflected in the “route performance” element.

- *“Monthly adjustments reflecting the condition of the road and technology equipment”*

- Payment deductions for
 - Failure of ride quality, rutting and texture depth requirements (based on TRACS surveys)
 - Failure to deal with high profile Category 1 defects within allowable hazard mitigation period
 - Loss of technology systems, primarily loops in the road

- *Monthly adjustments reflecting the journey reliability and effects of incidents”*
- Two measures
 - Delay points, deductions which address excessive travel time
 - Reliability points, bonuses which address reliability
- Thousands of journey times measured on a daily basis, batched hourly and sorted into fastest 10%, slowest 10% and middle 80%.
- Calculations based on rolling 12 week average, so need to store and manage the data
- Calculations applied to each of 10 sections of Project Road





- Operational Implications
 - Reliability **during** incidents too, limiting variation of journey times within each hour.
 - Providing information, ensuring diversion strategies in place, use of turn around points, clearing vehicles and reopening the carriageway... all essential for minimising delay and capturing reliability points
 - Impact over the twelve week rolling period is not straightforward, consider summer holidays!

- Data Collection
 - Imperative for calculating the Route Performance Measure
 - Tender must demonstrate capability and approach
 - Not just about the specified routes

- *“Annual adjustment reflecting safety performance on the Project Road”*

- Assessment based on 5 year rolling average of KSI casualties
 - Road user statistics as current
 - Also include separate count for workforce

- Bonus payment or deduction depending on performance compared with national trends

- Measure is capped as there are higher incentives for improving safety!

- Uncapped deduction based upon Lane Availability calculation
- Applicable only if the circumstances arose or having arisen was not rectified without delay because the DBFO Co has failed to comply with any of its obligation.
- Deals with 'white Friday' scenario

- Again deduction or bonus based on Lane Availability calculation
- Capped at +/- £ 2.5m
- Bonus for incidents cleared within 2 hours
- Deduction thereafter

- *“Annual adjustment reflecting extent to which DBFO Co is proactive in working with the Agency as the Agency’s priorities change and key objectives develop”*

- Some suggestions
 - **Flexibility**, understanding, and acting in the client’s best interest

 - Industry **intelligence** about major issues such as congestion charging and demand management

 - **Proactivity** in creating new structures or adapting existing services, to reflect changes to the Highways Agency itself



Birmingham Highways Maintenance
and Management Service PFI

Birmingham

- 10 Districts
- City Centre
- Strategic Network



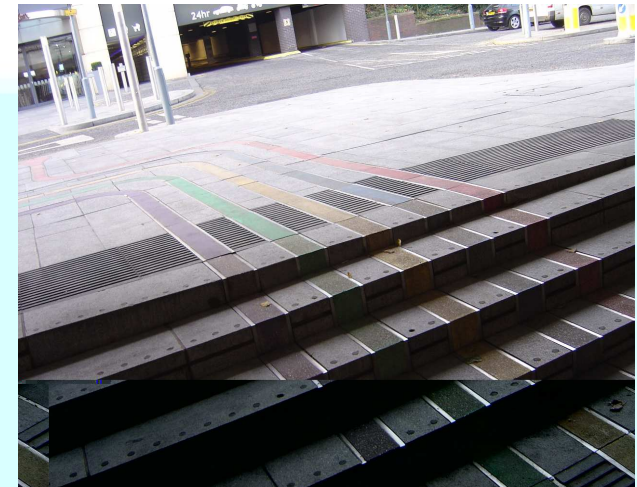
Manage, Operate & Maintain

- 2500 km roads
 - 4220 km footways
 - 900 highway structures
 - 3 Tunnels
 - 97,000 street lights
 - 94,000 trees
 - 80,000 road signs
 - 35,000 road name plates
 - 15 Pumping Stations
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- in 9180 streets

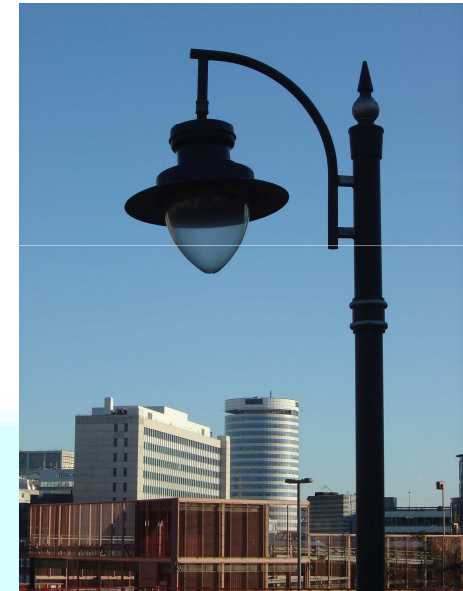


Rehabilitation Works

- Carriageways
- Footways/Cycleways/Kerbs
- Structures strengthening
- Pumps
- Tunnels
- Street Lighting (approx. 50%)
- Traffic Signals/Controllers



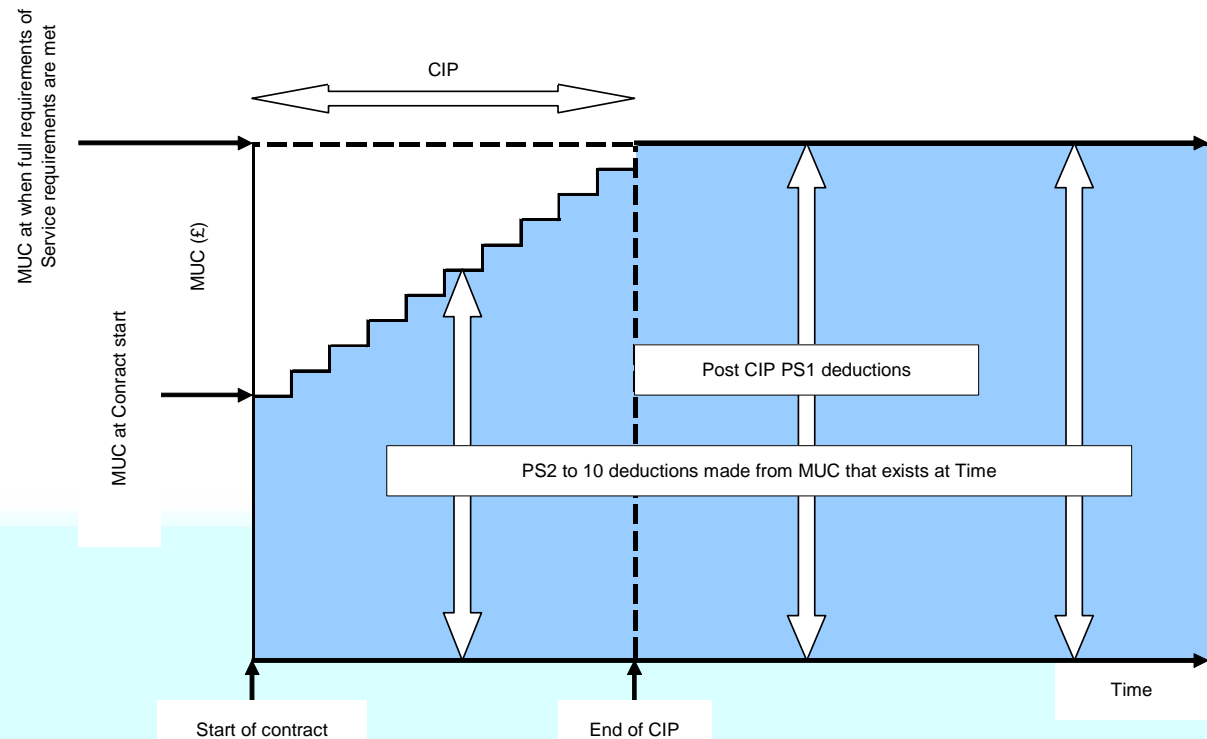
- Resurfacing programme
- Structures programme
- Pump replacements
- Street Lighting (remaining 50%)
- Traffic Signals/Controllers – 20yr life
- Signs replacements
- Street Furniture replacements



- Routine / Cyclic maintenance
- Trees & Grass
- Traffic Signals maintenance
- Street Lighting maintenance & Festive Lights
- Energy Consumption
- Emergencies & Winter maintenance
- UTC centre operation
- Stats management
- Network management
- Third Party claims & damage
- Surveys and Inspections



- Authority funding :
 - £588m PFI credits
 - £40m p.a. council budget
- Annual charge - monthly payments
- Commence at 60% monthly payment
- During Core Investment Period -10 milestones at 6 month intervals 'step up' monthly payment for each District
- Performance deductions



- 579 output specification requirements
- 12 Performance Standards
 - PS1 Network and Infrastructure Condition
 - PS2 Network performance
 - PS2 Network performance (tunnels)
 - PS3a Horticultural Maintenance Service
 - PS3b Tree Management and Maintenance
 - PS4 Winter Maintenance Service Operations
 - PS5 Emergency Responsiveness
 - PS6 Safety Performance
 - PS7 Network Management
 - PS8 Contract Management and Customer Interface
 - PS9 Strategic Assistance
 - PS10 Authority Working Practices
- Moratoria Periods
- Service Penalty Points

- 10 Performance Standard
 - PS1 A : During CIP
 - PS1 B : Post CIP
 - PS2 to PS10 : over 25 years

- 579 Output Specification (Schedule 2)

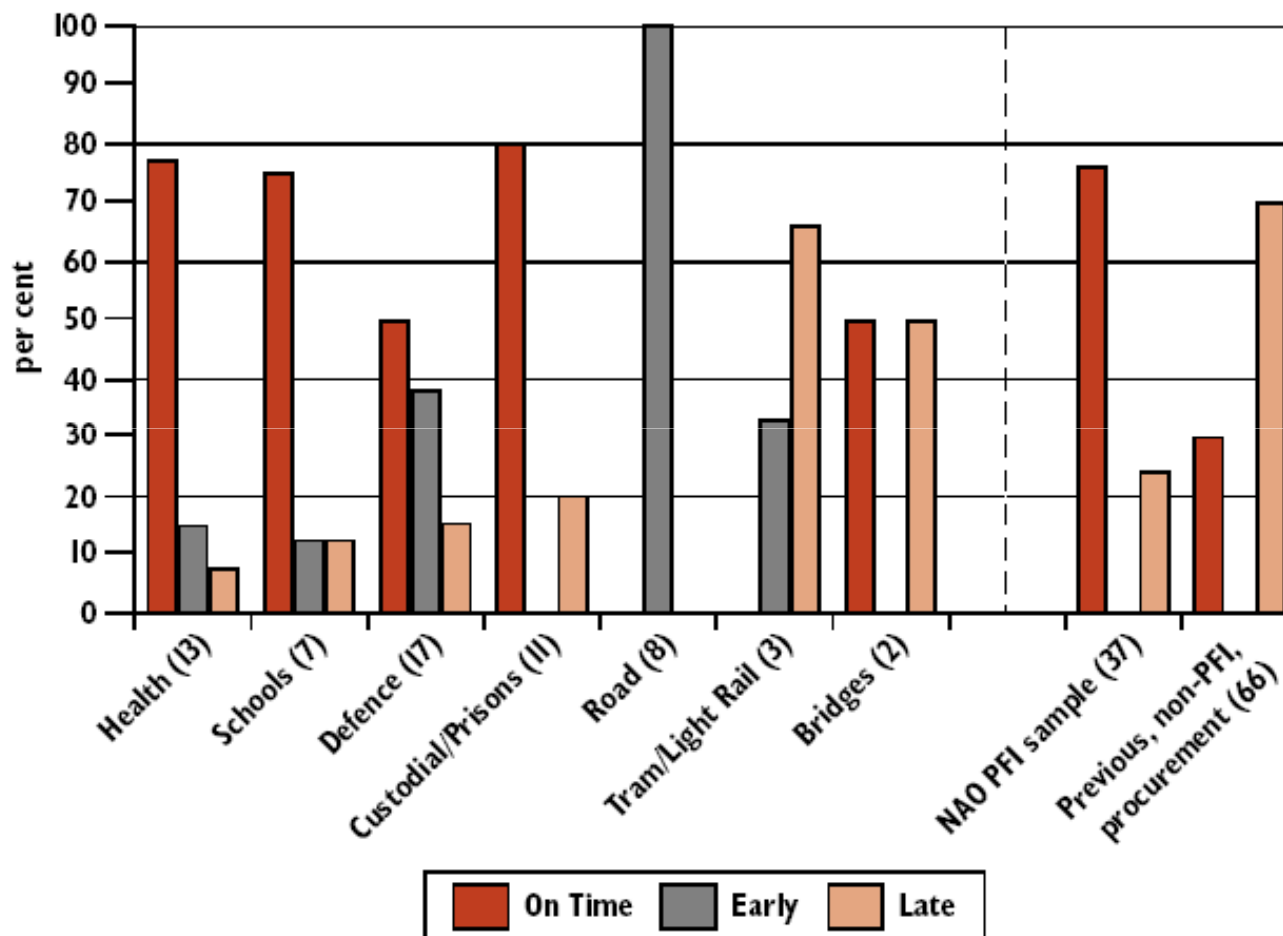
- Payment Mechanism (Schedule 4)
 - Direct value adjustment (up to £100,000)
 - Service Points adjustment (£250)

- Financial : Value for Money & Best Value
- Synergies from the integration of service delivery with Design & Build
- Private sector management skills
- Improved quality of service : Focus on service rather than functions
- Reform of working methods & step-change in service provision
- Incentive to deliver long-term solution
- Payment for service delivered (Outcome rather than Output)

- Only use PFI where it is appropriate to achieve Best Value for Money
- PFI needs to be managed as a mature relationship
- Employees need to be protected
- Public sector specifies the outputs it requires
- Risk is shared
- Ensure quality and continued effective delivery of public services
- Allow for flexibility

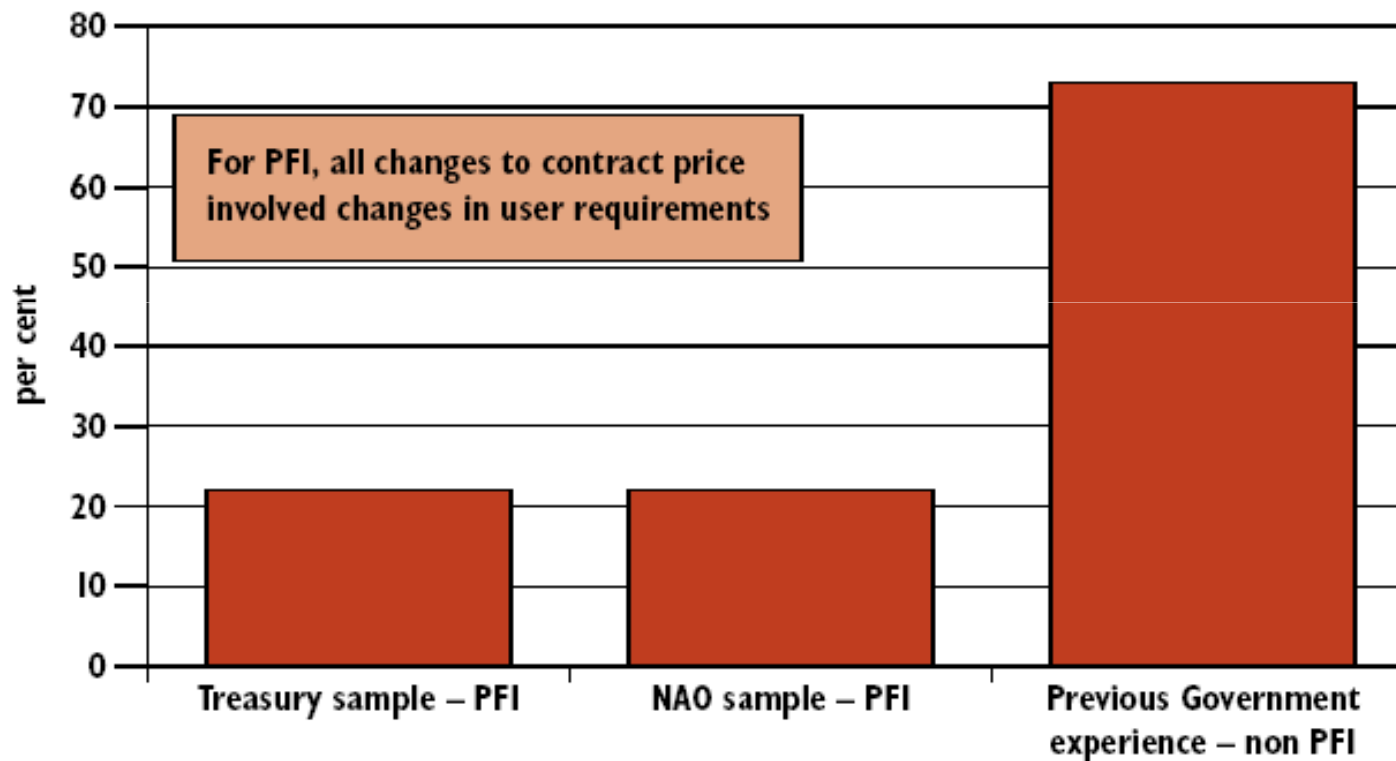
- Value for Money appraisal at three key stages
- Public Sector Comparator (PSC)
- Reassess the role of PFI
- Investigate new areas
- Enforce contract standardisation
- Project Review Group (PRG)
- Audit (NAO)

Chart 4.3: Construction performance by sector



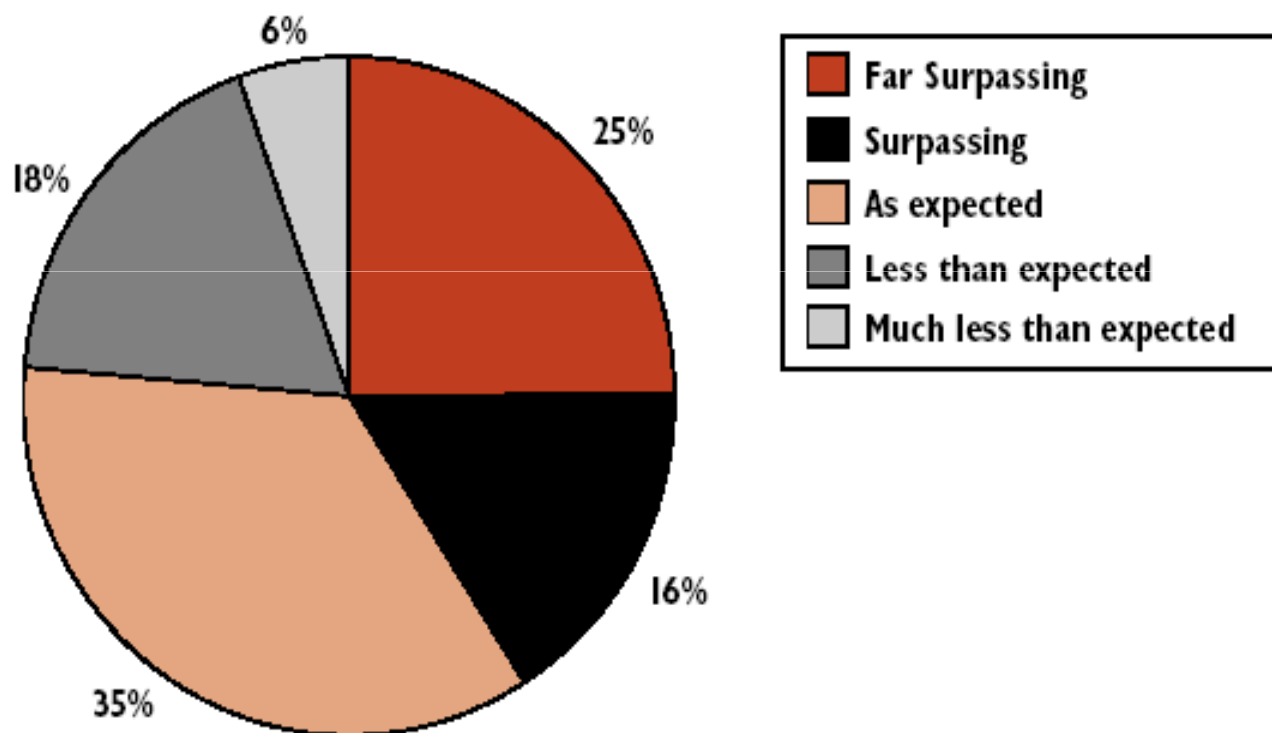
Source: HM Treasury; NAO PFI: Construction Performance 2002, HC 371, Session February 2002-03.

Chart 4.4: Delivering to budget – price uncertainty in public procurement



Source: HM Treasury; NAO: Modernising Construction, 2001, HC 87, Session 2000–01; NAO: PFI Construction Performance 2002 HC 371, Session February 2002–03.

Chart 4.6: How far is the private sector partner meeting up to initial expectations?



Source: HM Treasury.

- Useful form of public procurement
- Not suitable for all instances
- Procurement costs can be high
- Can deliver Value for Money
- Can improve service delivery
- Places risk to most appropriate party
- Needs to be “real” partnership
- Process still needs to evolve