
CANARY WHARF STATION


25
TransPlant
03 07 2001


UNDERGROUND


CHESHAM

# Agenda

- Background and Overview
- PPP Contract structure
- Performance Regime and Delivery Obligations
- PPP Performance to date

# Background & Overview

# London Underground

600 trains

816 km of track

111 Lifts

3 million journeys/day

1 billion journeys/year

20 million customers

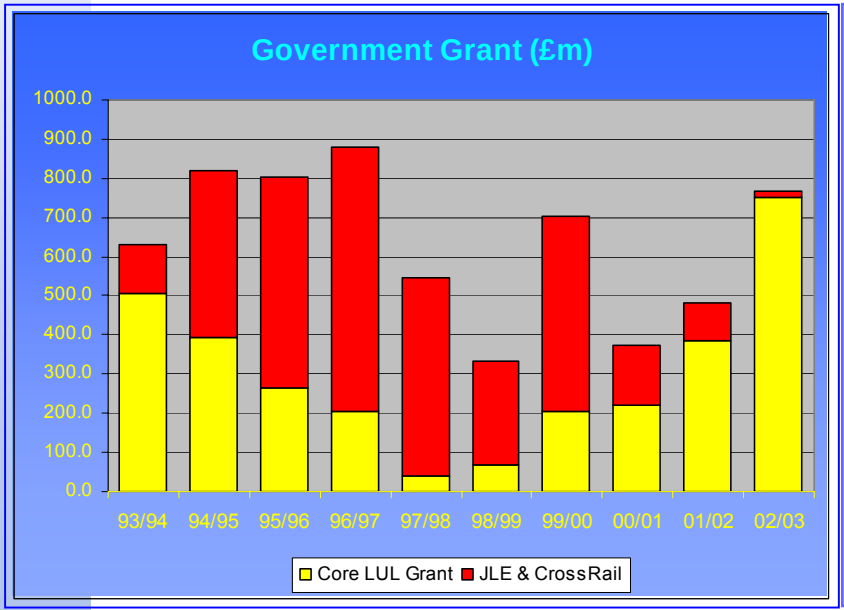
276 stations

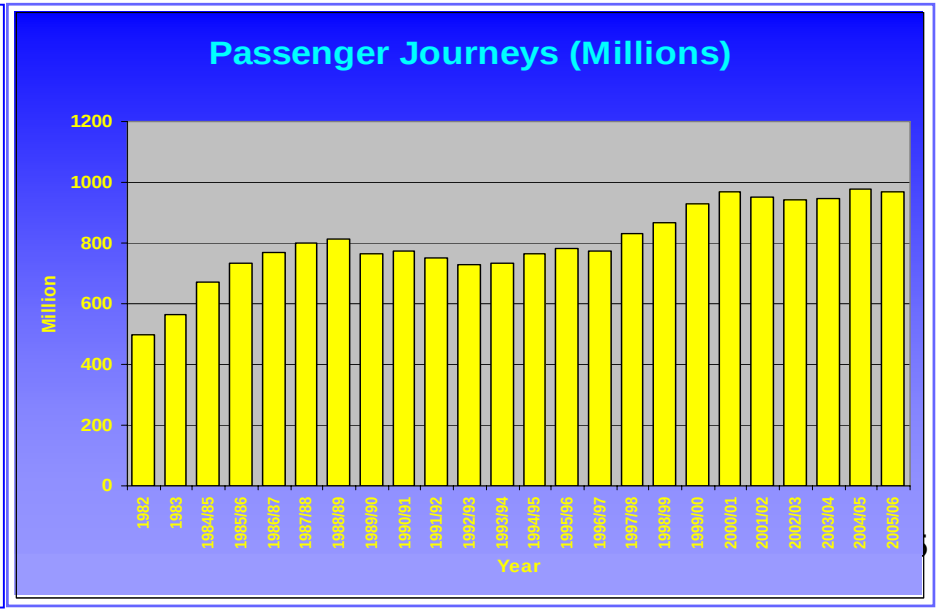
13 depots

412 escalators

# Background to the PPP

- LUL urgently needed subsidy
- £1.5 billion investment backlog
- Stop-start funding and annual spending limits - very inefficient
- The PPP was the government's solution to the issues
- Challenged by TfL through judicial review
- Ongoing management shows that many of TfL's original concerns are bearing out
- However, LUL fundamentally needed (and still needs) this investment to meet increased demand and prevent near life-expired assets from deteriorating



# London Underground's role

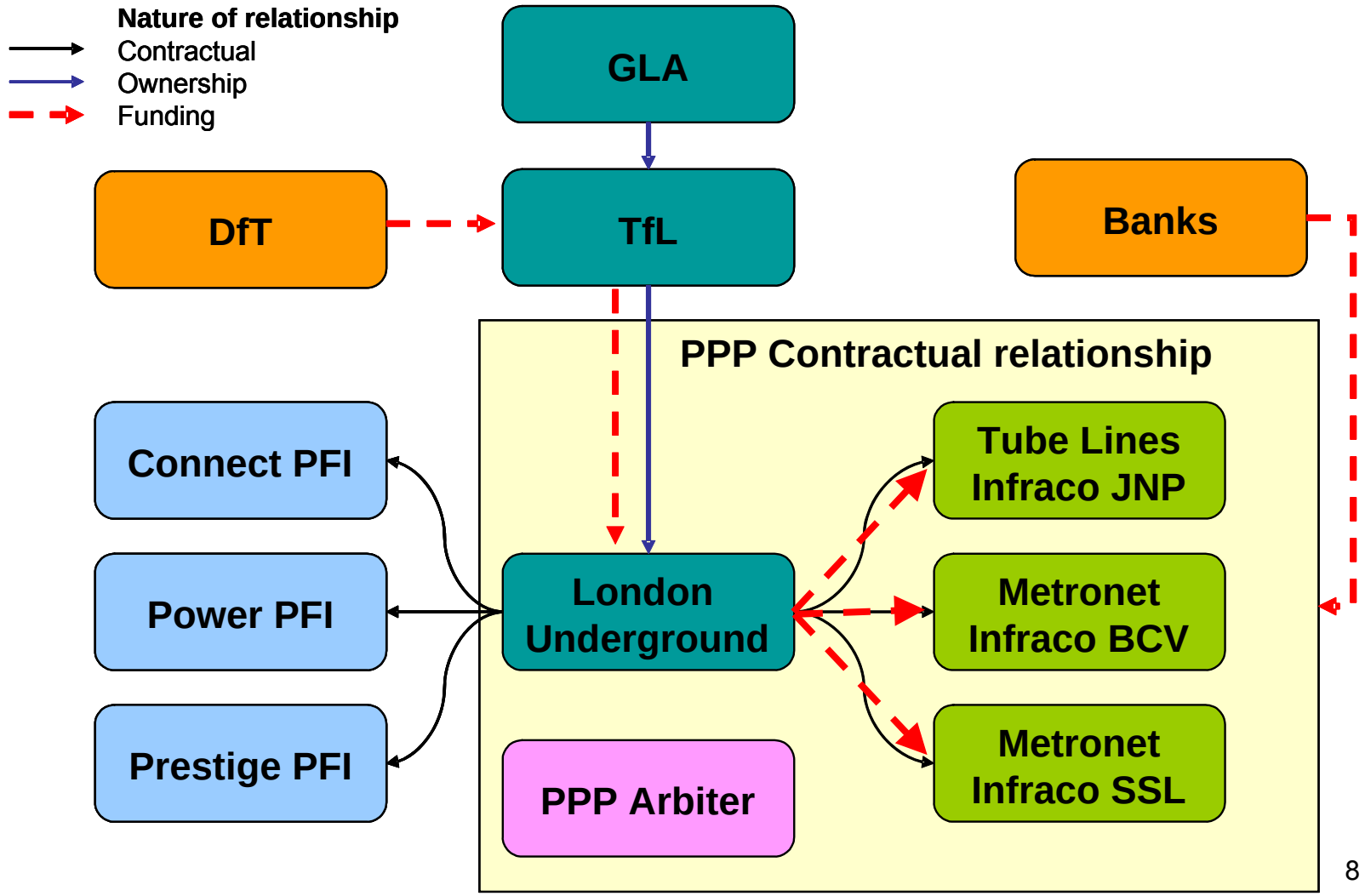
- Infrastructure Controller
- Train Operator
- Station Operator
- Safety Case Duty Holder

# Infraco's role

- Provide
- Maintain
- Renew
- Upgrade

All engineering assets / services

# Structure of the PPP



# Three Infracos: Two Consortia

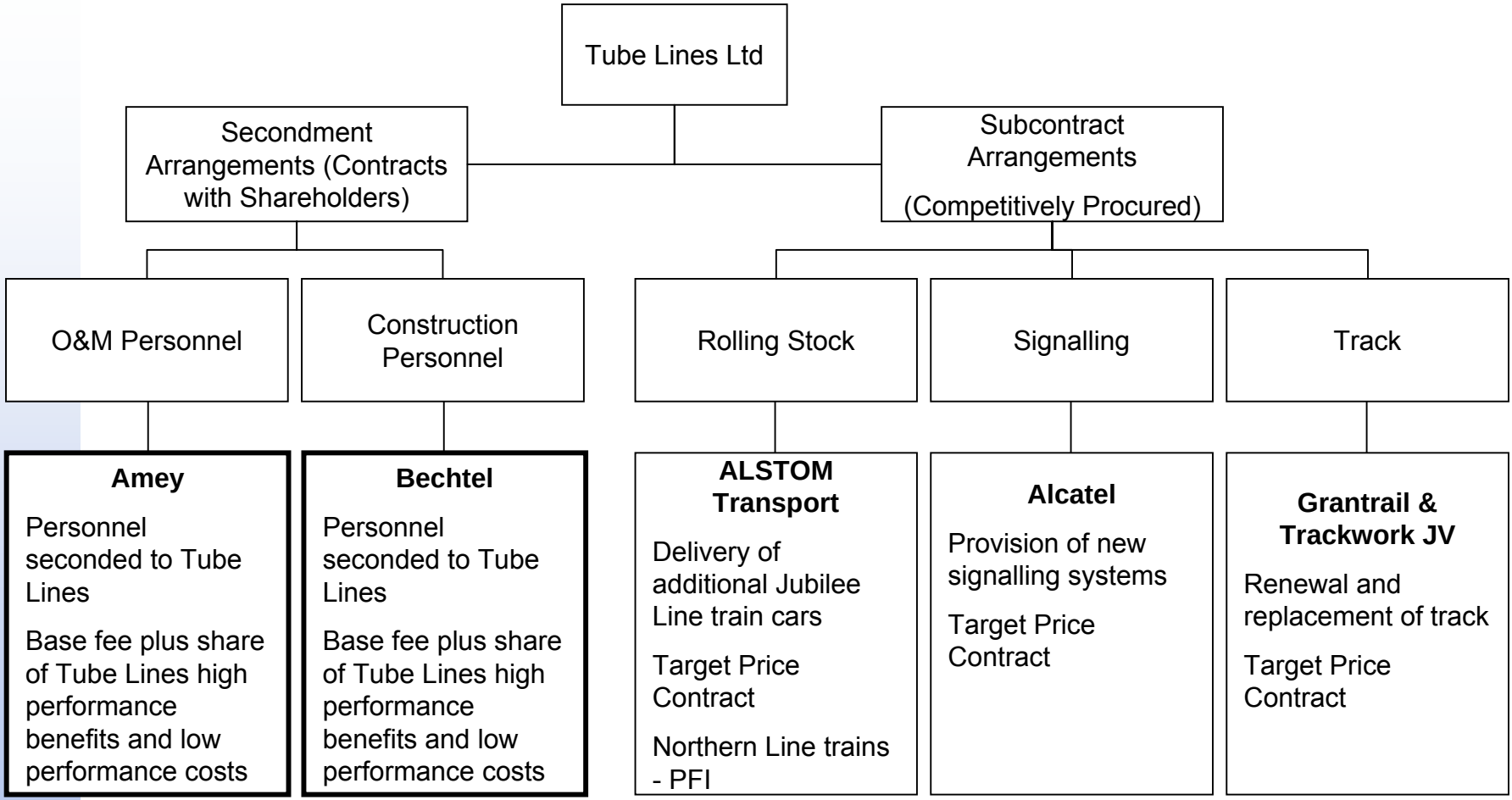
| | Deep tube BCV | Deep tube JNP | Sub-surface |
|---|---|---|---|
| Track km | 300 | 370 | 365 |
| Stations | 75 | 100 | 95 |
| Trains | 170 | 250 | 180 |
| Staff | 2150 | 2000 | 2000 |
| 15-year spend | £4.7bn | £6.0bn | £6.1bn |

**Bombardier**
**WS Atkins**
**Balfour Beatty**
**EDF Energy**
**Thames Water**

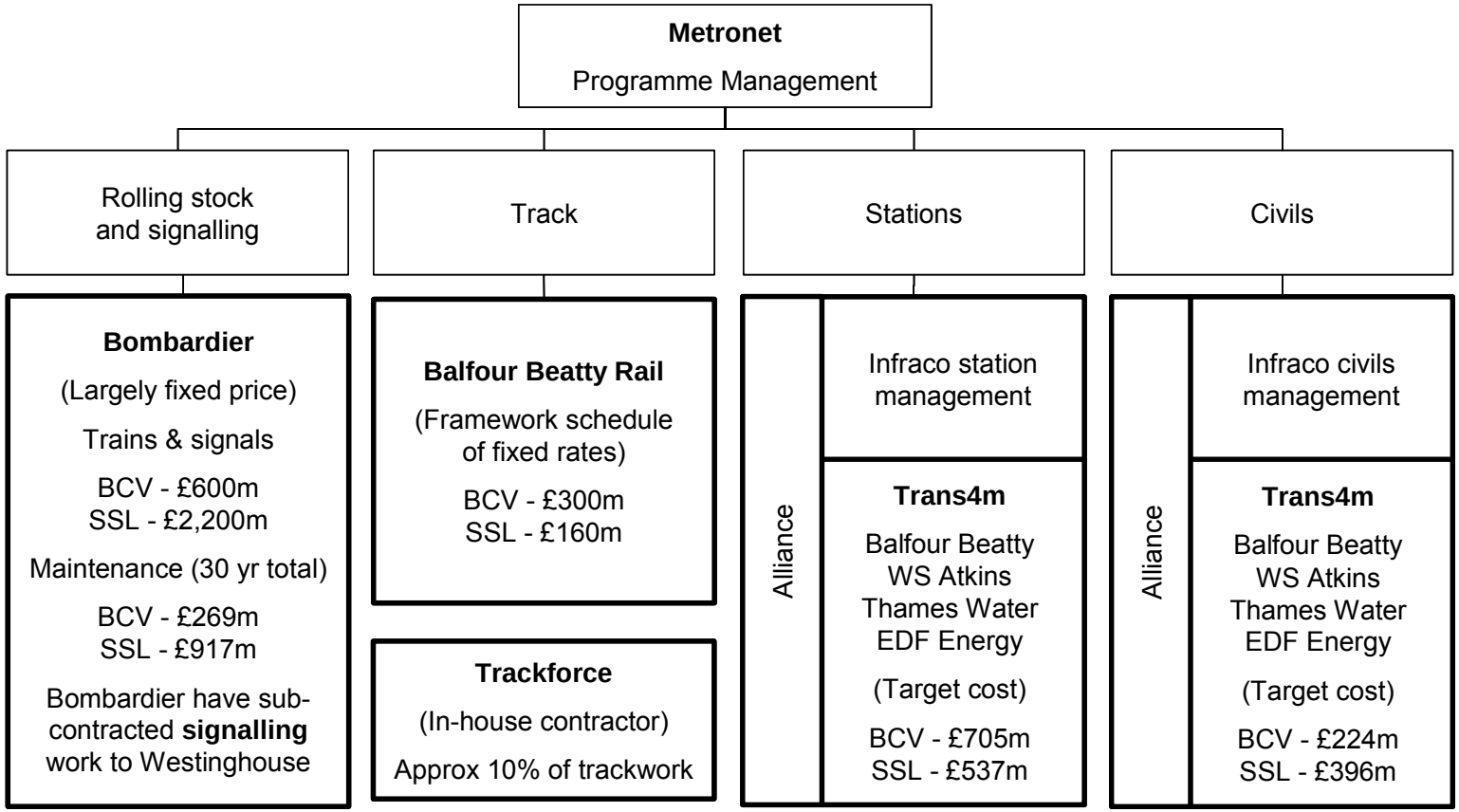
**Bechtel**
**Amey** *(Now subsidiary of Ferrovial SA and bought Jarvis shares)*

*(15-year spend as per original CFO bids)*

# Tube Lines contracting structure



# Metronet contracting structure



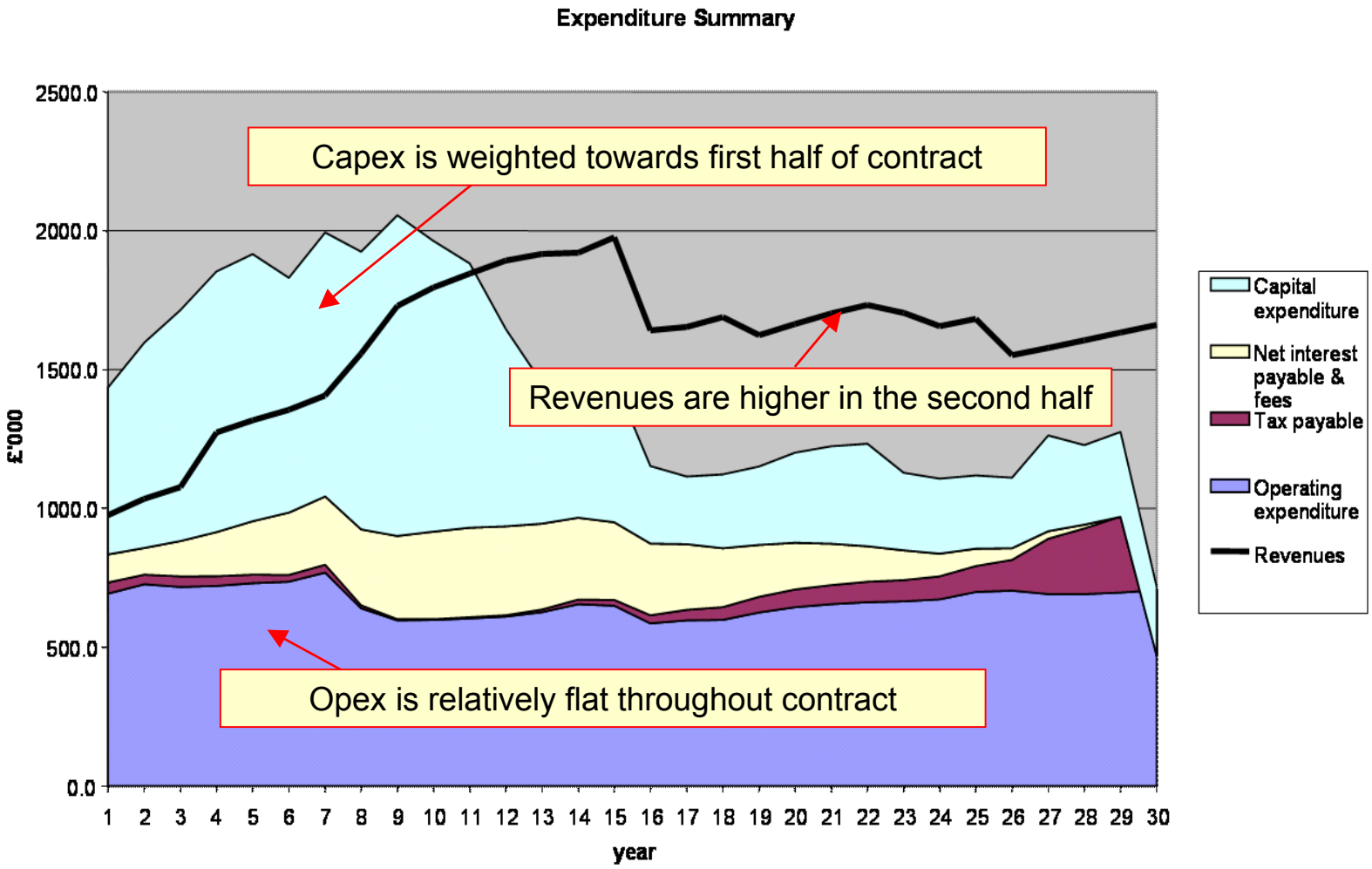

**The Alliance**

Parties combine their resources and expertise to execute the Works in the "spirit of collaboration". Parties also agree not to pursue claims against each other for losses and damages

# The PPP Contracts

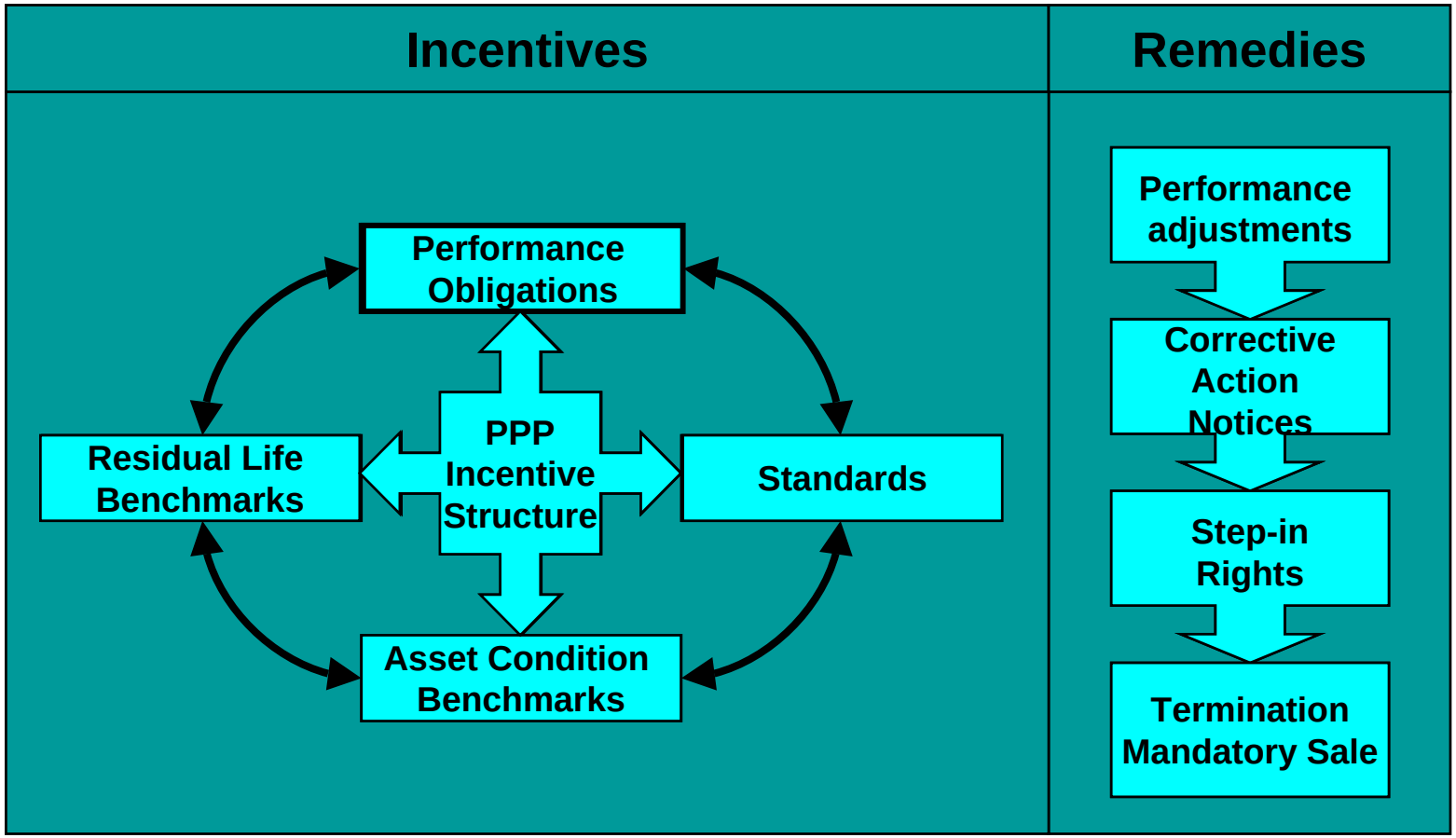
- **Predominantly output based contracts aiming to deliver:**
  - Upgrade of all assets and increased system capacity
  - Improve asset performance and reliability
  - No compromise to safety
  - Optimisation of Capex vs. Opex spend
  - Risk transfer (within limitations)
- **Key concepts**
  - Performance based incentives for all of the maintenance and significant part of renewal
  - Solutions are often at the option of Infraco
  - Focus on 'whole life asset management'
  - Some areas input specified on milestones (e.g. stations)
- **30 year contracts** – some parts of the contract seek to provide mechanisms to deal with the challenge of this length of contract
  - Periodic Review every seven and a half years (repricing and restatement of terms within limits)
  - Whole life asset management obligations
  - Role of Arbiter – if parties can not agree price
  - 'Notional Infraco', 'Economic and Efficient' and 'Good Industry Practice' concepts
  - Extraordinary review provisions

# Cost/Revenue Profile (as per bids)

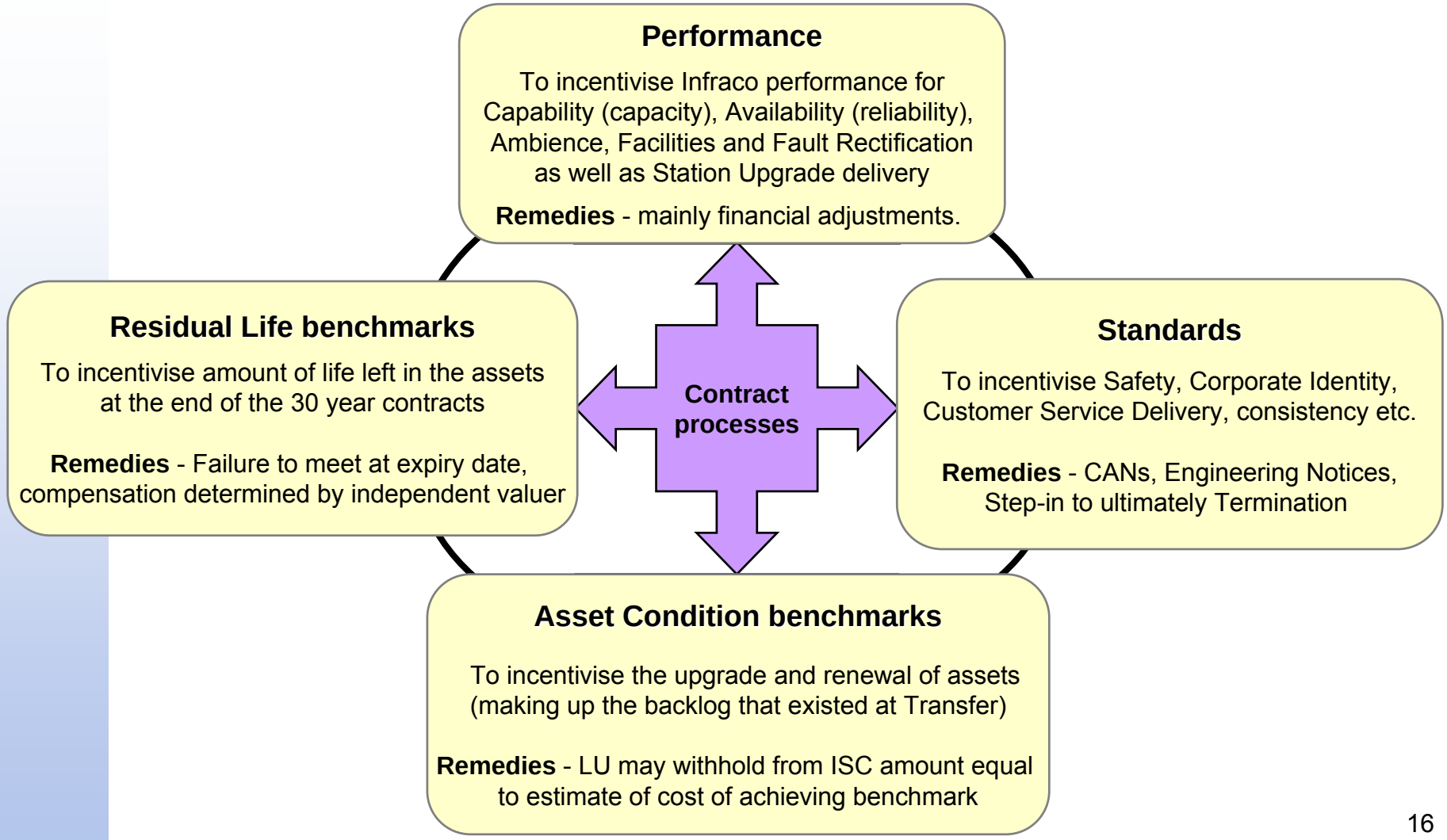


# Performance Regime and Delivery Obligations

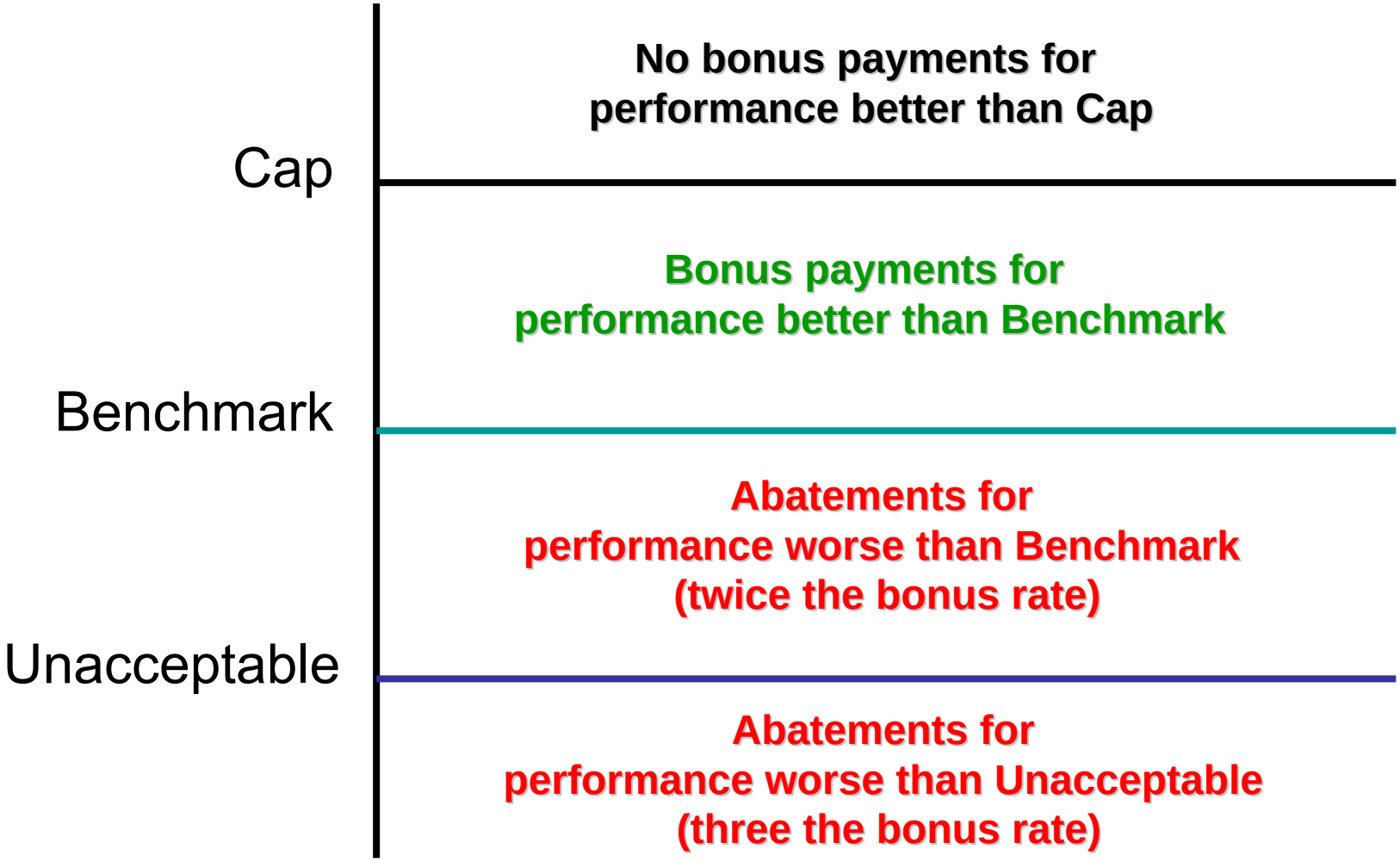
# PPP Incentive Regime



# PPP Incentive Regime



# PPP performance payment regime



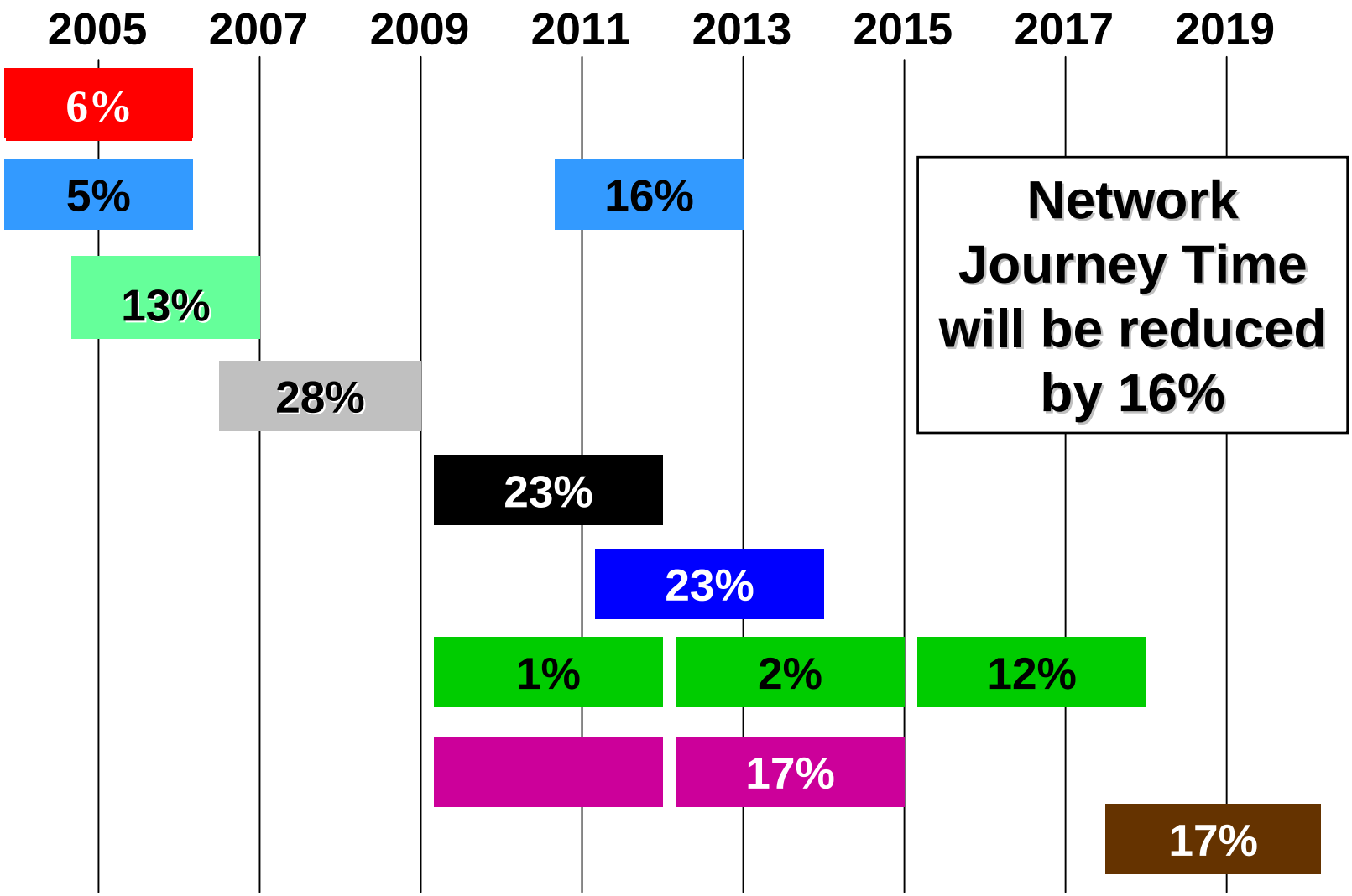

**Bid Infrastructure Service Charge adjusted for levels of performance achieved by the Infracos**

# Capability

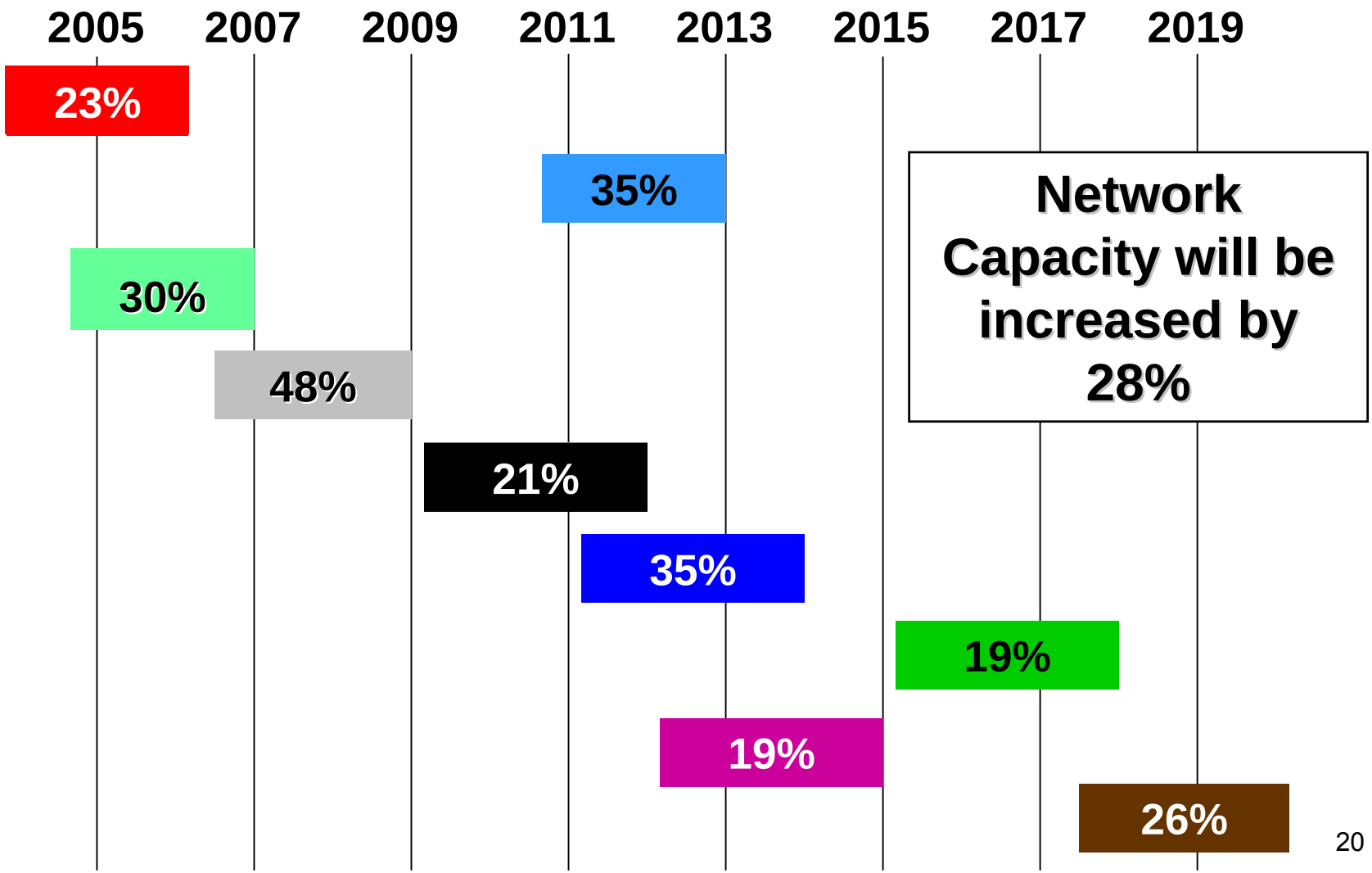
Line upgrades

- Run time (train performance)
- Headways (signal performance)
- Door performance
- Car layout
- Control functionality
- Junction layouts

# Phasing and scale of the Line Upgrades



# Phasing and scale of the Line Upgrades



# Availability

- All Service Disruptions > 2 minutes
- Impact on customers
- Elapsed time delay (initial delay in minutes)
- Convert to lost customer hours
- Conversion varies by:
  - Location
  - Direction
  - Time of day
  - Day of week






# Ambience

- Cleanliness
- Litter
- Graffiti
- Condition
- Appearance
- Heating
- Lighting
- Ride Quality
- Noise
- Public address

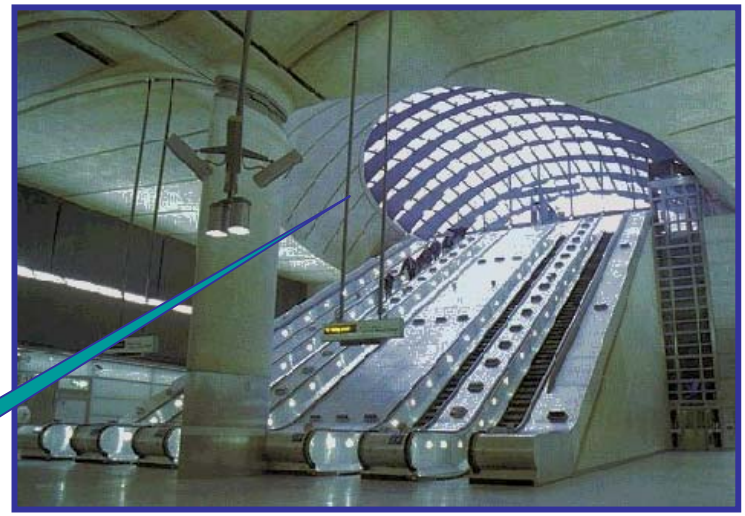

# Facilities

- Platform Edge Doors
- Toilets
- CCTV
- PA
- Dot Matrix Indicators
- Help Points
- Clocks
- Cleaning Audit
- Mobility Impaired Lifts


# Fault Rectification

All other faults

- Broken window
- Loose tiles
- Spillage on platform
- Light-bulb not working
- Noisy escalator
- Graffiti on station
- Track faults



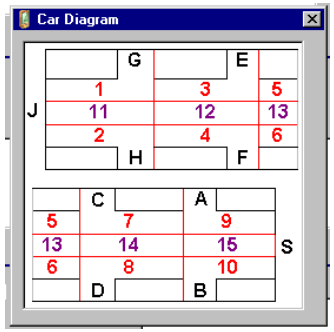
A Broken pane of glass here

# Rolling Stock Fault Rectification

Saloon side of the train

- Light tubes out
- Loose grab poles
- Graffiti
- Damaged poster frames
- Torn seats
- Broken arm rests

Handheld devices




# Station Modernisation & Refurbishment

Part input specified

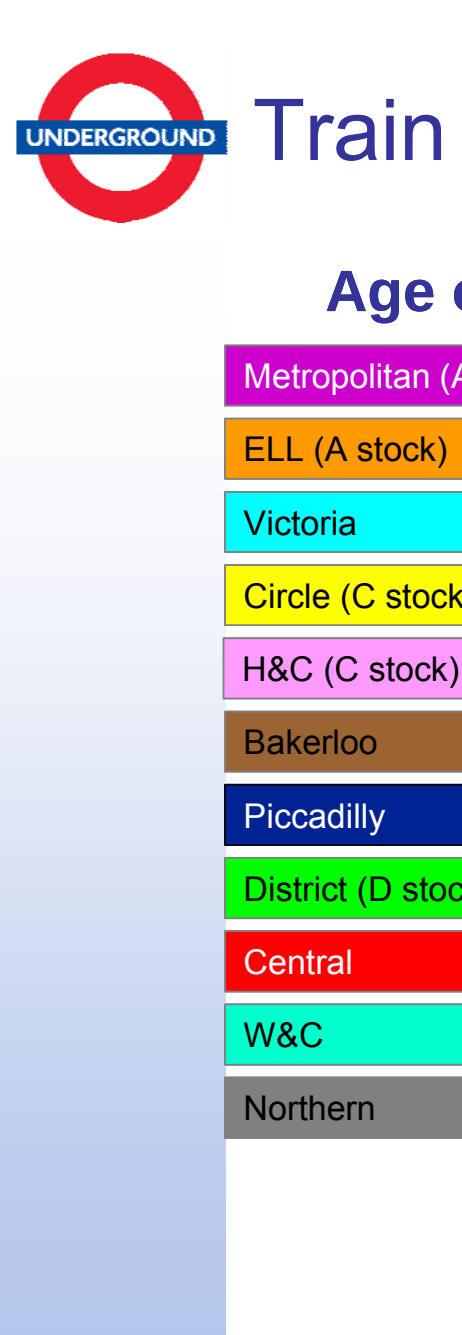
- Repaint and redecorate
- New flooring
- New tiles
- Refurbish renew signage
- Refurbish replace seating
- Anti-carbonisation treatment of concrete surface
- Enhancement of facilities

# Train Refurbishment

Part input specified

- Replace internal paneling and ceilings and flooring
- Replace windows with scratched graffiti
- Refresh external corporate livery
- Make trains more accessible for mobility impaired customers
- Replace all seating
- Enhancement of facilities

# Train Refurbishment



# What the PPP delivers

**Increased network capacity of approximately 28%**

**Significantly improved reliability of assets (*50% in first 7 ½ years 75% over 30 years*)**

**Upgrade of all asset groups and improved asset health**

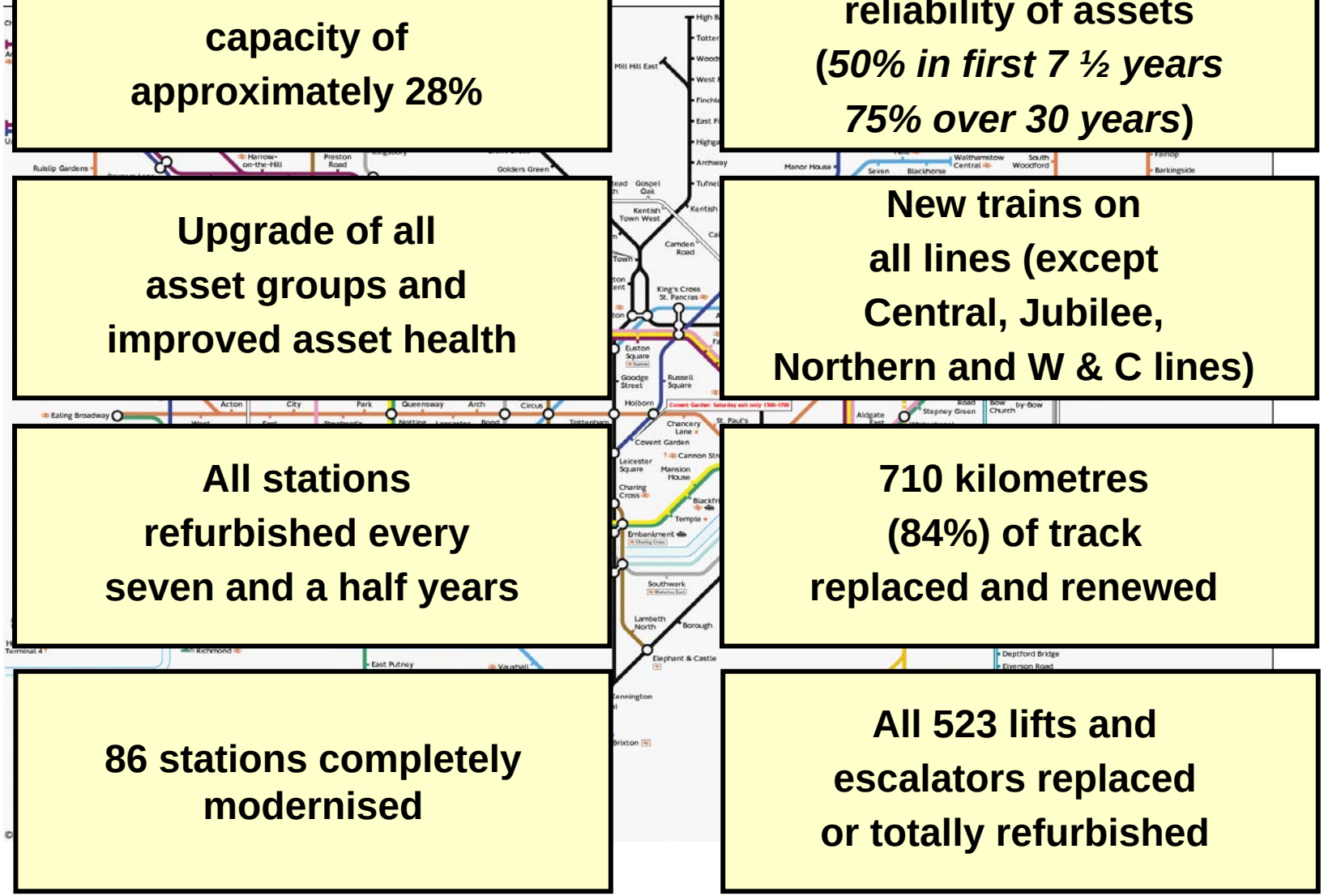
**New trains on all lines (except Central, Jubilee, Northern and W & C lines)**

**All stations refurbished every seven and a half years**

**710 kilometres (84%) of track replaced and renewed**

**86 stations completely modernised**

**All 523 lifts and escalators replaced or totally refurbished**



# PPP Performance

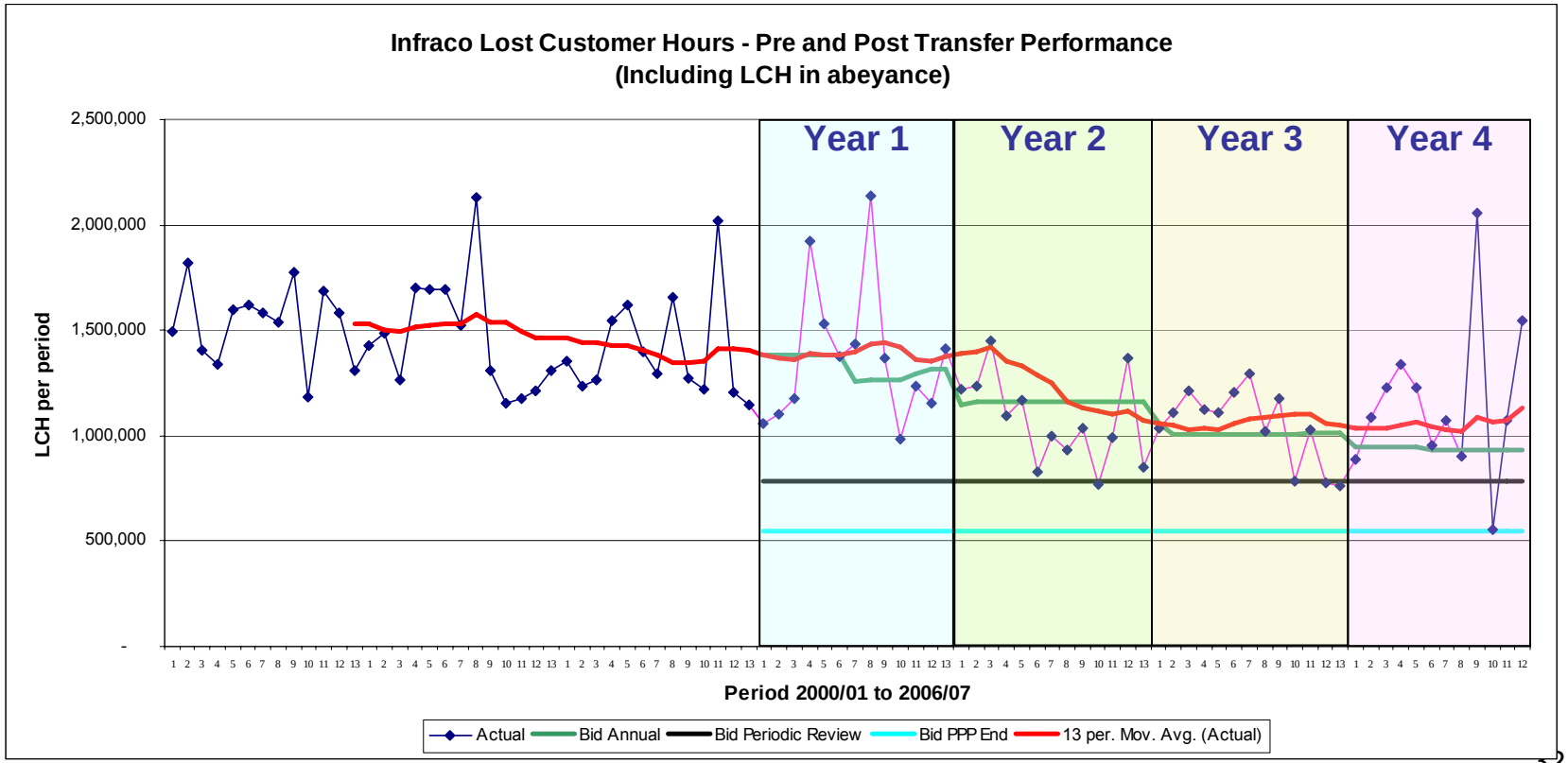
# Overall PPP performance to date

- Metronet & Tubelines have had a number of achievements and performance improvements including :
  - Jubilee Line 7th car
  - Wembley Park Modernisation
  - Graffiti reduction
  - Availability improvements on some lines

- But Concerns exist
  - Northern line Availability performance
  - Metronet stations upgrade programme
  - Inconsistent and slow progress on asset reliability performance, particularly for train control (signalling and track)
  - Engineering overruns
  - Metronet failures on the District line track programmes
  - Little evidence of 'whole life asset management' approach

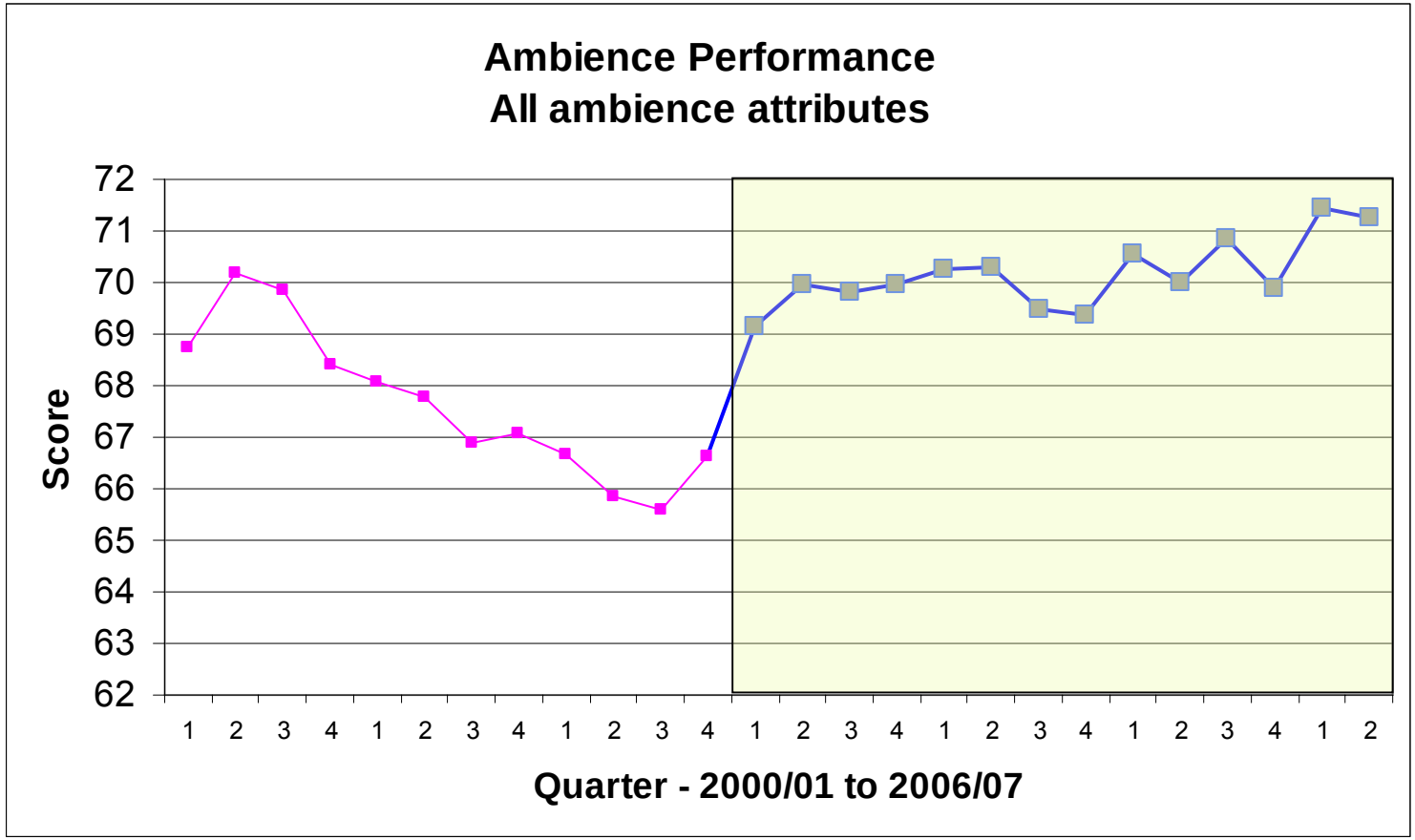
# Contract performance – Availability

- Reduce Lost Customer Hours by 39% (achieved 23%) by the end of the 4th contract year
- Reduce Lost Customer Hours by 49% by the Periodic Review
- Reduce Lost Customer Hours by 65% by the end of the PPP Contract



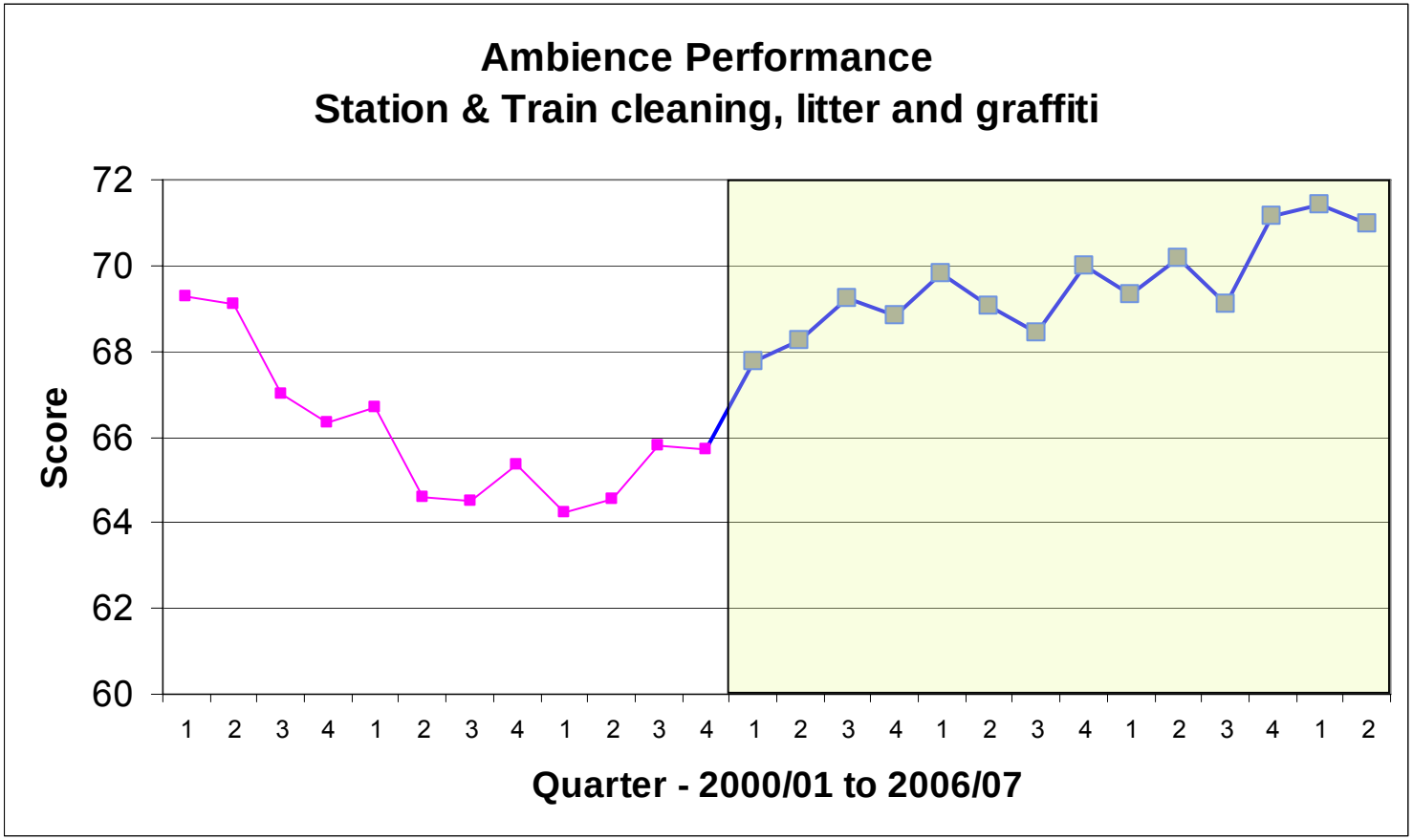
# Contract performance – Ambience

- Performance has improved from 66.2 in year before PPP to 71.4 in first half of year 4
- This represent an improvement of 7.8% in overall ambience performance to date



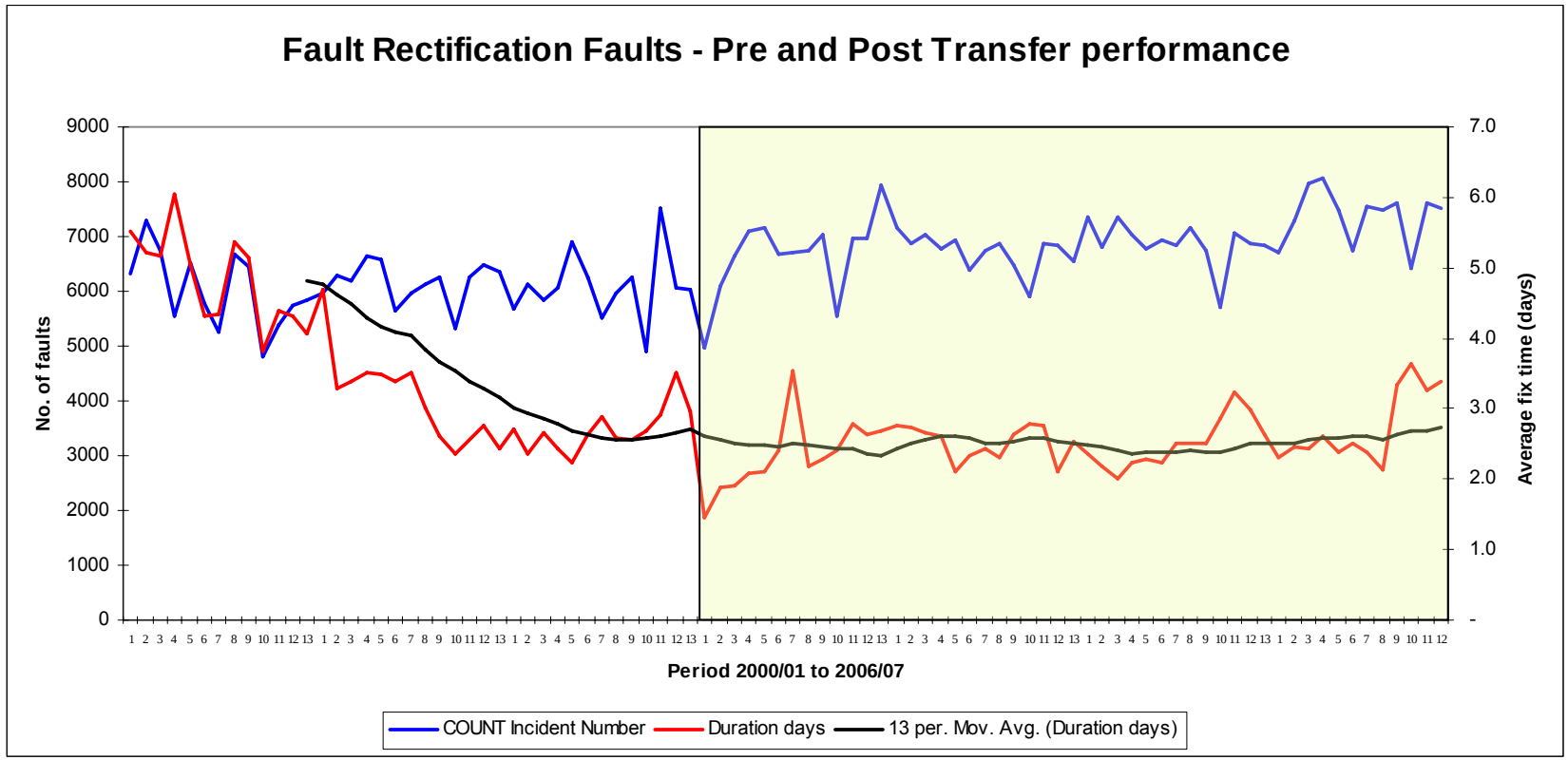
# Contract performance – Litter, cleaning & graffiti

- Performance has improved from 65.1 in year before PPP to 71.2 in first half of year 4
- Represent an improvement of 9.4% in cleaning, litter and graffiti performance to date



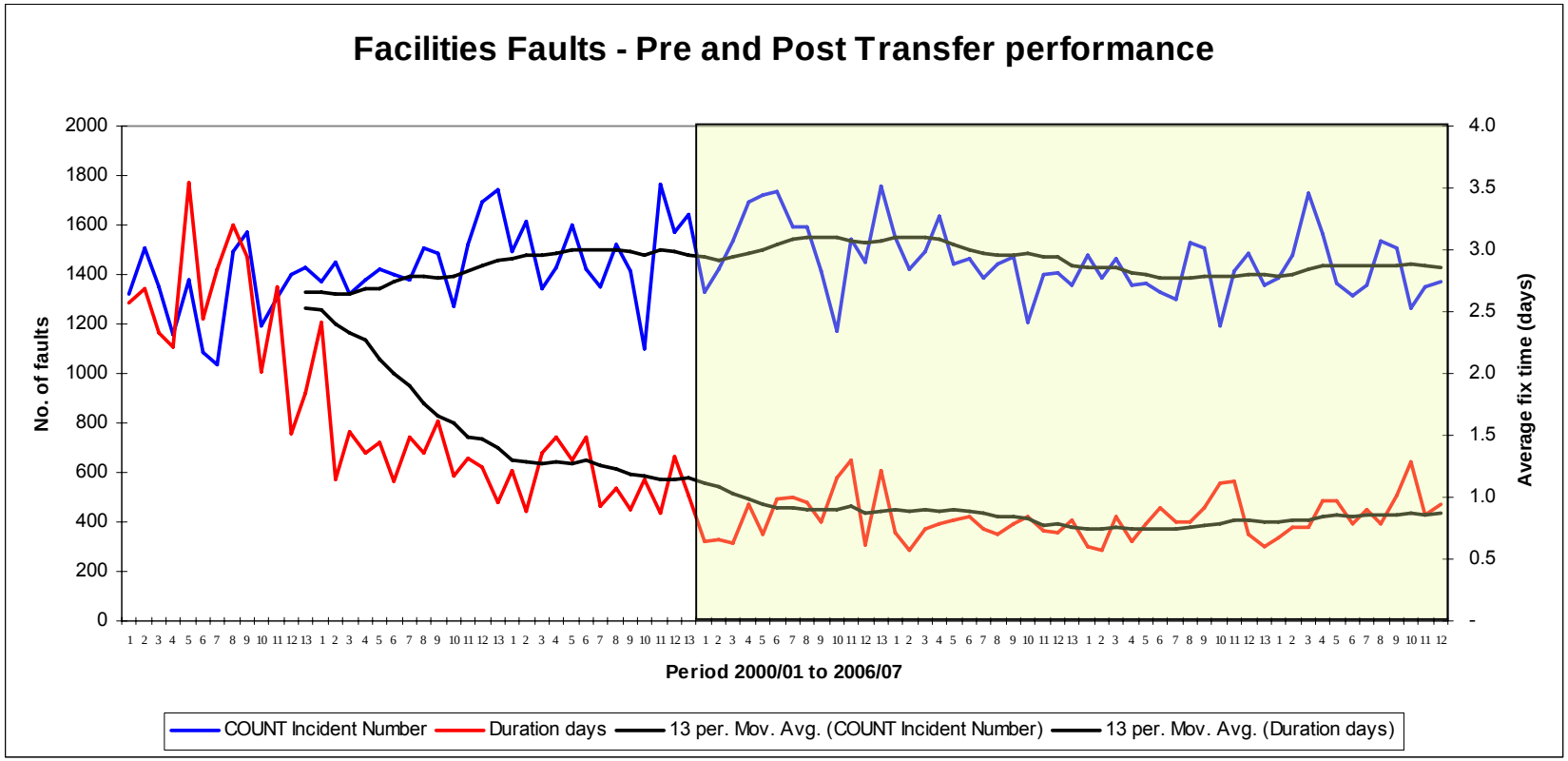
# Contract performance – Fault Rectification

- Step change in the number of faults reported following going live
- Time taken to clear faults has reduced from approx average 5 days to 2.5 days
- Contractual 'Standard Clearance Times' set at 25% took longer to clear, now 13%



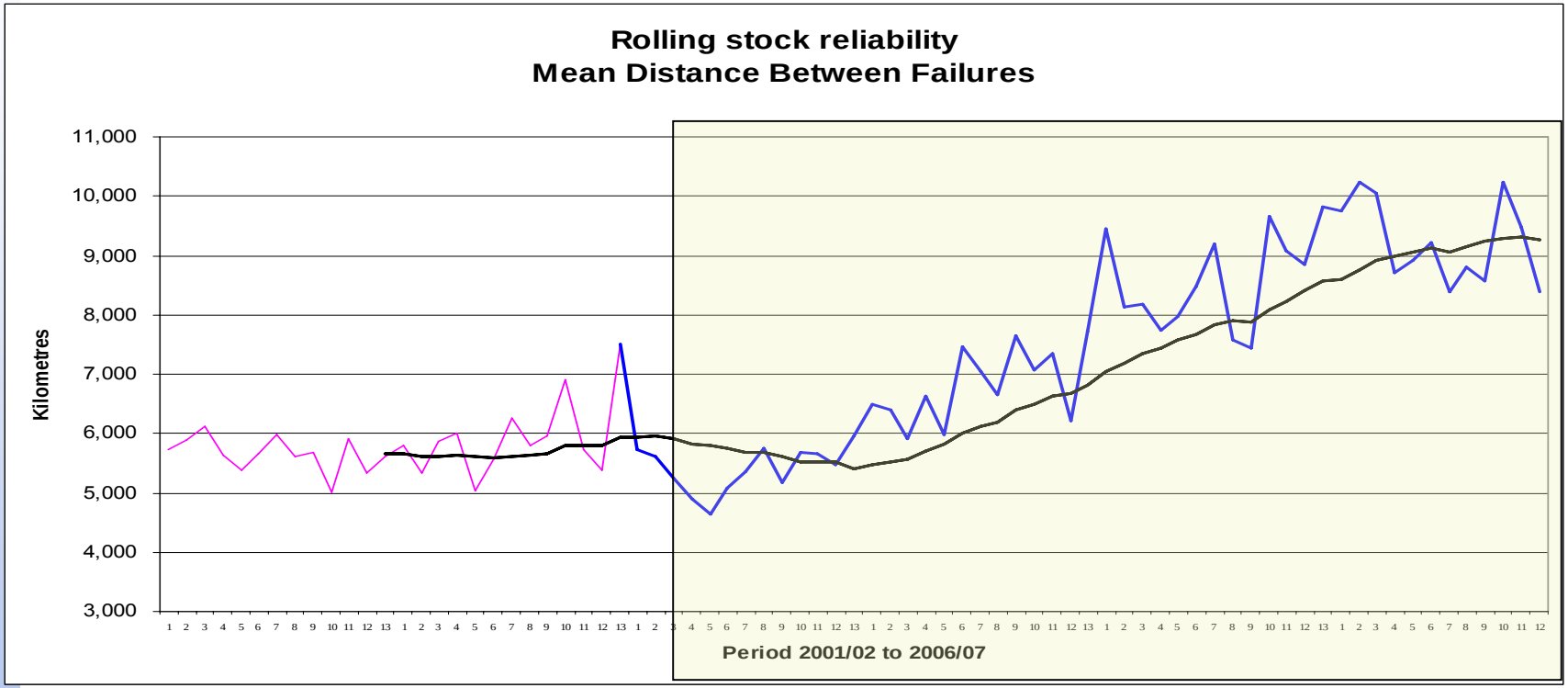
# Contract performance – Facilities

- Step change in the number of faults reported following going live
- Only a slight reduction in the number of faults since Transfer
- Time taken to clear faults has reduced from approx average 2.5 days to less than day



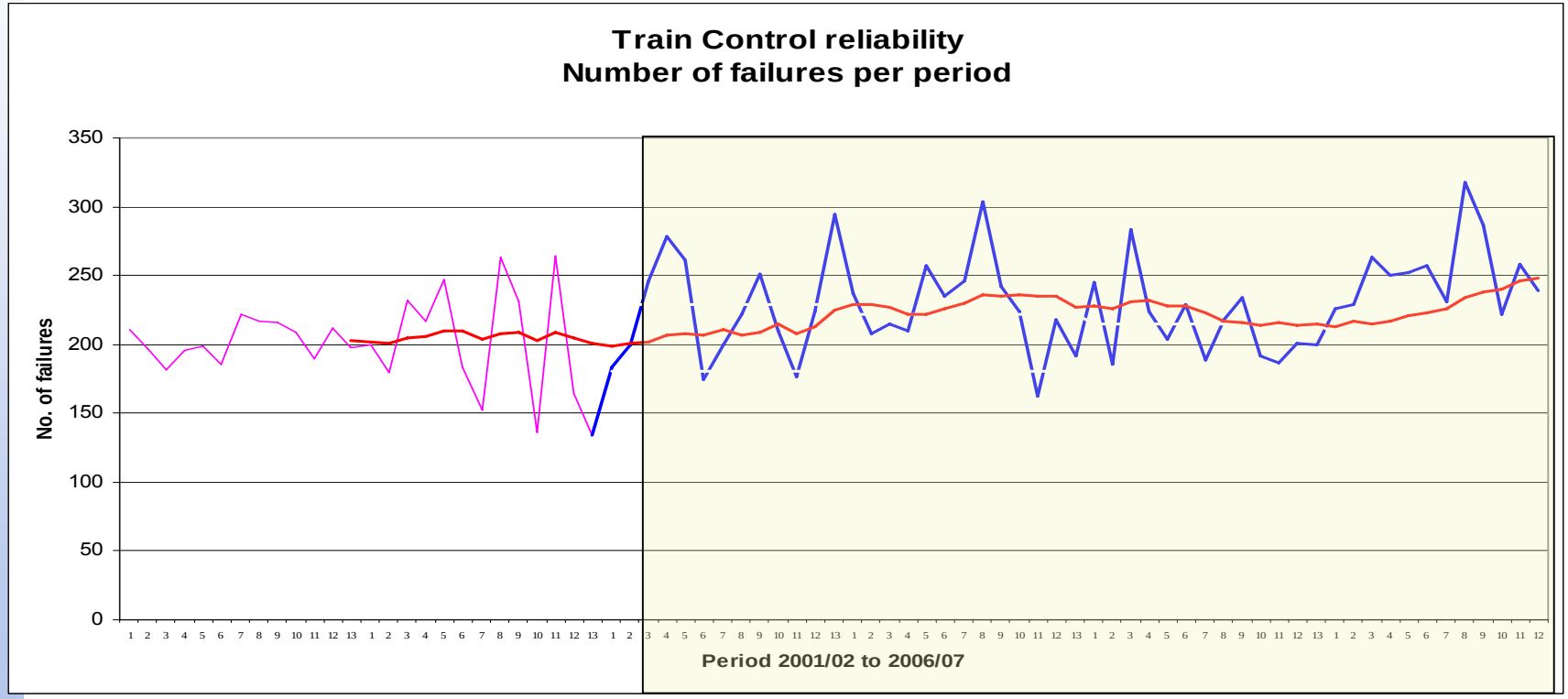
# Asset performance – Rolling stock

- Performance improved from 5,935km in year before PPP to 9,231km in year 4
- This represent an improvement of 56% in rolling stock reliability performance to date



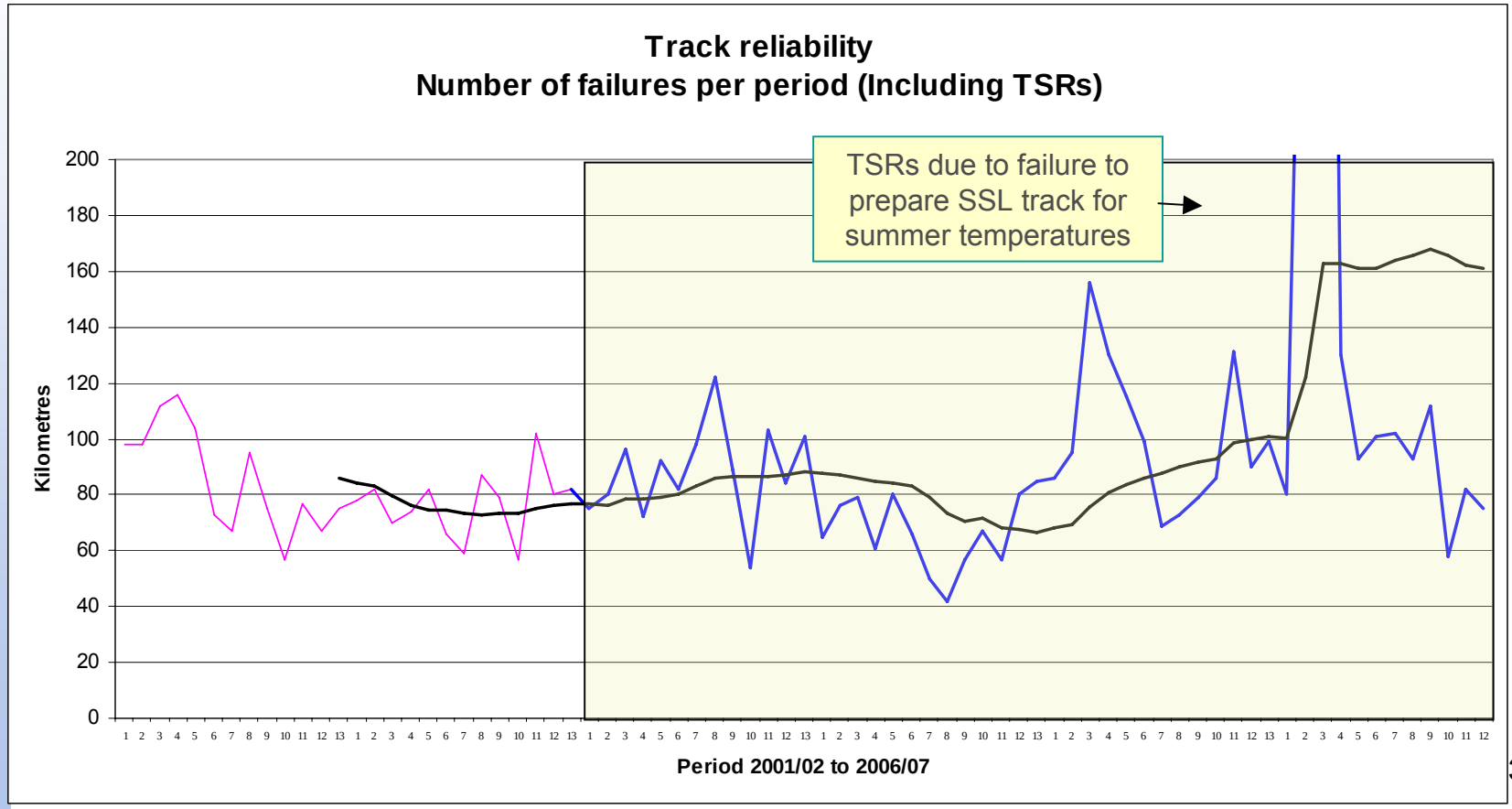
# Asset performance – Train Control

- Following early improvement in performance turned for worse in year 4
- Deteriorated from 200 failures per period in year before PPP to 253 per period in year 4
- This represent a deterioration of 26% in train control equipment reliability performance



# Asset performance - Track

- Following early improvement in performance turned for worse in years 3 and 4
- Deteriorated from 77 failures per period in year before PPP to 166 per period in year 4
- Excluding the 'failure to de-stress SSL track TSRs' track performance has got 18% better



# Station Upgrade Performance

# Renewal performance – BCV Stations

## Year 2

**3/3 completed**

Average 7 periods late

| 2004/05 Stations | Contract date | Actual / Forecast date |
|---|---|---|
| West Ruislip ( R ) | 05/03/05 | 10/08/05 |
| Chigwell ( R ) | 05/03/05 | 16/01/06 |
| Roding Valley ( R ) | 05/03/05 | 03/02/06 |

## Year 3

**3/13 completed**

Average 13 periods late

| 2005/06 Stations | Contract date | Infraco Actual / Forecast date | LU PM Forecast | Movement from previous forecast (weeks) | Status | -5 | -4 | -3 | -2 | -1 |
|---|---|---|---|---|---|---|---|---|---|---|
| Bond Street ( ER ) | 04/03/06 | 26/03/07 | | | | | | | | |
| Hainault ( M ) | 04/03/06 | 27/06/07 | | | | | | | | |
| Epping ( M ) | 04/03/06 | 05/03/07 | | | | | | | | |
| South Ruislip ( R ) | 04/03/06 | 24/01/07 | | | | | | | | |
| Northolt ( R ) | 04/03/06 | 24/11/06 | | | | | | | | |
| East Acton ( R ) | 04/03/06 | 10/04/07 | | | | | | | | |
| Leyton ( R ) | 04/03/06 | 18/04/06 | | | | | | | | |
| Wanstead ( R ) | 31/05/07 | 26/06/07 | | | | | | | | |
| Fairlop ( R ) | 04/03/06 | 05/03/07 | | | | | | | | |
| Snaresbrook ( R ) | 04/03/06 | 06/03/07 | | | | | | | | |
| South Woodford ( R ) | 04/03/06 | 21/03/07 | | | | | | | | |
| Loughton ( R ) | 04/03/06 | 31/03/07 | | | | | | | | |
| Theydon Bois ( R ) | 04/03/06 | 04/03/07 | 14/03/07 | 0 | LATE | | | | | |
| Walthamstow Central ( ER ) | 04/03/06 | 22/02/08 | 10/03/08 | 2 | LATE | | | | | |

## Year 4

**2/7 completed**

Average 6 periods late

| 2006/07 Stations | Contract date | Infraco Actual / Forecast date | LU PM Forecast | Movement from previous forecast (weeks) | Status |
|---|---|---|---|---|---|
| Elephant & Castle ( M ) | 22/07/06 | 30/04/07 | | | |
| Queensway ( M ) | 28/07/06 | 14/06/06 | | | |
| Lancaster Gate ( M ) | 29/10/06 | 17/11/06 | | | |
| Maida Vale ( M ) | 15/09/07 | 15/09/07 | | | |
| Piccadilly Circus ( ER ) | 28/04/07 | 11/05/07 | | | |
| North Acton ( R ) | 03/03/07 | 28/09/07 | | | |
| Leytonstone ( R ) | 03/03/07 | 28/11/10 | | | |
| Holborn ( ER ) | 03/03/07 | 24/12/07 | | | |
| Bethnal Green ( M ) | 18/08/07 | 12/09/07 | 12/09/07 | (1) | |
| Mile End ( M ) | 26/04/08 | 24/07/08 | 03/10/08 | 1 | |
| Woodford ( R ) | 03/03/07 | 23/07/07 | 18/09/07 | 19 | LATE |

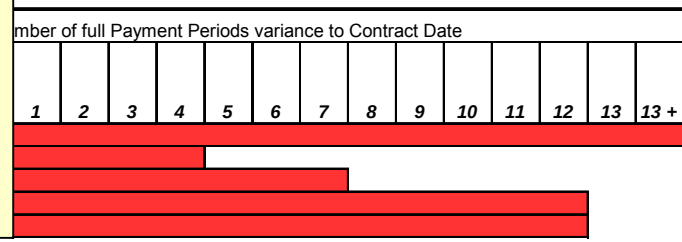
# Renewal performance – SSL Stations

## Year 2

**5/5 completed**

Average 8 periods late

| 2004/05 Stations | Contract date | Infr Act Fore da |
|---|---|---|
| Plaistow ( R ) | 05/03/05 | 31/0 |
| North Harrow ( R ) | 05/03/05 | 13/0 |
| Bow Road ( M ) | 05/03/05 | 05/1 |
| Turnham Green ( R ) | 05/03/05 | 03/0 |
| Dagenham Heathway ( R ) | 05/03/05 | 24/0 |

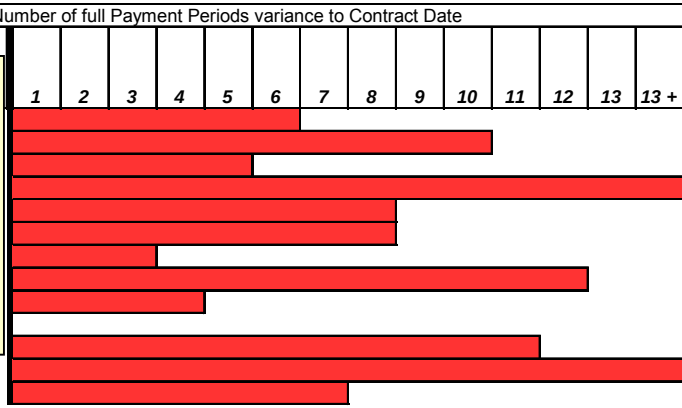



## Year 3

**11/13 completed**

Average 7 periods late

| 2005/06 Stations | Contract date | MPD / Fo | | Movement | |
|---|---|---|---|---|---|
| Northwick Park ( R ) | 23/08/05 | 24 | | | |
| Bayswater ( ER ) | 20/08/05 | 16 | | | |
| Ruislip Manor ( R ) | 31/12/05 | 16 | | | |
| Aldgate East ( M ) | 04/03/06 | 09 | | | |
| Becontree ( ER ) | 04/03/06 | 27 | | | |
| Dagenham East ( ER ) | 04/03/06 | 27 | | | |
| Eastcote ( R ) | 04/03/06 | 16 | | | |
| Great Portland St ( ER ) | 04/03/06 | 28 | | | |
| Ruislip ( R ) | 04/03/06 | 24 | | | |
| Shepherds Bush (H&C) ( R ) | 04/03/06 | 31 | | | |
| Stamford Brook ( R ) | 04/03/06 | 12 | | | |
| Uxbridge ( R ) | 04/03/06 | 14/09/07 | 24/12/07 | 15 | LATE |
| Putney Bridge ( M ) | 31/03/06 | 09/11/06 | 09/11/06 | 0 | DIS |

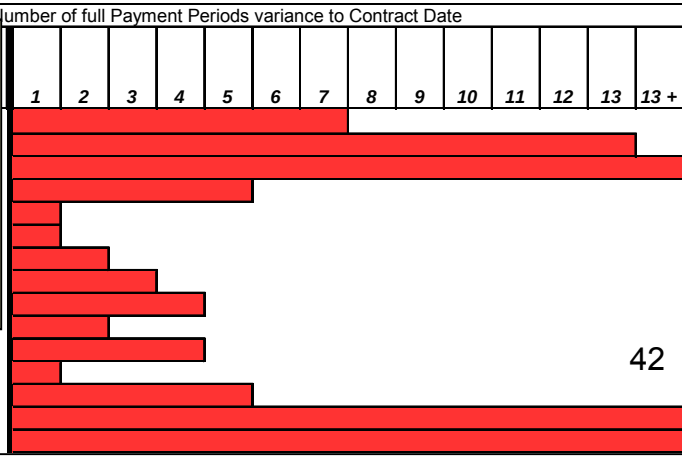



## Year 4

**1/15 completed**

Average 6 periods late

| 2006/07 Stations | Contract date | MPD / Fo | | | |
|---|---|---|---|---|---|
| Pinner (R ) | 15/07/06 | 04 | | | |
| Tower Hill (ER) | 22/07/06 | 11 | | | |
| Euston Square (ER) | 22/07/06 | 08 | | | |
| Chiswick Park (R ) | 03/03/07 | 13 | | | |
| Ravenscourt Park (R ) | 03/03/07 | 12 | | | |
| Gloucester Road (ER) | 03/03/07 | 27 | | | |
| Bromley-by-Bow (R ) | 03/03/07 | 24 | | | |
| Elm Park (R ) | 03/03/07 | 18 | | | |
| Upminster Bridge ((R ) | 03/03/07 | 26 | | | |
| Watford (R ) | 03/03/07 | 10 | | | |
| Northwood (R ) | 03/03/07 | 09/07/07 | 01/06/07 | (6) | LATE |
| Northwood Hills (R ) | 03/03/07 | 26/04/07 | 16/05/07 | (4) | LATE |
| Preston Road (R ) | 03/03/07 | 24/07/07 | 24/07/07 | 0 | LATE |
| Farringdon (M) | 03/03/07 | 09/10/08 | 09/10/08 | (2) | LATE |
| Cannon St. (ER) | 03/03/07 | 18/12/08 | 08/01/09 | 3 | LATE |



# Renewal performance – JNP Stations

## Year 2

**9/9 completed**

**On time**

| 2004/05 Stations | Contract date | | | |
|---|---|---|---|---|
| Northfields (ER) | 04/01/05 | | | |
| South Harrow (ER) | 04/01/05 | | | |
| Arnos Grove (ER) | 04/01/05 | | | |
| Burnt Oak (M) | 04/01/05 | | | |
| Tufnell Park (M) | 31/03/05 | | | DIS |
| Borough (M) | 04/02/05 | 04/02/05 | | DIS |
| Kennington (M) | 30/04/05 | 30/04/05 | | DIS |
| Kilburn (ER) | 04/01/05 | 04/01/05 | | DIS |
| West Hampstead(ER) | 04/01/05 | | | |

Number of full Payment Periods variance to Contract Date

| -1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 13 + |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

## Year 3

**11/11 completed**

**On time**

| 2005/06 Stations | Contract date | | | |
|---|---|---|---|---|
| St Johns Wood ( M ) | 07/01/06 | | | |
| Sudbury Town ( ER ) | 28/05/05 | | | |
| Morden ( M ) | 07/01/06 | | | |
| Golders Green ( ER ) | 07/01/06 | | | |
| Stockwell ( ER ) | 07/01/06 | | | |
| Manor House ( M ) | 07/01/06 | | | |
| Boston Manor ( ER ) | 07/01/06 | | | |
| Sudbury Hill ( ER ) | 07/01/06 | 07/01/06 | 0 | DIS |
| Ealing Common ( ER ) | 07/01/06 | 07/01/06 | 0 | DIS |
| Caledonian Road ( ER ) | 07/01/06 | 07/01/06 | 0 | DIS |
| Turnpike Lane ( ER ) | 07/01/06 | 07/01/06 | 0 | DIS |

Number of full Payment Periods variance to Contract Date

| -1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 13 + |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

## Year 4

**11/11 completed**

**On time**

| 2006/07 Stations | Contract date | | Movement | |
|---|---|---|---|---|
| Wembley Park ( M ) | 27/05/06 | | | |
| Neasden ( M ) | 27/05/06 | | | |
| Swiss Cottage ( M ) | 27/05/06 | | | |
| Chalk Farm ( M ) | 27/05/06 | | | |
| Kentish Town ( M ) | 27/05/06 | | | |
| Alperton ( M ) | 27/05/06 | | | |
| Knightsbridge ( M ) | 27/05/06 | | | |
| Hounslow Central ( ER ) | 27/05/06 | | | |
| South Ealing ( ER ) | 27/05/06 | | | |
| Park Royal ( ER ) | 27/05/06 | | | |
| Holloway Road ( ER ) | 24/05/08 | 28/03/08 | 0 | Contract change |
| Heathrow T4 ( ER ) | 17/09/06 | 17/09/06 | 0 | DIS |

Number of full Payment Periods variance to Contract Date

| -1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 13 + |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|