



London Underground and the PPP

The first year
2003/04

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Contents

1.	Foreword	2
2.	Background and overview	8
3.	PPP contractual performance	9
4.	PPP financial performance	20
5.	Asset performance	22
6.	Asset management	37
7.	Safety performance	39
8.	Relations with the PPP Arbiter	42
9.	Underground operations	43
10.	Conclusion	54

1. Foreword

In April 2003, London Underground completed the transfer of the responsibility for the care, maintenance and renewal of its assets - its rolling stock, stations, track and signals - to the private sector through a Public Private Partnership. This past financial year, concluding on March 31, 2004, marks the first full year of London Underground and Infracos performance under this 'PPP'. This report is a review of that performance.

The one observation with which everyone would agree is that London Underground suffers from a range of deep-seated problems resulting from decades of under-investment. This under-investment produced persistent asset failures that, in turn, led to an acceptance of inadequate performance. Management grew to accept doing more with less while perfecting the art of apology and passengers' expectations were driven down.

PPP. After much debate and dispute, the Government adopted the PPP as its antidote to this spiral of inadequate investment. Over the first 7.5 years of this 30-year arrangement, billions of pounds will be paid to three private sector companies, Tube Lines Ltd., Metronet BCV Ltd. and Metronet SSL Ltd. (the 'Infracos'). This investment was intended to be in exchange for the restoration and upgrade of the Underground's assets.

It remains to be seen whether the scope of improvements promised by the PPP will prove real or ephemeral. This is a function of several interrelated factors.

First, the scope of work of the PPP is primarily driven by financial incentives intended to reward or penalise the

Infracos based upon actual system performance, and the efficacy of this quite experimental system is unproven in the world of urban rail transport. Second, many of the promised improvements of PPP - including the line upgrades intended to increase capacity - are not intended to be delivered until after the end of the first 7.5 years of the contract, and PPP scope, pricing and funding could all be subject to significant renegotiation at that point. Finally, the Government imposed significant affordability constraints when previous management negotiated the details of the PPP, with the result that the bidders pushed out promised improvements from the first 7.5 year period to the second and from the second to the third. There is no committed funding for the periods beyond the first 7.5 years. Even if the PPP is fully implemented as intended, existing assets will not be fully restored to a state of good repair until the year 2025.

For current users of the Tube that is an unacceptable eternity. And for future passengers, the capacity increase promised by the PPP must be substantially accelerated if the London Plan forecasts of 800,000 more Londoners and 630,000 additional jobs by 2016 are to be realised.

Current management of London Underground took charge in July 2003 when control of the Underground transferred to the Mayor of London and became part of Transport for London. We have had less than a year to observe the performance of the Infracos under private ownership and their relationship to the operations of the remaining publicly-controlled portions of the system.

Over the past year, £1.1 billion was paid to these companies. During that same year, the Underground's assets continued to provide dramatic demonstrations of their inadequacy:

- Central Line fleet withdrawn for 8 weeks following the 25 January 2003 Chancery Lane derailment with continuing effects on services
- Inability to cope with excessive heat in August exacerbated discomfort of passengers
- Power outage on August 28 revealed shortcomings of communications network and signalling and control systems
- Hammersmith and Camden Town derailments
- Continuing track, signalling and rolling stock failures at a rate not demonstrably different from pre-PPP performance years.

It is clear that the failure of historically neglected, long-lived assets is continuing. It is impossible to determine at this early point, however, in what way this continuing failure may be tied to the structure of the PPP. One cannot as yet clearly distinguish between the performance lag in programmes that are just being implemented, teething problems, structural problems and genuine performance issues. We have attempted, therefore, to ground this report on a presentation of data that will form a baseline to judge future performance. We set forth performance under the contractual and financial measures, as well as Infracos' performance with regard to planning, reporting and asset failures for the key asset classes. We have added commentary within each asset class to provide a context for the data.

Future reports will benefit from our joint efforts with Tube Lines and Metronet to establish an asset register and a capital programme reporting system. These new data systems will measure the effectiveness of maintenance regimes and the performance against schedule and budget of planned capital programmes. Improved information will provide a common understanding of performance and will assist the parties to the PPP in focussing on and tackling problems.

Improved maintenance practices and resulting reliability improvements should be observable in the short term. Tube Lines and Metronet have predicted reductions in failures within different asset categories of between 15 and 49 per cent over the first 7.5 years. We intend to do everything in our power to hold them to these predictions. Under the renewals programme, the PPP must deliver major asset upgrades in the form of new trains, signalling systems and rebuilt track structure, which will permit a step change in performance. Many of these major upgrades are years away, but their delivery – as well as the overall success of the PPP – is dependent on the Infracos' proper execution of current design and planning activities. These too will be monitored vigorously.

In some respects, the parties to the PPP contract are working co-operatively and are demonstrating a willingness to consider joint solutions to management problems. Certain joint initiatives have shown early promise, such as the anti-graffiti programme. The Underground agreed with the Infracos to attack the paint on trains as a symbolic first step in demonstrating a greater concern for the Underground's assets and the travelling environment for passengers. All fleets



on the Underground are now being cleaned and new graffiti is removed within 24 hours. Metronet particularly has demonstrated effective management in cleaning the fleet most defaced by graffiti, the sub-surface fleet. Metronet has also introduced new management teams to improve the performance of rolling stock, demonstrating early success on the Central and Circle Lines. Tube Lines successfully brought forward the opening of the eastern end of Canary Wharf station.

However, the first year also gives significant cause for concern. The area of greatest concern is in planning and programme/project management, which drives the effectiveness of the maintenance programmes as well as major capital programmes. High-level asset management strategies have been haltingly produced and suffer from inadequate engineering input, while detailed work plans have sometimes been either non-existent, incomplete or inconsistent rather than competent and professional. The planning capability demonstrated this past year will not be adequate to manage the volume of work once the renewals programme accelerates.

A very troublesome example of inadequate planning is the damaging engineering overruns that frequently interrupted peak service in the last months of the year under review. Metronet and Tube Lines priced their bids for work under the PPP based upon plans to perform heavy maintenance at night and on weekends. This is an inefficient and expensive way of doing the work, but was designed to protect weekday service. Infracos overruns occurred from weekends and nights into service hours because of poor planning. In response, the Infracos have often

reduced the scope of the work performed. Many track renewal projects done so far have achieved 50-60% of what should have been delivered. Because of the modest amount of renewal work that was scheduled over this first year, this shortfall can be recovered, but this early pattern cannot be allowed to continue: the Infracos must undertake the promised work, while protecting service.

The effectiveness of maintenance programmes will be revealed over time, however the past year has left much to be desired. Again, proper planning is critical. Smart planning, efficient delivery and professional supervision in the field are attributes in short supply across the Infracos. Addressing these weaknesses will require a greater addition of outside talent from Infraco shareholders or extensive training and recruitment programmes.

Over the coming year, the first major station rebuilds will be underway with work on 19 stations and more track renewal work will be undertaken. The rebuilding of the District Line between Earl's Court and Whitechapel should reduce asset failures and produce a smoother ride, but at the cost of loss of that service over numerous weekends. Planning for the first major line upgrades, the Jubilee, Victoria and Northern line programmes, must develop to the point of accurately developing schedules and accountabilities.

Good management can overcome some of the shortcomings we have observed in Infraco planning activities, but all the parties to the PPP remain captive to the limitations of the PPP contracts themselves. It is likely that there will need to be changes to the PPP contracts reflecting actual experience during the

first year or two of their execution. We will also be evaluating whether the financial incentives engrained in the contracts in fact motivate appropriate behaviour and outcomes, and whether the work the Infracos elect to perform is the highest priority work in light of the condition of Underground assets and the needs of Underground customers.

I was not a party to the process that led to PPP. I came to London to restore the Underground's lost reputation as the world's premier rapid transit network. In this brief time, I have been struck by the opportunity presented by the new investment and the dedication of many of the people who work on the Underground. But I have also been disappointed by the overly convoluted processes that the contracts require, the limitations on London Underground's rights and the inadequacies of real world technical planning and analysis that went into the PPP. These conditions need to be changed.

PFI. Metronet and Tube Lines essentially control the performance of the Underground's assets, which is the major determinant of service quality. Nonetheless, they are not the whole story. Prior to the PPP, London Underground entered into a series of Private Finance Initiatives for delivery of discrete systems. Tube Lines has inherited one, the Alstom provision of Northern Line trains. Another, stations for the British Transport Police, has been largely delivered. Three others, Prestige (ticketing), Connect (communications) and Power, present enormous challenges in themselves and in combination with the PPP. These PFIs and the PPP were not planned or designed to work

together to London Underground's advantage, with the consequence that the public sector is exposed to significant cost risk.

Prestige is the ticketing PFI that now supplies ticketing systems for TfL generally, including the new smart card technology. In the past year, the Oyster card has been introduced and the underlying technology has performed remarkably well. The card's full functionality has not yet been introduced however, and the coming year should see the delivery of further smart card applications.

The Power PFI contract with Seeboard Powerlink was entered into in connection with the decommissioning of the Underground's Lots Road power plant. The Power PFI's resilience was called into question during last year's power outage. We have worked with Seeboard Powerlink to strengthen management and communications with the Underground, EdF and the National Grid to remedy shortcomings. An additional concern, however, is the need to provide power to support line and rolling stock upgrades under the PPP. Over the past year, we have put together the planning apparatus to bring forward any such power upgrade, and we have co-located teams with Seeboard Powerlink and the Infracos to define the future power requirements in an attempt to ensure that we do not contract for (and hence incur unnecessary costs for) more power than is required. This work is on the critical path for PPP upgrades and will require substantial infrastructure improvements by the end of the decade.



Connect is the PFI under which the Underground's current radio system is maintained and its new radio system is to be delivered. The delivery of the new radio system is already two years late and over budget. In the Connect PFI, we have inherited a poorly managed contractual arrangement that has so far failed to deliver the system that is critical to our efforts to improve operations, safety and information. The system is now scheduled for delivery in 2006. That deadline will be met and substantial cost overruns avoided only if the Connect team, working in co-ordination with the Infracos, completes the basic engineering and construction work over the next 18 months. In order for this to happen, Connect must share limited engineering hours and draw on the Infracos' engineering trains, protection personnel and other assets, creating an enormous co-ordination challenge, rife with potential conflict and resulting delays.

Underground Operations. Following the adoption of the PPP, Transport for London assumed control of London Underground on July 15, 2003.

In assuming control, we have articulated three immediate challenges:

- Management of the PPP and PFI relationships and responsibilities
- Improved operations
- Investment in stations to expand access, building on the PPP investment programme where possible.

Over the past year, we have defined improved operations as the delivery of a safer, cleaner and more reliable service. In the face of the extreme conditions faced over the past months, substantial progress has already been made.

Following the discussion of PPP performance, this report summarises and reviews London Underground's operating performance for those aspects of the system that remain under its control.

We face many of the same challenges as the Infracos. We must upgrade our project management practices if we are to effectively integrate the number of competing capital schemes that are before us. We must complete the development of systems that will permit effective coordination of all renewal work, including non-PPP investments.

The PPP scope calls for the renewal of existing stations but does not deliver major necessary changes that will relieve congestion. For example, Victoria Station must be expanded or it will limit the exploitation of the new trains and signals on the Victoria Line. Moreover, the Underground is an inhospitable environment for many Londoners. The PPP provides some relief for users with special needs, particularly those with hearing or sight limitations. But the PPP provides very little in the way of improved step-free access to the Underground. There currently are 40 step-free stations and the PPP station programme will make 16 more stations step-free. The Mayor and Commissioner of Transport wish to make at least half the network step-free within 15 years. That imperative and the need for congestion relief come together to define additional investment, as yet unfunded, that must be undertaken coincident with the PPP stations programme.

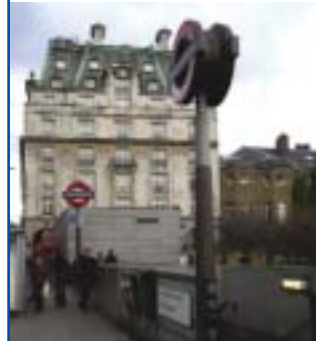
In the end, the PPP contracts were a product of substantial compromise,

trading time and scope for reduced investment. Projects were removed from the programme or moved far into an unfunded future to reduce the cost of the PPP. This compromise creates grave potential risk because the sizeable investment in the early years does not produce the kinds of visible outcomes that would inspire confidence in the project and rally financial commitment going forward. Billions of pounds will be spent, but little change will be apparent, save possibly the effects of improved maintenance – but even this is uncertain, given the continuing degradation of the assets. Therefore, support for the long-term programme of renewal is at risk of short memories and demagoguery. Government must follow through on its commitment to 30 years of investment, and the parties to the PPP will have to look for ways to accelerate visible improvements.

The complexity of turning the Underground around within the context of these novel contractual and management structures makes for an endless list of performance metrics and commentary. At the end of the day, however, the system's performance as experienced by passengers will provide the only judgement that counts.



Tim O'Toole
Managing Director
London Underground Limited
June 2004



2. Background and overview¹

On 31 December 2002, Tube Lines, the private consortium comprising Bechtel, Jarvis and Amey, assumed the responsibility for the maintenance and renewal of the assets of the Jubilee, Northern and Piccadilly lines. On 4 April 2003, Metronet, the private consortium comprising Balfour Beatty, W. S. Atkins, Thames Water, Bombardier Transportation and Seeboard assumed responsibility for two entities: Metronet Rail BCV, which has responsibility for maintenance and renewal of the assets of the Bakerloo, Central, Victoria and Waterloo & City lines, and Metronet Rail SSL (Sub-Surface Lines), which has responsibility for maintenance and renewal of the assets of the District, Circle, Metropolitan, Hammersmith & City and East London lines.

The idea underlying the PPP was that private sector companies were better positioned than the public sector to deliver improved performance for London Underground through access to specialist technical resources, greater financial certainty and more efficient use of financial resources, project management skills, and knowledge of good industry practice (particularly in the area of whole-life asset stewardship).

The Infracos are expected to optimise cost and performance by looking at the whole asset life-cycle. The PPP contract is based significantly on output-based performance specification, with the expectation that Infracos decide what maintenance to do and which investment projects to carry out to deliver the required performance. In some areas, such as station improvements, an output-based

approach was not deemed adequate; for these areas, the scope of work is more precisely defined. Infracos are then paid a fee every four weeks that is adjusted upwards or downwards on the basis of actual performance.

In assessing first-year performance, this report reviews:

- **PPP contractual performance:** How the Infracos are performing against the performance output benchmarks and with respect to progress on the major projects required in the contract, such as line upgrades and station improvements.
- **PPP financial performance:** How contractual performance is reflected in the payments. We also look at the extent to which the increased resources anticipated by the PPP have materialised so far.
- **Asset performance:** How the assets have performed since transfer.
- **Asset management:** Infracos' plans for whole-life asset management.
- **Safety performance:** How the PPP has performed in delivering the requirement of 'no degradation in safety.'
- **Relations with the PPP Arbiter.** How London Underground has worked with the PPP Arbiter.
- **Underground operations.** How London Underground's operations have performed over the last year and plans for the future.

All measures are as of 31 March 2004, the financial year-end for 2003/04, unless otherwise indicated. This represents the one-year anniversary of the Metronet contracts and 15 months of the Tube Lines contract.

1. Nothing in the report shall create any legal relations between London Underground and any other party nor shall it be deemed to interpret, amend, waive or otherwise affect any provision of any contract or agreement identified herein. The report is issued without prejudice to the exercise by Transport for London or London Underground of their rights under any contract or agreement identified herein.

3. PPP contractual performance

The PPP contracts define three primary output performance measures:

- **availability**, a measure of day-to-day service reliability;
- **capability**, a measure of the potential capacity of the assets ultimately to reduce journey time;
- **ambience**, a measure of the quality of the travelling environment.

In addition, the contracts measure performance according to a regime of **service points**, which are allocated for facilities faults and faults that are not rectified within a set time.

Each of the first three measures compare Infraco performance to a benchmark based on previous London Underground performance. Performance better than benchmark receives a financial bonus,² while performance worse than benchmark receives a financial abatement.

In addition, the Infracos are required to deliver a series of defined **major projects** such as line upgrades and station modernisations. Performance on major projects is measured by progress against contractual milestones for a defined scope of work.

3.1 Availability

Definition and measurement

Availability takes into account each disruption to the service that lasts two minutes or more. The actual length of each incident is then multiplied by a set factors (which varies by the location and time of day of the incident) to determine the impact on customers. This produces Lost Customer Hours (LCH), which are a

surrogate for quantifying the total amount of delay caused by that incident to customers across the network.

Infraco LCH performance is measured against a benchmark set at 105% of London Underground's historic level of lost customer hours, with performance worse than benchmark incurring abatements. Performance worse than a further 'unacceptable' level incurs additional abatements.

Performance

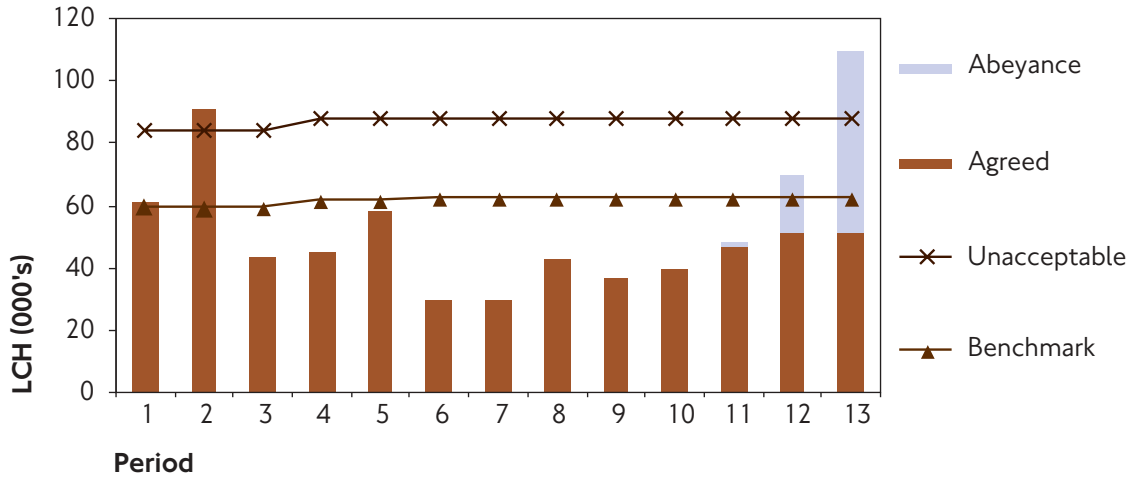
BCV

Performance against the availability benchmark has been mixed over the year. In the last quarter of the year performance on all BCV lines was better than benchmark, although a slight deteriorating trend could be observed over the quarter.

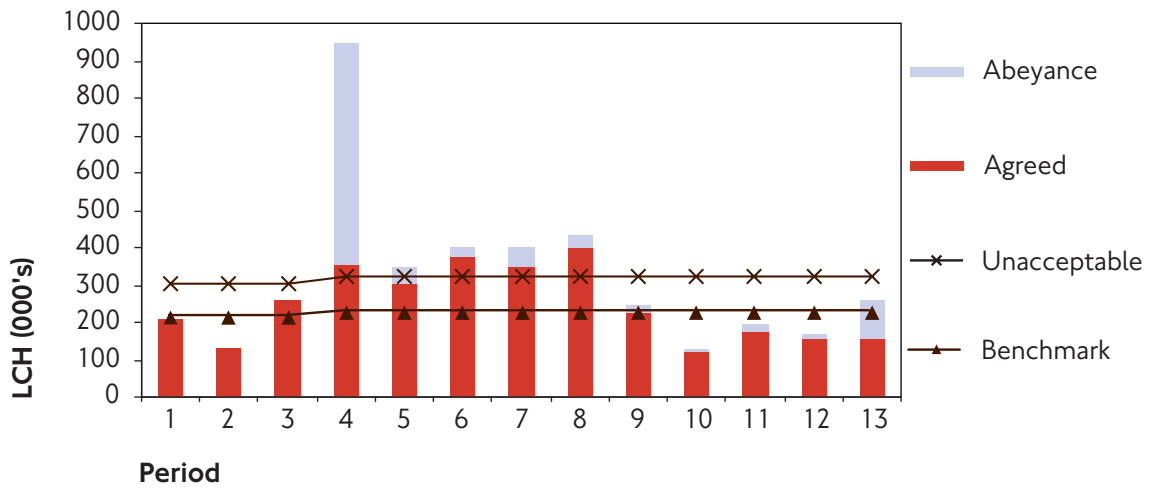
Central line performance was worse than benchmark for the majority of the year, which was consistent with performance immediately preceding transfer. Apart from an escalator problem at Bond Street in period 4, the most significant cause has been ongoing problems with the line's rolling stock. The Chancery Lane incident (which occurred before transfer) also caused an increase in both staff and customer sensitivity to unusual train noise, which led to an increase in reporting of unusual noise and therefore an increase in trains withdrawn from service in response to these reports. The step change improvement in performance towards the end of the year shows the positive effect of the Metronet remedial programme.

2. Except for service points, where only abatements are applied for failure to meet threshold.

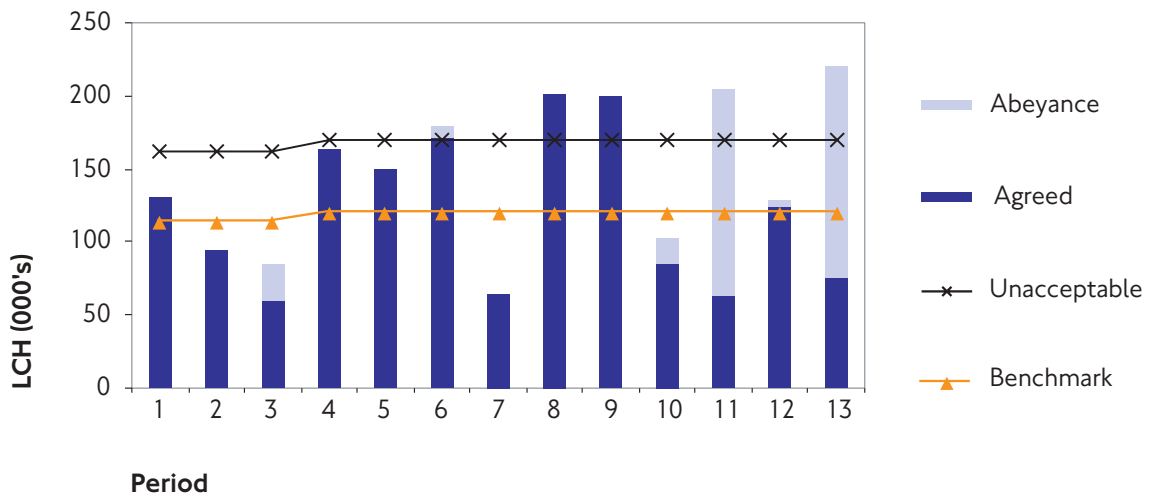
Bakerloo line - Lost Customer Hours

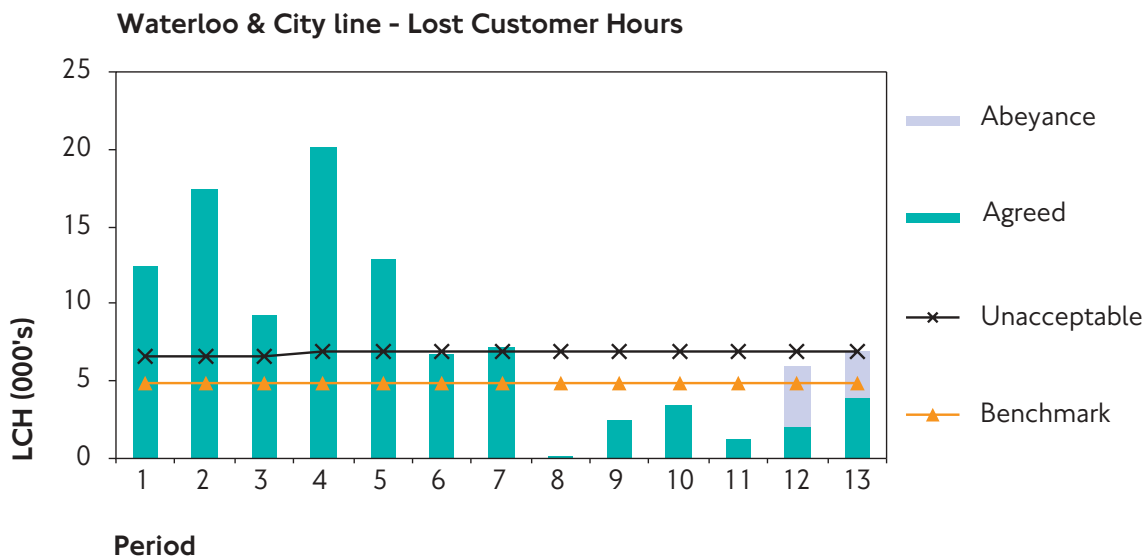


Central line - Lost Customer Hours



Victoria line - Lost Customer Hours





Poor performance on the Victoria line (with results worse than benchmark in half the year's periods) resulted principally from a combination of signal failures and train failures. BCV's interim programme of improvements to the signalling assets have led to improved performance in recent periods and should deliver further performance improvements. Ultimately, the Victoria line upgrade due in 2013 will provide a completely new signalling system.

Poor performance in the first half of the year on the Waterloo & City line was primarily due to ongoing rolling stock and track defects. It uses the same rolling stock as the Central line and therefore has suffered from similar problems. However, as with the Central line, performance has been improving, with the most recent quarter's performance better than benchmark.

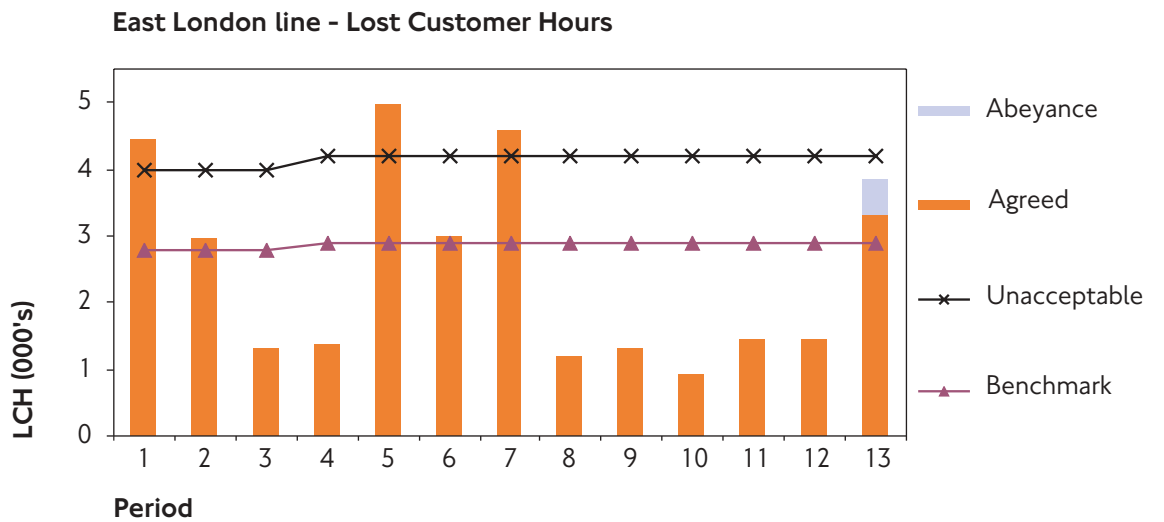
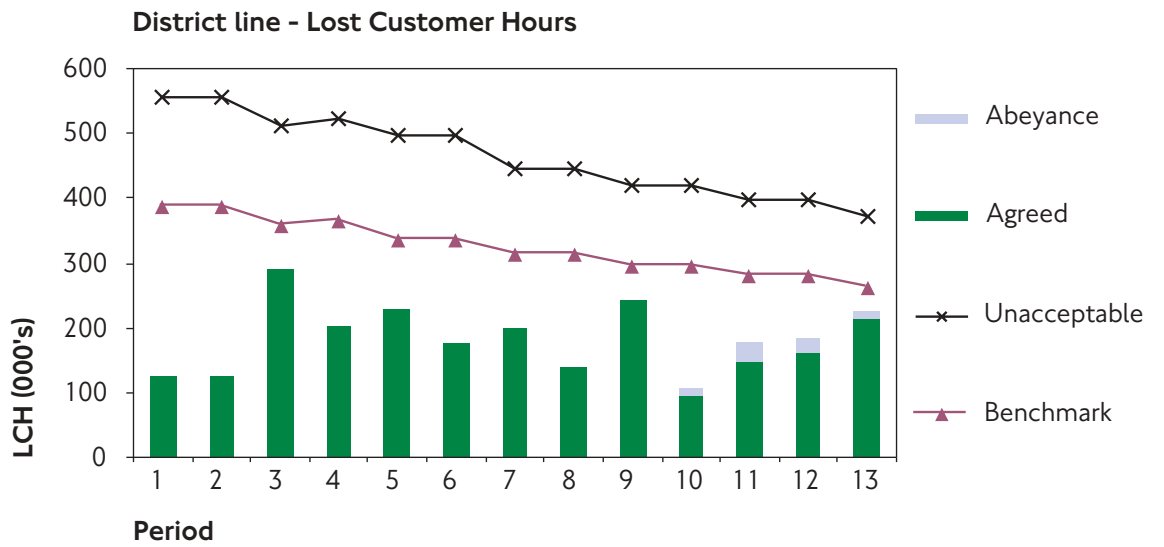
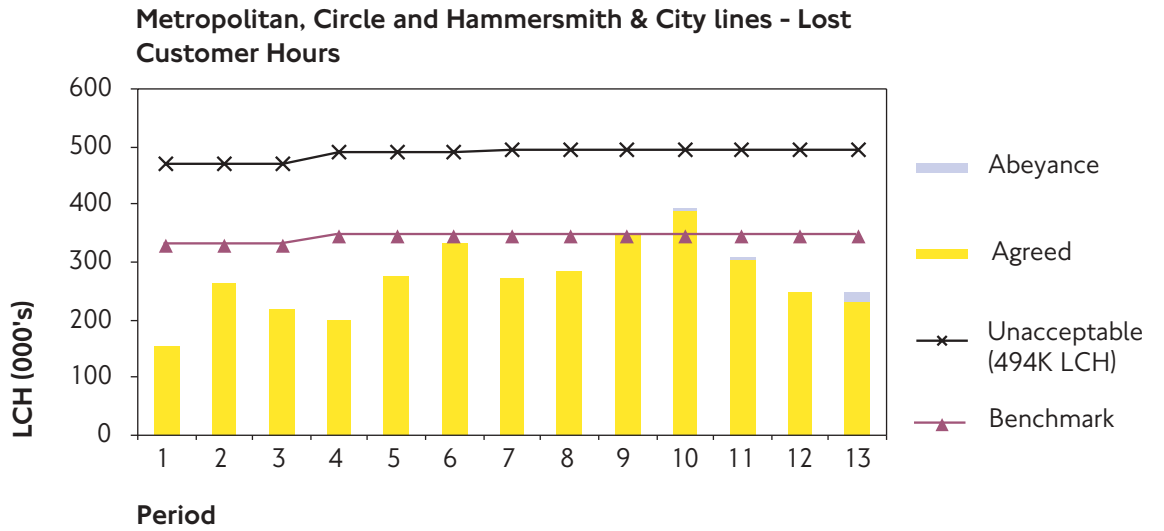
On the Bakerloo line, average performance has improved since transfer; performance has been better than benchmark for most of the year.

SSL

Metronet SSL is performing better than benchmark on all lines as at year-end. To address the reliability of the Circle line, which has always been weak, Metronet have put more technicians in place over the last year; this appears to be improving response time to incidents and thereby improving contractual performance.

Scores for the East London line were worse than benchmark due to problems associated with the installation of a new computerised signalling control system midway through the year. These problems have now been substantially resolved, as measured by a return to a normal fault rate.³

3. Due to the limited size of the East London line, a single defect has a disproportionate effect (just as on the Waterloo and City). This means performance for these lines will tend to be more volatile than other lines.

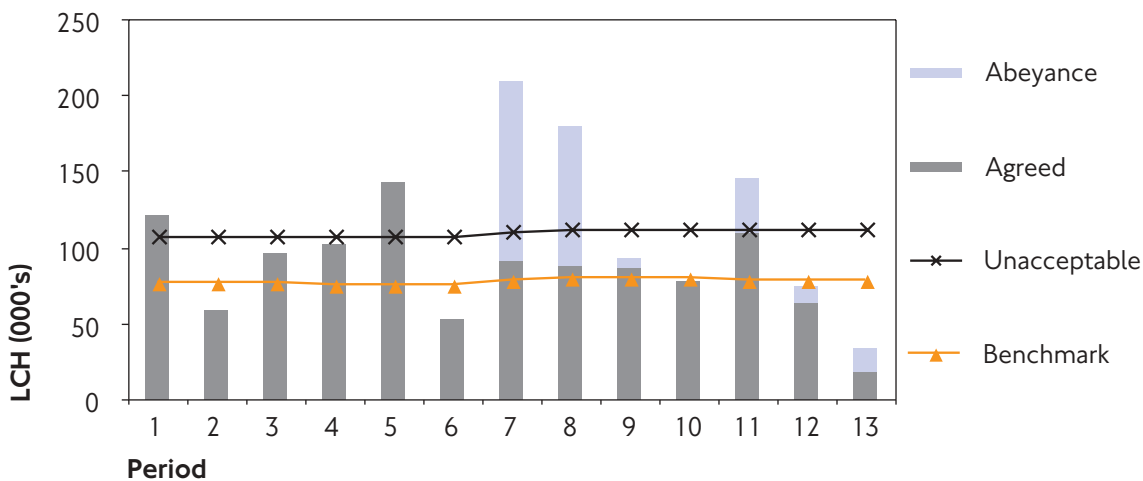


JNP

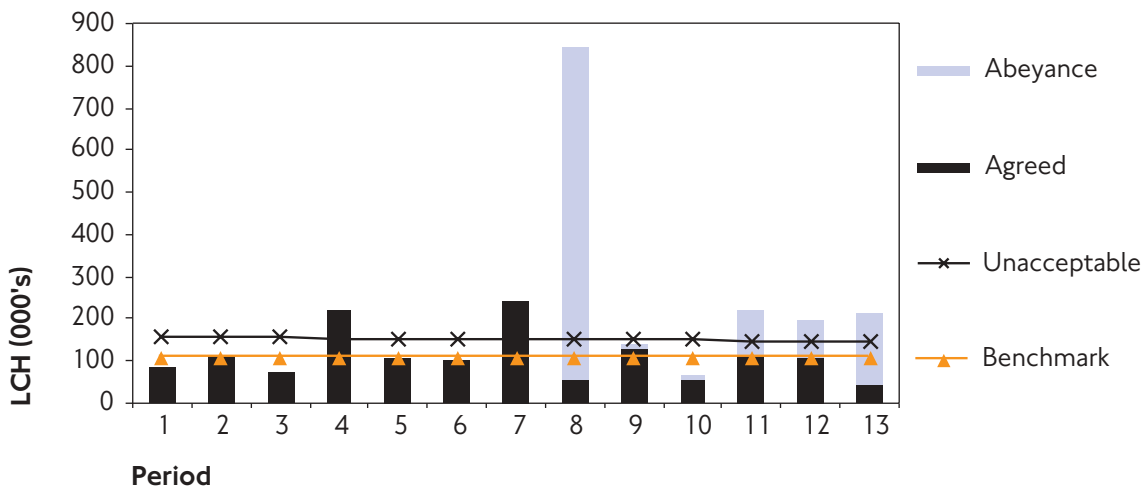
Availability on the Jubilee line has been variable, with scores worse than benchmark in 11 of the 16 periods post-transfer. Although recent performance has improved, the allocation of a large number of lost customer hours relating to the signal problems at Green Park has still not been agreed; this is likely to be referred to dispute resolution⁴. The Green Park problems have now been solved and additional improvements to the Jubilee line signalling system are underway; further improvements will be delivered with the line upgrade.

Northern line availability has been variable, with scores worse than benchmark for half the post-transfer periods. Performance was substantially worse than benchmark in Periods 4 and 7 due to a number of significant signal failures at various locations. The allocation of responsibility and financial abatement for the Camden Town derailment in Period 8 has not yet been agreed and is likely to be referred to dispute resolution.

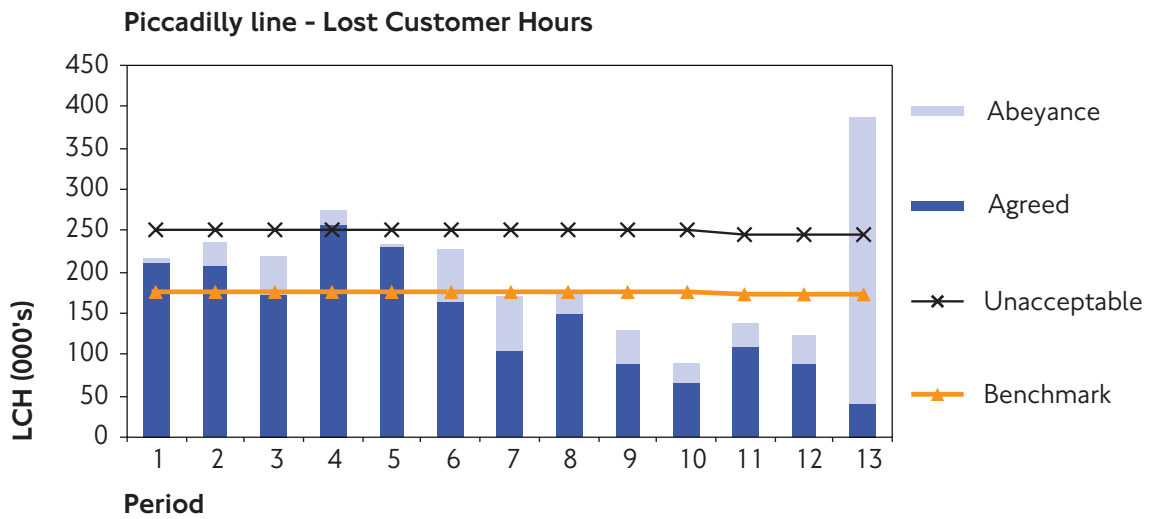
Jubilee line - Lost Customer Hours



Northern line - Lost Customer Hours



4. Following three internal stages of discussion, disputes are then referred to adjudication. The adjudication decisions can be appealed and are then heard by a court.



Piccadilly line availability scores have been worse than benchmark for roughly half of the 16 post-transfer periods; however, availability is on an improving trend and has been better than benchmark in the last 8 periods. Problems were due to rolling stock and a number of major signal failures. Tube Lines are implementing a major wheelset modification programme to rectify the axle box problems, which should improve reliability and reduce the need for further work until the fleet is refurbished in 2014. The issue of the amount of abatements to be charged for the effects of the axle box problems is likely to go to dispute resolution.

3.2 Ambience

Definition and measurement

Ambience is a measure of the quality of the travelling environment, including both train and station ambience.

- **Train ambience** includes elements such as the condition of seats; cleanliness of surfaces and train exteriors; levels of litter and graffiti; public address (PA) audibility; ride quality and in-car noise; lighting, heating and ventilation.

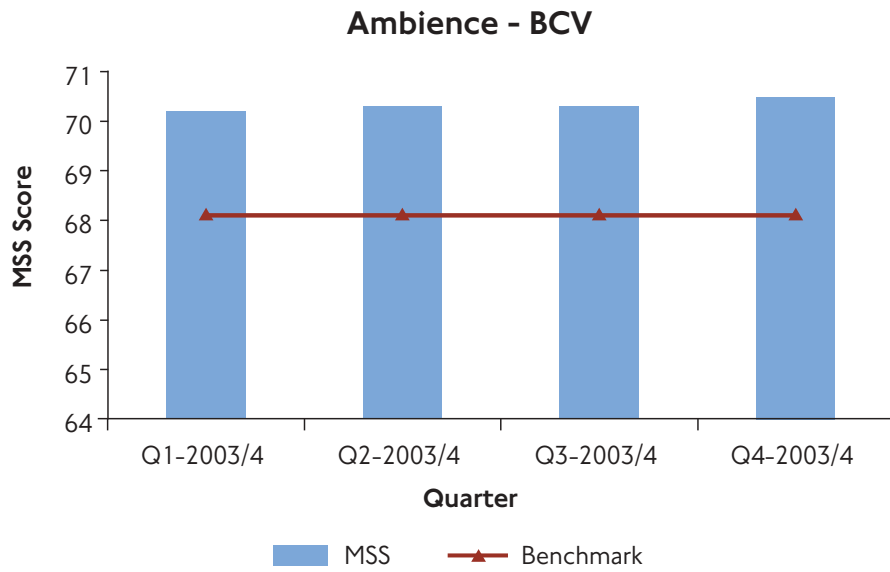
- **Station ambience** includes elements such as condition of platform roofs and canopies; condition of seating, waiting rooms, toilets, signs, etc; cleanliness and levels of litter and graffiti.

Ambience is measured through a quarterly 'Mystery Shopping Survey' (MSS) conducted by an independent organisation. The score is compared against a benchmark derived from previous London Underground performance.

Performance

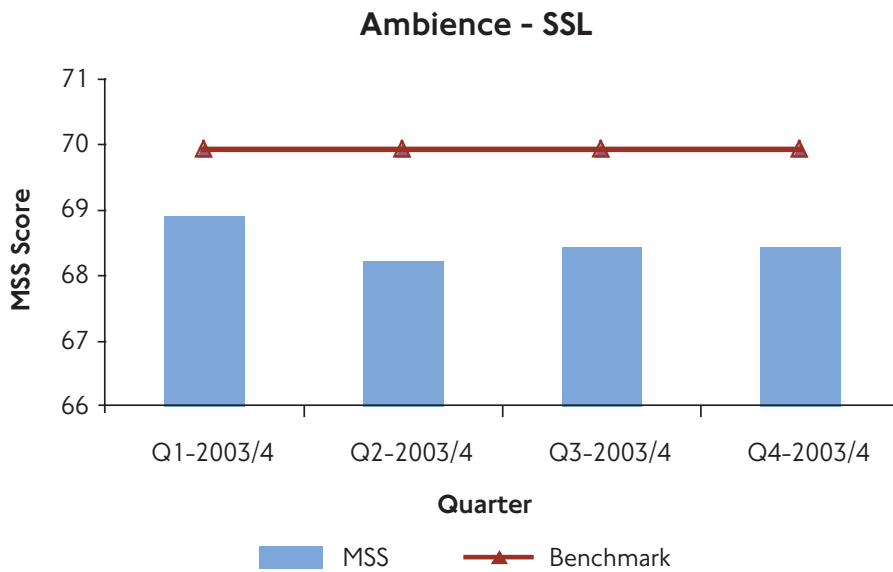
BCV

Metronet BCV's average post-transfer ambience score is slightly better than benchmark. Both train and station scores are better than benchmark. The substantial improvement in the BCV score post-transfer is primarily the result of work done by BCV, both before and after transfer, on the Central line. While the Central line was closed after the January 2003 Chancery Lane incident, BCV used the time to deep-clean stations which appears to have somewhat improved BCV's ambience scores.



SSL
 Metronet SSL's average ambience score is slightly below the benchmark. Stations ambience is better than benchmark but graffiti on the rolling stock has pulled

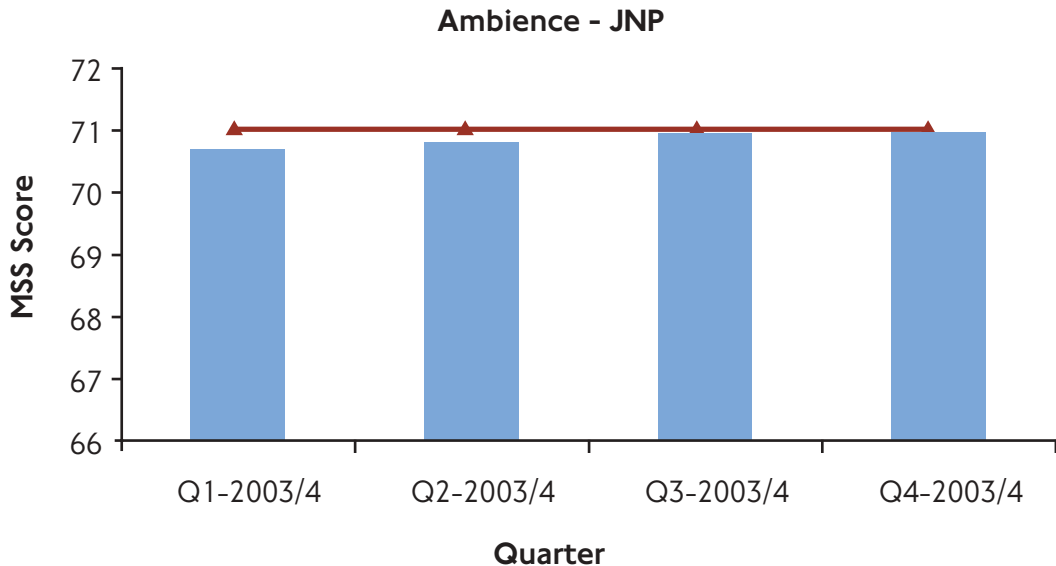
down the SSL average to be worse than benchmark. The successful anti-graffiti initiative is expected to move SSL's scores in subsequent periods above benchmark.



JNP

Tube Lines' ambience performance has improved since transfer due to a series of new initiatives including train washing, improved station cleaning and seat

cleaning. Ambience scores are still marginally worse than benchmark at present but are forecast to exceed benchmark next quarter.

**3.3 Service points****Definition and measurement**

Service points are allocated for failures by the Infraco to meet certain contractual obligations according to a regime set out in the contract. Some of the significant types of failures that can contribute to service points are:

- Facilities faults (a failure of a customer facing asset, such as a PA system)
- Fault rectification (the failure of a non-customer facing asset and faults not rectified within standard clearance times)
- Engineering overrun service points (a failure to return Underground assets by commencement of traffic. Service points are applied to the first two hours of an overrun to supplement the availability abatements).

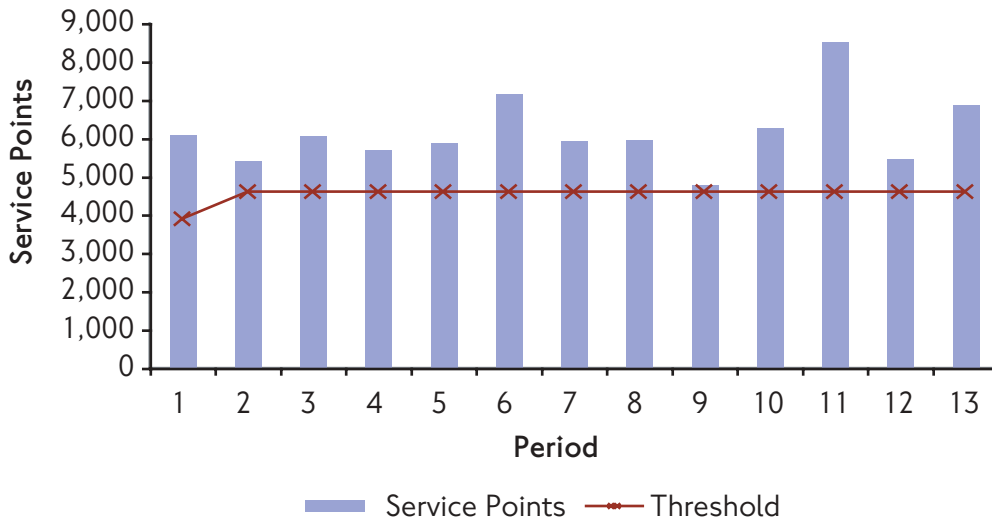
Performance

All three Infracos are performing better than benchmark on fault rectification. Performance on facilities faults has been mixed, as detailed briefly below.

BCV

On facilities faults, Metronet BCV scores poorly due to ongoing faults with CCTV and PA systems. BCV launched a series of targeted initiatives to improve its performance on facilities faults in the last quarter of 2003, which may explain the improvement in Period Nine performance (although this was still slightly worse than benchmark). However, towards year-end performance deteriorated again, due in part to faults on CCTV and PA systems. BCV have implemented a remedial programme and expect to see results in upcoming periods.

Service Points - BCV - Facilities faults

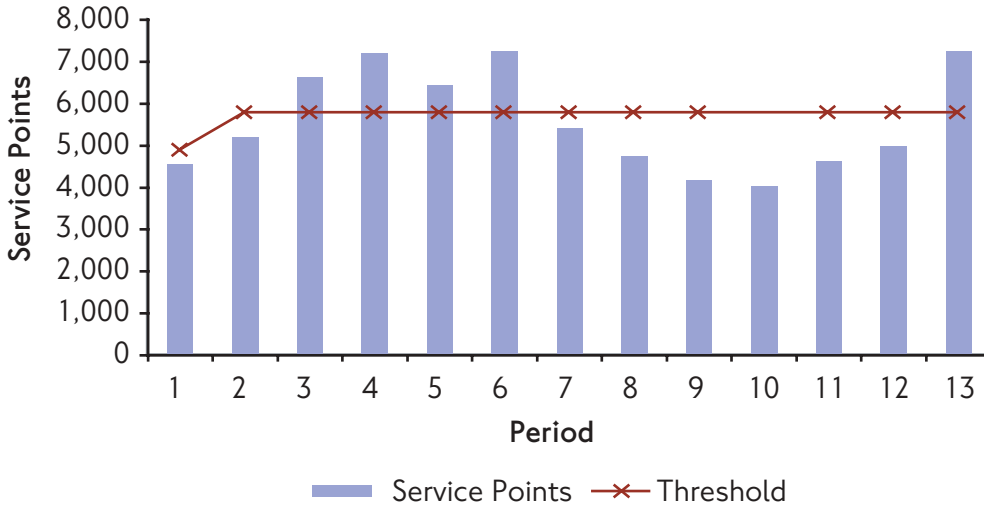


SSL

After weak performance in the first half of the year, Metronet SSL's performance on facilities faults improved and was better than benchmark in the second

half of the year. This is due primarily to improved performance of Dot Matrix Indicators (DMIs), together with some improvement in CCTV and PA systems.

Service Points - SSL - Facilities faults

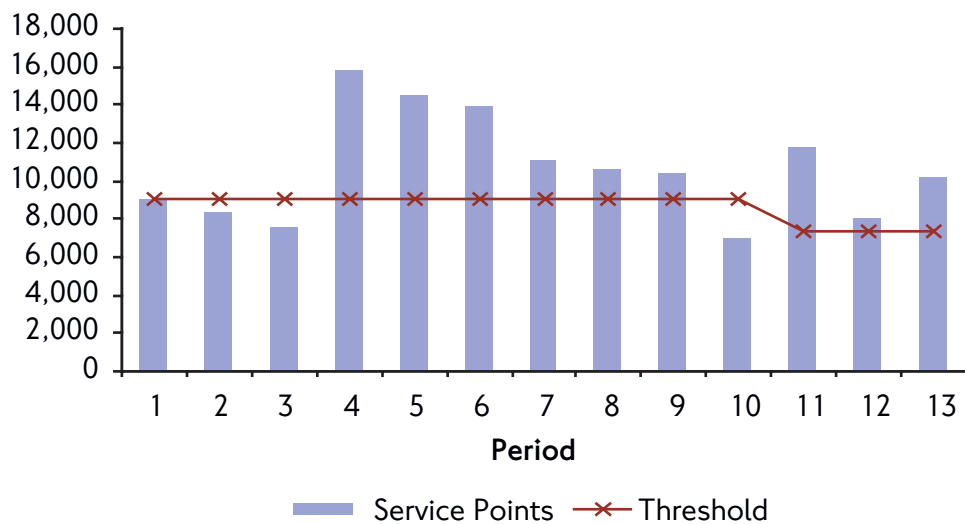


JNP

After good performance in the first quarter, Tube Lines facilities faults performance has been worse than benchmark for most of the year. The

main issues have been CCTV, DMIs and PA system faults. Tube Lines has developed a new source of supply to resolve the DMI spares shortage.

Service Points - JNP - Facilities faults



3.4 Major projects

Definition and measurement

The PPP contracts require the Infracos to deliver certain defined projects by specified dates. These include:

- line upgrades to increase the capability of the line (involving the replacement of trains and signalling)
- train enhancements (including arm rests, CCTV, emergency help points, and visual information displays on the train)
- train refurbishment (including replacing flooring and scratched glass, reducing noise, improving ventilation, etc.)
- improvements to stations (wide range of work including accessibility, increasing platform seating, displays of expected arrival times, structural repairs, repair and/or renewal of most aspects of the station including floors, lighting, signs, etc).

Performance

BCV

No specific information has been received from Metronet BCV on the Victoria Phase 1 upgrade (which will use existing trains and signalling to improve journey time by March 2006). Similarly, the Central line upgrade, which promises modest improvements, has not been explained or documented.

Metronet BCV's Victoria line Phase 2 upgrade has been one of the key areas of focus this year, as it is both a substantial amount of work and is due to be completed in the medium-term (August 2013). The upgrade will include a new signalling system and a new fleet of 47 trains. We understand from BCV that design work on the Phase 2 Victoria line train layouts has started. BCV has also told us that conceptual design for the new signalling system is underway, including a survey of stations and tunnels to verify where and how the signalling system will be put in place.

Computer simulations are being run to test the post-upgrade patterns of train service. The upgrade will also require comprehensive renewal of the Victoria line track; currently BCV are working on heavy track maintenance on the Victoria Line.

SSL

Metronet SSL has reported a six-month programme delay for the District line rolling stock refurbishment as a result of supply issues. However, the target date for first train back in service is still achievable. As regards the line upgrade work, preliminary feasibility work has begun and the overall programme is on target.

SSL has also provided a delivery programme for station works, despite initial delays due to requests from SSL to change (often to reduce) the scope of work. Changes in scope require London Underground approval as to whether the new proposed output is acceptable, both in terms of the contract's intent and in terms of safety. London Underground and SSL had to discuss these and come to a mutually agreeable solution. There were delays in SSL producing the necessary safety documentation but work is now progressing.

JNP

Progress on the early phases of the line upgrade works appears to be proceeding on schedule.

- Tube Lines have submitted their work plans to London Underground for the signalling and control systems for the Jubilee and Northern line upgrades (which are the first stage of the work). They have informed us that the signalling contract has been placed for these upgrades.

- The seventh car upgrade for the Jubilee line is proceeding on schedule. Tube Lines have placed the rolling stock order and manufacturing has started. The first car will be delivered for testing in early 2005.

London Underground and Tube Lines are currently engaged in discussions as to the scope of station projects. So far, the work plans submitted for the enhanced refurbishments have been rejected by London Underground as inadequate.

Tube Lines is also in the process of completing several additional special projects.

- Leicester Square, Knightsbridge stations. These are the remaining major station improvement projects that were inherited by Tube Lines from before transfer. These projects are proceeding according to plan.
- Piccadilly Line Extension (PiccEx) to Heathrow T5. The British Airports Authority is providing the PiccEx to London Underground; Tube Lines will provide the signalling system for this project through a specified right currently being negotiated with Tube Lines. We are having some difficulties in reaching agreement on terms and conditions and one element of the cost is now in formal dispute. These issues need to be resolved urgently if the project is to be delivered on time.
- Wembley Park station. The Mayor has now accelerated this project so that the completion date will be in line with the reopening of the stadium. An extensive investment of time by both London Underground and Tube Lines over the year means that the project is expected to be delivered on time.



4. PPP financial performance

The PPP, through the Infracos, introduces approximately £5bn of long-term private finance, which London Underground repays through the infrastructure service charge (ISC). The ISC is adjusted on the basis of contract performance as outlined in the previous section, with levels of performance tied to adjustments to the ISC in the form of bonuses and abatements.

Cash payments of ISC, bonuses and abatements for 2003/04 are summarised in the table below. BCV and JNP have both ended the year with net abatements, while SSL has a net bonus. It is worth noting that all three Infracos did worse on availability than they had projected in their bids but better than they had expected on ambience. JNP and BCV outperformed their bid expectations on net performance payments by 35 per cent and 65 per cent respectively, while SSL underperformed their expectations by delivering less than half the expected net bonus.

Apart from the high-level financial outcomes in terms of ISC and performance adjustments, which are relatively modest in the context of overall ISC payments, it has been difficult so far to draw conclusions about performance from the financial data. Cost information that should ultimately be available through the master projects database was not yet available at year-end due to the drawn-out dispute over this issue over the course of the year.

Major projects and renewal. The Infracos inform us that they are on target to spend their budgets for the year on maintenance and renewal. Based on the limited information available, London Underground has some concerns regarding progress on major projects and track renewal work. The Infraco accounts for the penultimate period of 2003/04 indicate actual capital expenditure at 80-85 per cent of budgeted capital expenditure for all three Infracos for the year. The concern in this area is not so much the absolute levels of spend, it is the amount of work being produced per pound spent. For example, completing 50 per cent of a given length of track renewal work in the time allotted due to poor planning and inefficient working still incurs the budgeted cost for the full scope of work.

Risks and contingencies. The complexity of the PPP contracts and of their interfaces with other contracts (particularly the large PFIs, as discussed in the Foreword) means that there is substantial risk around delivery. Many of these risks will not be reflected in the budget for 2004/05, as they will only materialise once these works are performed. As these risks are currently evolving, we would expect that as the volume of work accelerates, the level of contingency would need to increase as well.

FY 2003-2004	ISC Paid	Bonus Paid	Abatements Paid	Value of Lost Customer Hours in Abeyance *	Net Bonus /Abatement Out-turn Range	Net Bid Forecast*** Bonus /Abatement	Net Variance Bonus /Abatement Out-turn Range
	£m	£m	£m	£m	£m	£m	£m
Metronet BCV	333	+1.6	-3.0**	-4.9	-1.4 to -6.3	-4.0	+2.6 to -2.3
Metronet SSL	385	+5.4	-2.5	-1.1	+2.9 to +1.8	+4.9	-2.0 to -3.1
Tube Lines	356	+0.5	-8.1	-8.4	-7.6 to -16.0	-10.4	+2.8 to -5.6
Total	1,074	+7.5	-15.9	-14.4	-6.1 to -20.5	-9.5	+3.4 to -11.0

* Period 9 and prior Lost Customer Hours in abeyance when Period 11's ISC Adjustment Statement was issued

** Includes +£2.3m of agreed 'roll back' adjustment of abatements incorrectly charged

*** Cash forecast for performance per Bidder's final financial models

Costs for additional works and services.

There have been some delays in securing additional services and works through the Infracos. London Underground is examining its own processes as well as reviewing the performance of the Infracos. There are some disputes over

the charging arrangements, for example on-costs and profits for additional works that London Underground considers excessive. In the event these issues are not resolved, London Underground will seek to have these services provided through other means.

5. Asset performance

Definition and measurement

For the purposes of this report, six key asset groups are discussed: rolling stock, track, signals, points, lifts and escalators. Asset performance since transfer is compared with London Underground historic average performance.⁵

Within the 12-15 month period since transfer, it would be difficult to observe the type of improvements in asset stewardship that would be expected in a few years' time. With that caveat, however, changes in asset performance can be detected year on year. Below we provide data and commentary on performance for the major asset classes (i.e., those where failures have a significant impact on the service).⁶

5.1 Signalling system

Background

Many of the root causes of signal failures predate transfer in that they are related to pre-existing component weaknesses. What has been of concern,

however, is that the number of failures arising from these underlying problems appears to have increased in the last year.

The reasons for points failures are typically complex as points performance is heavily dependent on the quality of the track and track maintenance. The service impact is very high when signals and points fail, as these failures tend to take a substantial time to fix.

Performance

Across the network, there has not been any significant improvement in the performance of the signalling system, and in key areas such as points there has been a decline in performance.⁷ There are a number of likely contributing factors:

- The level and quality of supervision over the technicians doing the work has declined over the last few years; this does not appear to have been reversed under Infraco management

5. Asset performance is measured in a number of different ways. There are certain measures that can be looked at consistently across different asset types, i.e. total number of failures, average downtime per failure and mean service hours or distance between failures. In addition, each asset class has a wide range of specific measures that can help in further understanding the condition and underlying root causes for the performance of that asset. A mix of measures is used for the six asset types in the section below.

6. In looking at the asset performance data:

- Number of failures data cannot necessarily be directly compared between Infracos, as Infracos with more lifts (say) would tend to have more failures. The benchmark data provided is meant to partially overcome this.
- There can often be some correlation between the number of failures and the duration of failures; this is because the greater the number of failures, the less the likelihood the Infraco will have the resources (additional trains, skilled technicians, etc) to fix the incremental failure.
- Base data comes from systems shared with the Infracos and used for incident attribution. Differences from aggregated Infraco data will only arise if certain underlying causes are included/excluded.

7. For purposes of this report, the term 'signalling systems' will be used to refer to signals and points.

- There have been some difficulties over the last year in agreeing access to the track for signalling technicians. This appears to be due to a combination of factors, including new staff and adjustments to the new system including concerns about accountability and liability for decision-making (now that different companies employ the technicians and operational staff).
- The quality of signalling system engineers is quite variable across the Infracos and indeed across different lines, with different levels of experience. The historic practice of 'loaning' engineers from one line to another has not been continued by Infracos at the same rate as pre-transfer.

There are some encouraging signs of joint working across all three Infracos. For example:

- Redressing the technical skills shortfall through joint recruitment programmes and training, including a new training school at Stratford.
- Developing renewal programmes for degraded components of the system (e.g., broken track wires, defective blockjoints, tuning units). In some cases, one Infraco is trialling solutions on behalf of the others, which is positive (e.g. SSL testing a new material for redressing contact failures).

BCV

On the BCV lines, average points performance for the year is not significantly changed as against pre-transfer performance, although performance in the second half was

better than the first half. Signal performance has improved somewhat as against pre-transfer performance. Downtime for both signals and points has been slowly worsening.

BCV has implemented a number of initiatives to address ongoing problems:

- Automatic Train Protection (ATP) system problems on the Central line. BCV is moving towards a maintenance regime determined by volume of traffic rather than set time periods.
- Circuit controller problems on the Central line. BCV is in discussions with the manufacturer to come up with a solution to this problem.
- Component obsolescence in the Central line control system. New sourcing arrangements for functionally equivalent parts are being pursued with BCV's suppliers to address this.
- Signalling relay problems on the Victoria line. BCV are working with the manufacturer on a long-term fix for these problems.

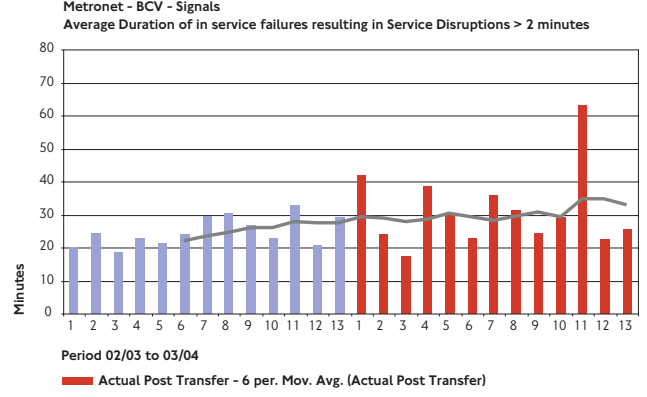
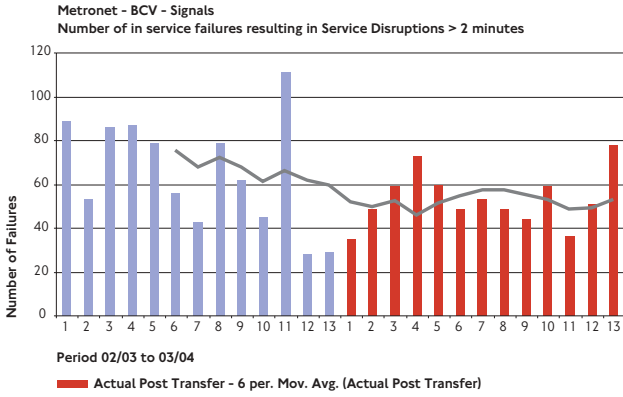
SSL

Overall, SSL's signalling system performance has been mixed. SSL started off the year with an improvement in the number of signalling failures but since then has shown a worsening trend. We would expect signalling downtime to improve in future as SSL have recently increased their number of signalling technicians. Points failures were improving in the first half but have been worsening in the second half, although points downtime has been decreasing in the second half of the year.

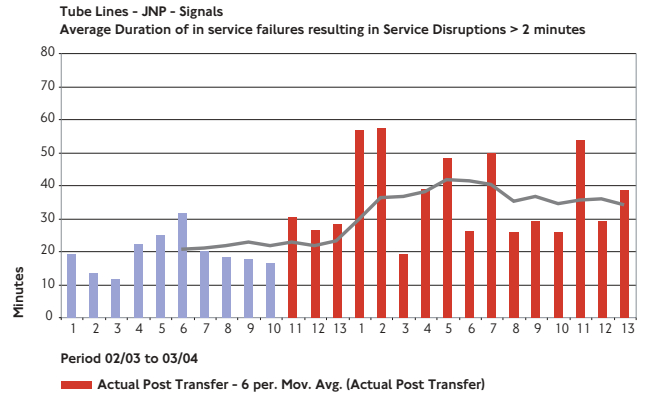
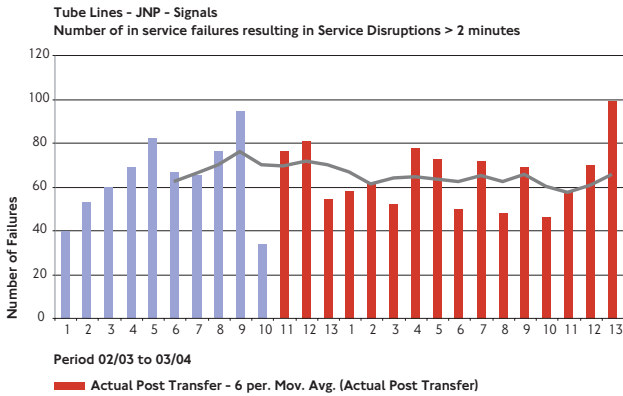


Signals

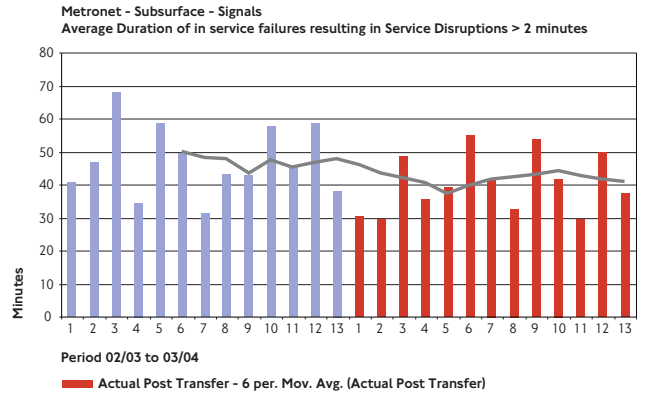
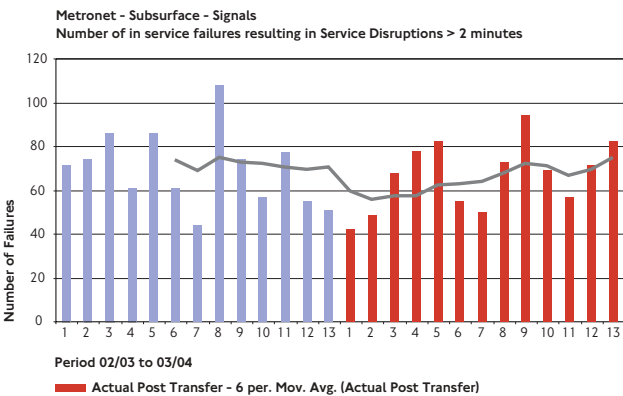
Metronet - BCV



Tube Lines - JNP

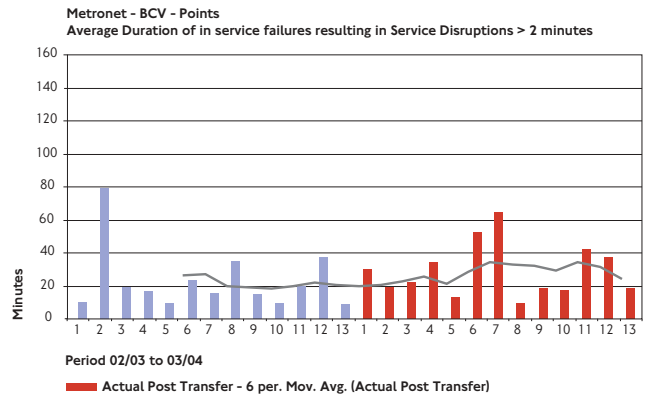
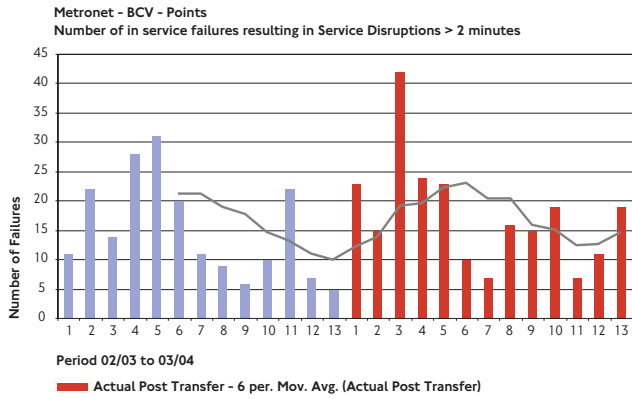


Metronet - Subsurface

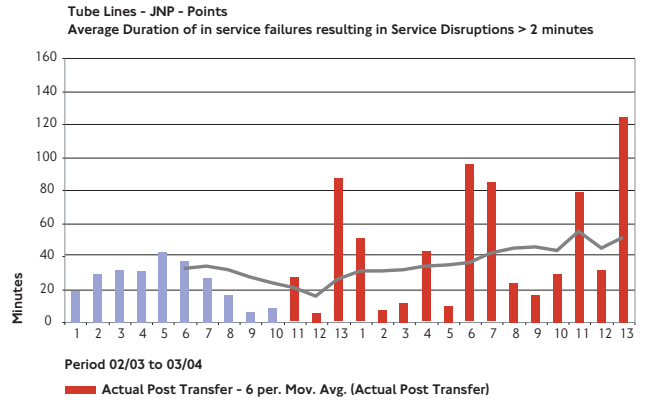
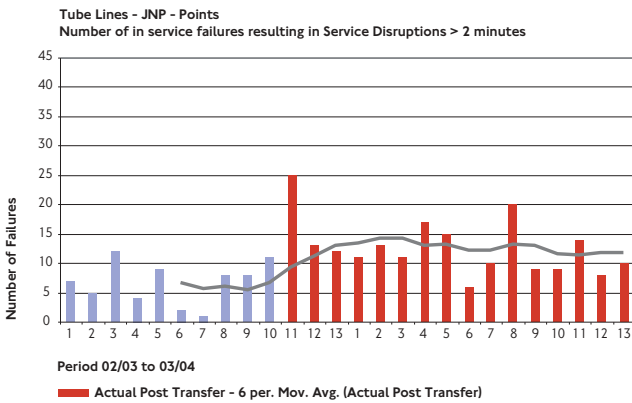


Points

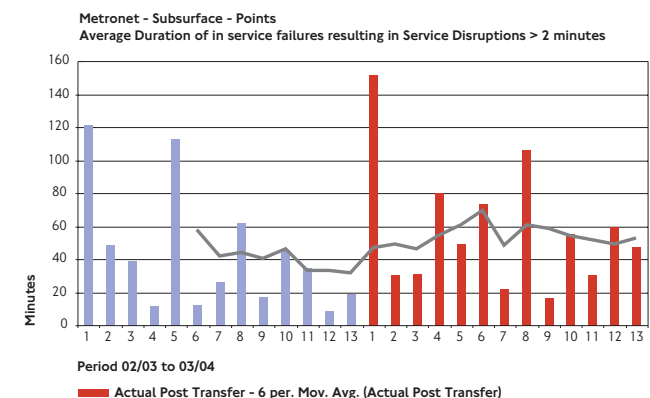
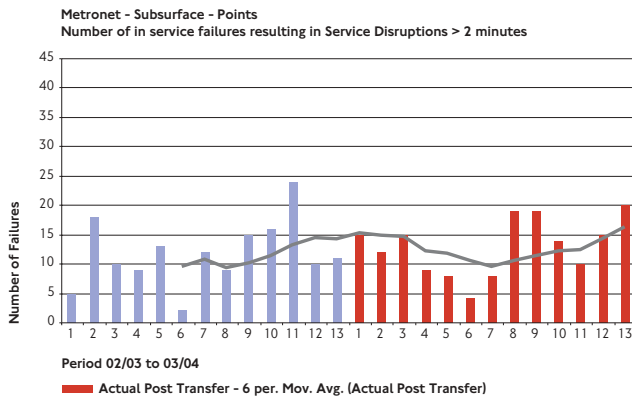
Metronet - BCV



Tube Lines - JNP



Metronet - Subsurface



Of particular concern is signal reliability on the northern section of the Circle line. A significant problem is water ingress and poor drainage. SSL and London Underground are in discussions with Thames Water to resolve these problems, which have worsened in the last year. Other problems include points failures, broken track wires, and blockjoint failures, giving rise to a concern about the quality of the maintenance regime for blockjoints. Signal lamp failures have risen dramatically due to manufacturing defects in the recent batch of lamps; this is expected to be redressed once a new batch is put in place (and ultimately through plans to move to a newer signal lamp technology). On the District line, control cables at the eastern end of the line have experienced problems over the year due to degradation from age and damage from track fires.

JNP

The number of points failures on JNP has roughly doubled since transfer, which has been matched by a doubling in downtime as well. The number of signal failures has remained relatively stable over the year, while signal downtime has nearly doubled. In our view, this overall decline in performance is due in part to:

- There appears to be insufficient management attention given to signalling system problems. This was exemplified by problems with a faulty track circuit at Green Park which had a major impact on service, with trains having to terminate at Green Park numerous times including during the morning peak. These problems have now been addressed but follow a long period of failure
- Historically JNP lines were weaker on signalling and relied on technicians from other parts of the network. As

indicated above, the Infracos have not continued this practice to the same extent post-transfer.

The first step towards addressing these problems effectively is much more aggressive analysis of asset performance data by the Infracos to understand underlying trends behind failures and then to develop the appropriate response.

On the Piccadilly line, reliability problems with the control system have continued due to component obsolescence. JNP is buying up second-hand components to supplement the stock of spare parts, which is intended to reduce the level of disruption.

5.2 Rolling stock

Background

The Underground network includes fleets with a wide range of ages and different designs. Analysing the performance of rolling stock can be complicated since the trains' performance is substantially driven by the interface with the track – in other words, the same rolling stock can perform differently on different lines due to variations in track conditions.

Performance

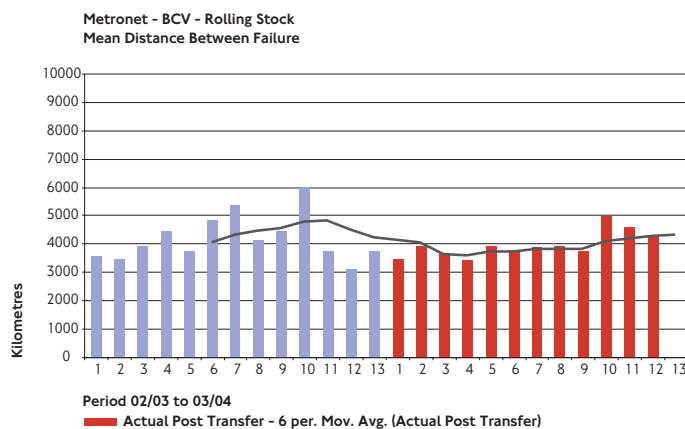
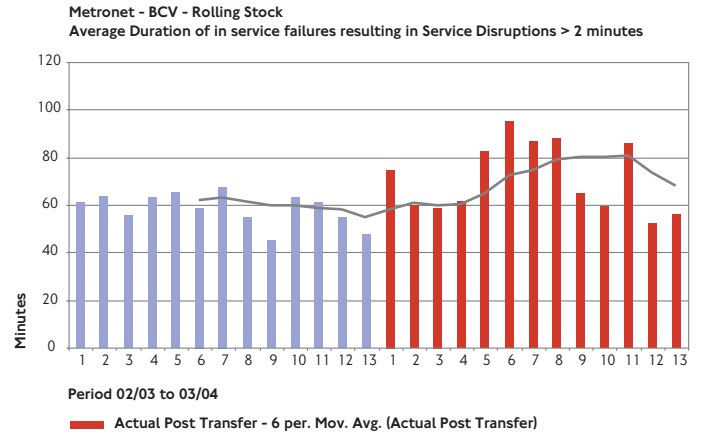
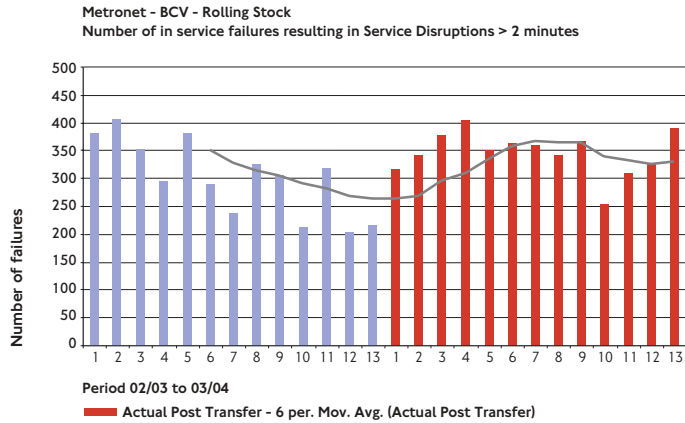
BCV

BCV is the only Infraco showing some improvement on mean distance between failures over the year. Looking at number/duration of failures, BCV's mean distance between failures performance has been on a worsening trend for most of the year, but this was due to the increase over the course of the year in mileage operated as the Central line was gradually reintroduced following the Chancery Lane derailment.



Rolling stock

Metronet - BCV

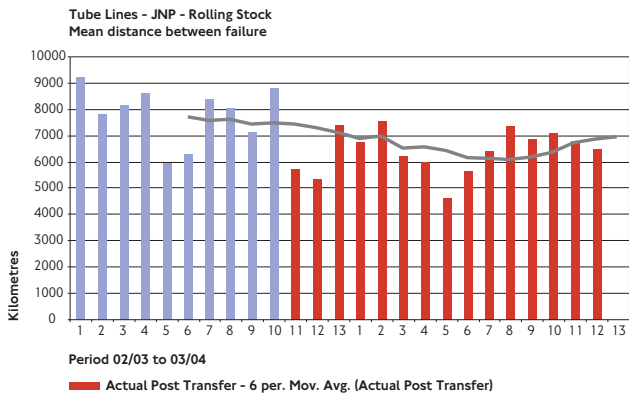
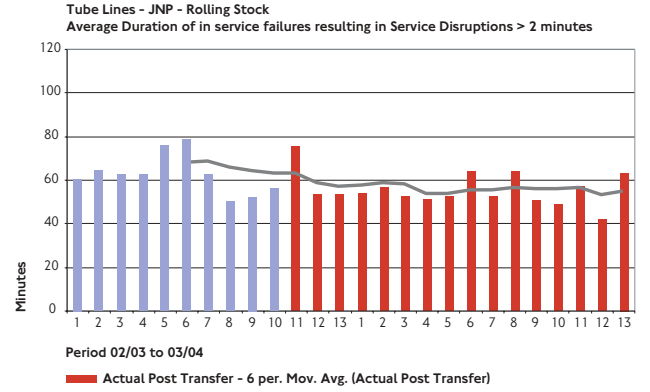
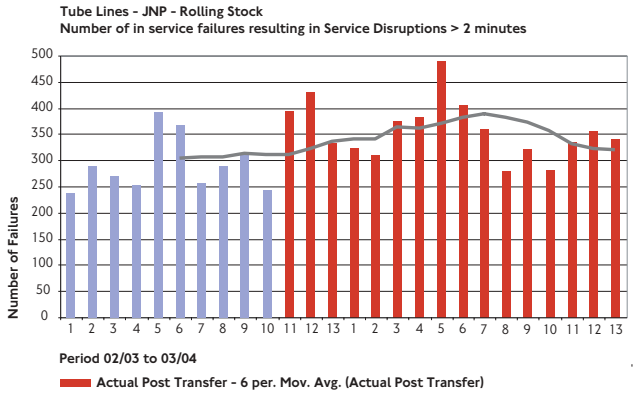


As measured by the mean distance between failures, the Central line shows consistent improvement over the course of the year as the rolling stock problems highlighted by the Chancery Lane derailment are being addressed. A programme of heavy maintenance was initiated during the year, and a new management team has been put in place for the Central line fleet, including resource from Bombardier. This programme appears to be starting to show results in terms of improvements in asset performance, particularly since the programme was accelerated at the end of the year.

The mean distance between failures measurement improved for the Bakerloo and Victoria lines over the year. The two main issues with the Victoria line fleet over the year were problems with doors not closing properly at stations and faults relating to Automatic Train Operation (ATO). A revised maintenance regime has been put in place to address the door problems. The ATO faults are due to equipment that has become unreliable. Faults cause the trains to stop between stations, at which point the driver must switch to manual operation. The replacement of the trainborne ATO equipment by the end of 2004 is expected to improve performance.

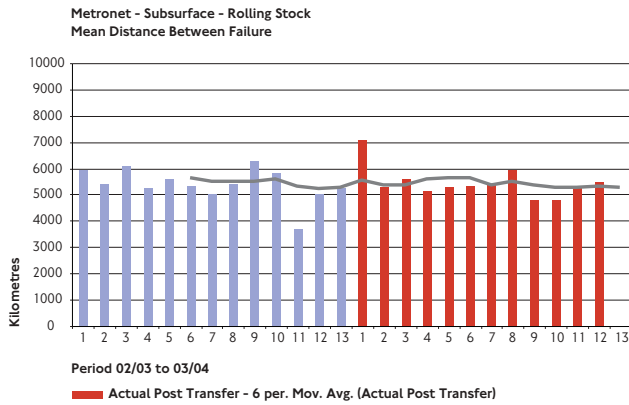
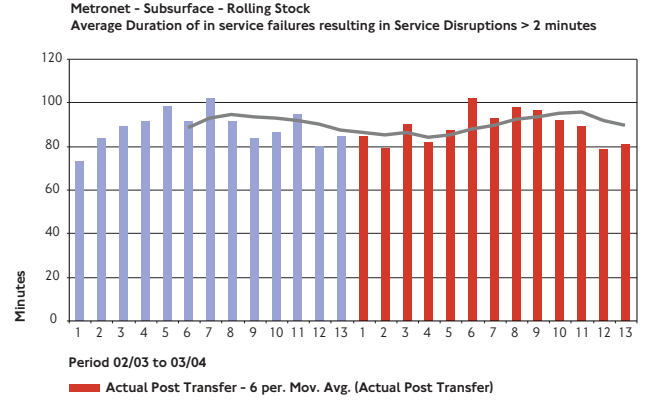
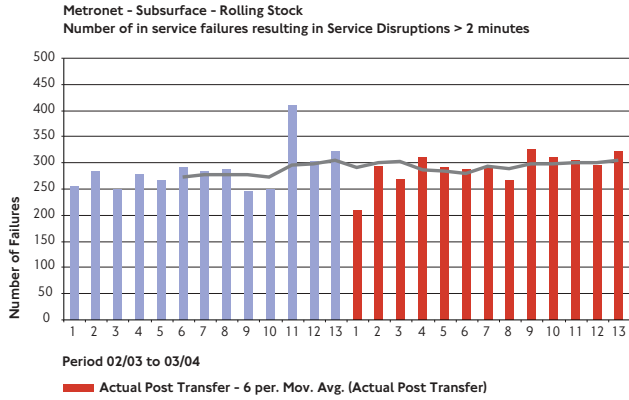
Rolling stock

Tube Lines - JNP



Rolling stock

Metronet - Subsurface



SSL

SSL's performance on total rolling stock failures, MDBF and average downtime has not shown any significant change since transfer, although average downtime has worsened somewhat. SSL lines suffered a dip in performance in the autumn, which may be attributable to failure to clear leaves on the overground sections of the line.

SSL's Metropolitan, District and East London lines all have ageing fleets which have become increasingly unreliable with age. Considering their age, the fleets continue to provide acceptable performance. Substantial improvements are expected to come with new fleets scheduled to be delivered as part of the PPP in 2009-2016. In the meantime, age-related fatigue problems on these fleets are to be managed through inspections and maintenance by SSL on a more frequent schedule than would be applied to a more contemporary fleet.

Circle line performance for the first part of the year was poor. This has been remedied in the last quarter, to levels of peak cancellations on other lines. The incidents were found to be due to excessive track lubrication by SSL, which caused train wheels to skid and therefore become flat. Trains had to be taken out of service and the wheels repaired, which also caused a backlog of other maintenance activities.

On the District line, there were problems with door engines in the early part of the year. These had been reduced substantially by the end of the year.

JNP

For JNP, the number of failures has been on a worsening trend since transfer; although the second half of the year has seen a reversal of that trend, the moving average continues to be below that just prior to transfer. Downtime has stayed relatively stable albeit at a slightly better average level than pre-transfer.

The Piccadilly line showed slight improvements in MDBF in the second half of the year. The rolling stock has performed well in most respects when compared with other fleets, except for the significant effect on the service of a small number of axle box failures. Tube Lines have begun a programme to replace the axle boxes on the whole Piccadilly fleet; this is a major programme, which has taken some time to resource and launch. As a result, the programme has not had an impact on the performance results, as only 15-20 per cent of the fleet had been done by the end of the year.

The Jubilee line and Northern line fleets have shown worsening MDBF performance over the year. Typically we would expect performance to be improving in relatively young fleets such as these, but this is not what the performance data indicates. The top problem on the Northern line in the second half of the year has been problems with the door system due principally to poor installation. In the case of the Jubilee line, the main problem has been with the CCTV used by drivers to see the platform. We understand that Tube Lines are working with Alstom, who are responsible for rolling stock maintenance on both these lines, to address these issues.

5.3 Track

Background

Maintenance of the Underground's permanent way is complicated by a number of factors including the design, age and condition of the assets. The track assets are generally in a safe but degraded condition, and over time, as that degradation continues, the assets require more and more resource and attention to keep them in an acceptable, safe condition. Failure by the Infracos to meet this requirement for ever more attentive and intelligent maintenance and management of the track will lead to an upturn in the number of incidents.

The most significant ongoing problems with Underground track assets are:

- The majority of the Underground's track is constructed from bullhead rail on timber sleepers. This is a now-obsolete design, which, even in good condition, requires high levels of inspection and maintenance. There is an ongoing gradual programme to replace bullhead track with a more modern design, but at transfer only about 25 per cent of the bullhead track had been replaced. We understand that this is being taken forward by the Infracos.
- On the open and sub-surface sections of the railway, the sleepers are supported on ballast. The degraded ballast condition and the nature of the Underground track, which has a high number of joints compared to many other railways, have resulted in poor track geometry on the Underground's ballasted track. Ultimately, poor track geometry reduces ride quality, increases the damage caused by trains to the track and causes rapid rates of wear and degradation to the assets. Early

maintenance intervention to stop loosening and misalignment of track joints in response to weaknesses in the track is critical under these circumstances

- In the tunnels, poor railhead condition arises from poor rail and wheel profiles exacerbated by high frictional forces due to the dry environment in tunnels, which causes the rail to be less lubricated. This can compound failures because a degraded track can cause damage to a wheel, that wheel then damages track further down the line, which damages another train, etc. A high degree of friction between the wheel and rail can also produce small pieces of metal debris, which can get into rail joints where signal circuits are located and cause failures to the signalling system.

Performance

In general, none of the three Infracos reversed or affected the long-term trends in track asset deterioration that they inherited. This is perhaps not surprising - the bulk of the increased volume of renewals expected under the PPP has not yet begun and, given the long-lived nature of the track assets, it takes a while for changes in maintenance to make themselves felt. The upcoming year will be critical in determining whether the Infracos are able to reverse this performance.

There have been some successful initiatives on certain issues. For example, all three Infracos have adopted more targeted and better-supervised track cleaning arrangements. This led to an overall decrease in track fires, which are one of the major causes of service delays, in the second half of the year.



We have been disappointed so far in the level of attention paid to providing more modern plant and equipment for track maintenance. Current maintenance plant on the Underground is insufficient or obsolete, however we are not aware that the Infracos have any concrete plans to replace it. Given the lead times for ordering some of this equipment, we believe this should be progressed more rapidly since it will make track maintenance more efficient and effective.

BCV

BCV has been able to maintain relatively stable overall track condition. BCV is managing the wheel-rail interface more aggressively than has been the case in the past. Among other things, BCV has implemented a track lubrication programme on the Victoria line that London Underground views as a material improvement. We understand that in the longer term BCV will be looking to replace current rolling stock with a more track-friendly fleet.

The Central line has been the focus of track replacement work both before and after transfer; the line has shown an improving trend in recent periods. The Bakerloo line track condition has not changed substantially compared to the beginning of the year and continues to exhibit poor track geometry.⁸

SSL

Metronet SSL inherited the network's worst track geometry and long-established worsening trends in track condition. The exception to this is the Metropolitan line, which benefitted from a programme of track replacement that was started prior to transfer.

However, even taking into account the state of the assets, we believe that SSL should have performed better over the year. Historical trends of worsening track asset condition have not been substantially reversed or slowed: condition has deteriorated on the East London line, not shown overall change on the District and Metropolitan lines, and improved somewhat on the Hammersmith and City line.

JNP

Track condition has improved over 2002/03 on the Jubilee line and track geometry on the Jubilee line is the best of all the Underground lines. Track condition has declined slightly on the Northern line compared to 2002/03 but is still in acceptable condition.

JNP has not seen an overall improvement in track assets due primarily to a number of specific repeat failures. The Northern line is suffering from high friction and associated track and wheel wear, with associated impacts on the signalling system. JNP has started improving the track lubrication regime and has trialled a rail grinding train.

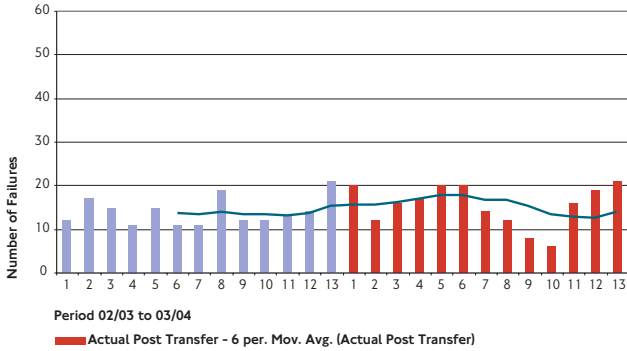


⁸. Track geometry is a key measure of track asset condition. Effectively, a track recording device measures standard deviation from a perfectly-aligned rail. The greater the standard deviation, the greater the force being exerted when trains run over the track, and the poorer the ride condition.

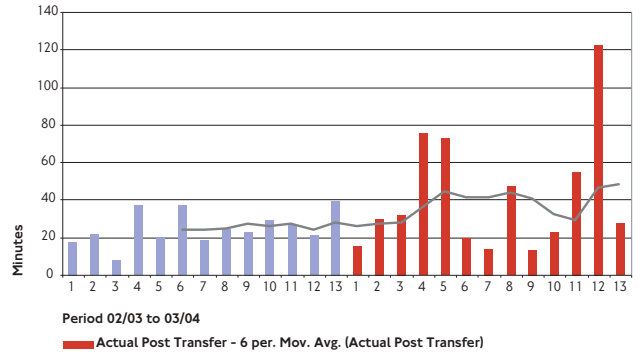
Track

Metronet - BCV

Metro - BCV - Track
Number of in service failures resulting in Service Disruptions > 2 minutes

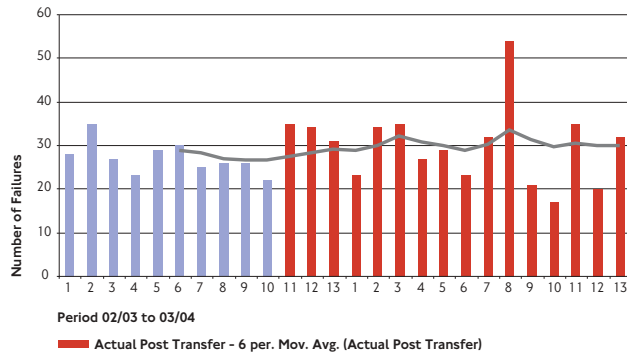


Metro - BCV - Track
Average Duration of in service failures resulting in Service Disruptions > 2 minutes

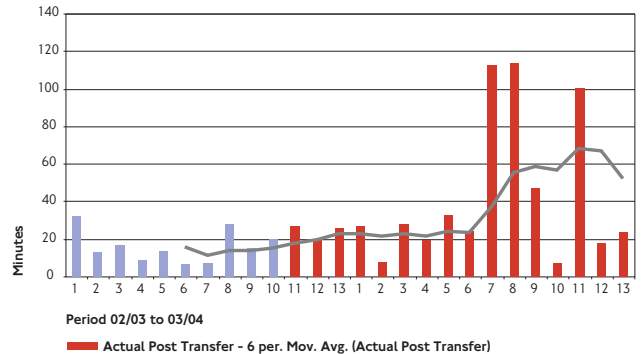


Tube Lines - JNP

Tube Lines - JNP - Track
Number of in service failures resulting in Service Disruptions > 2 minutes

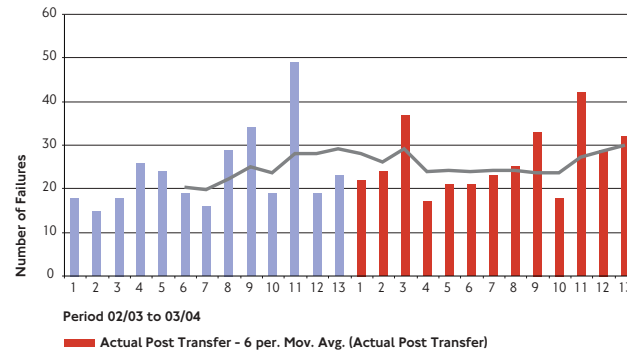


Tube Lines - JNP - Track
Average Duration of in service failures resulting in Service Disruptions > 2 minutes

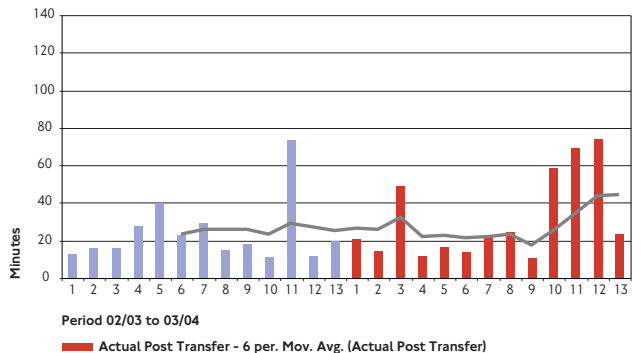


Metronet - Subsurface

Metronet - Subsurface - Track
Number of in service failures resulting in Service Disruptions > 2 minutes



Metronet - Subsurface - Track
Average Duration of in service failures resulting in Service Disruptions > 2 minutes



5.4 Lifts and escalators

Background

Performance on lifts and escalators is strongly influenced by two problems of long standing, namely:

- The limited number of people engaged by the Infracos with the requisite skills and experience to maintain the large-capacity lifts used to transport people in and out of certain Tube stations. This means the Underground is quite exposed were any of this resource to be suddenly no longer available
- As with many other asset groups on the Underground, the degraded nature of the assets, with the oldest lift dating back to the 1950s. This means that a number of areas such as the Queensway lifts will only truly be addressed effectively once they are renewed.

Performance

Although lift and escalator availability has been high in recent periods, lift performance across the network continues to be weak. Unfortunately, we do not expect a significant change to performance in this area in the next 12 months.

BCV

BCV has shown a worsening trend over the year for both lift and escalator failures. In the case of lifts, this has been driven in part by some severe local problems, e.g., at the Queensway and Edgware Road stations. London Underground has agreed in principle with BCV to accelerate the renewal timetables for some of the most fault-

prone lifts; this is expected to bring the renewal programme a year forward for Queensway.

On the positive side, the average duration of lift failures has showed a slow improvement over the year, while escalator failure downtime has been on an improving trend in the second half of the year. Although the duration on lift failures is better than the other Infracos, BCV downtime on escalator failures is the worst of the three Infracos and the only Infraco performing worse than pre-transfer.

SSL

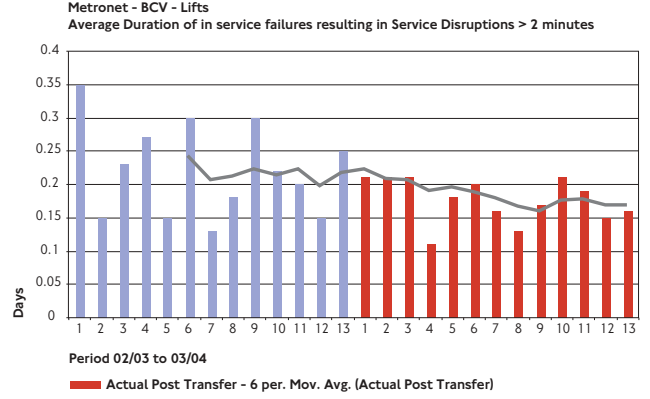
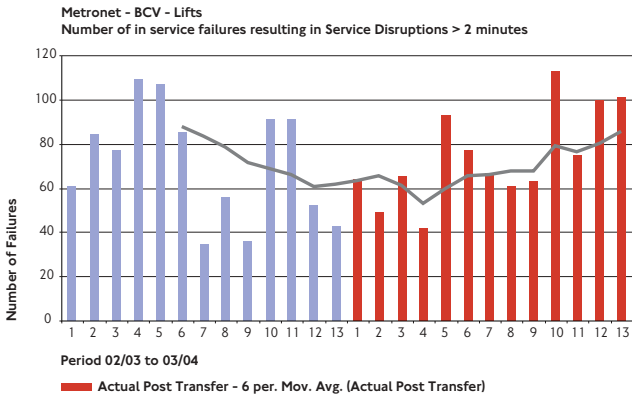
On SSL, the number of lift and escalator failures have worsened overall since transfer, although escalator failures have been on an improving trend in the second half of the year. The average duration of escalator failures has improved dramatically on SSL since transfer, with downtime roughly a third of what it was at the time of transfer. No such improvement has been in evidence on the duration of lift failures, with gains in the first half of the year slowly being eroded in the second half.

JNP

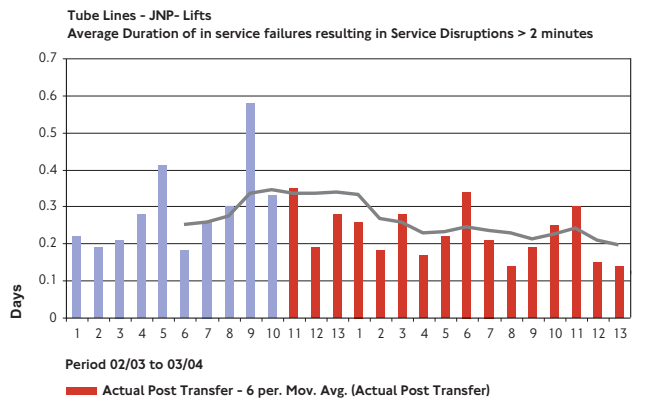
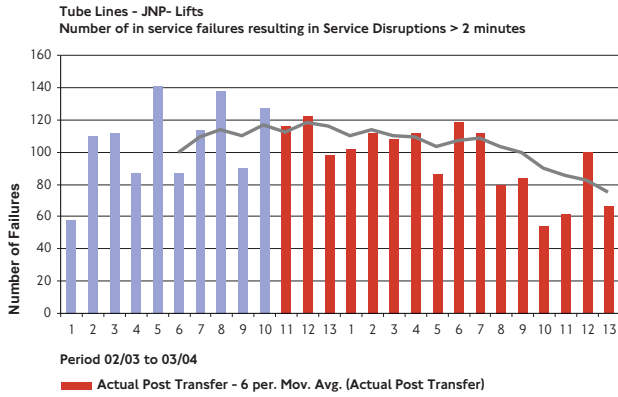
JNP has shown a slightly improving trend in lift failures since transfer. We are concerned that the lift performance information for JNP may be incomplete; London Underground is putting pressure on JNP to improve this aspect of its lift management regime. On escalators, the rate of failure has stayed broadly stable but with some evidence of an improving trend in the second half of the year. Lift downtime has shown improvement since transfer, as has escalator downtime.

Lifts

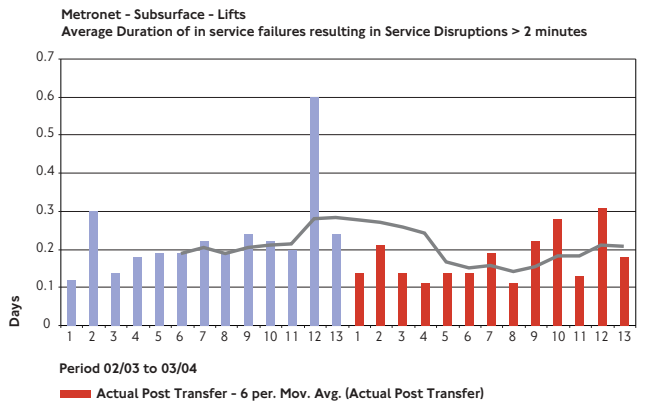
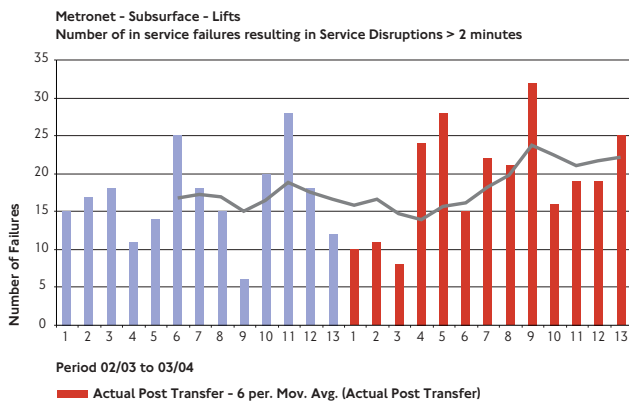
Metronet - BCV



Tube Lines - JNP

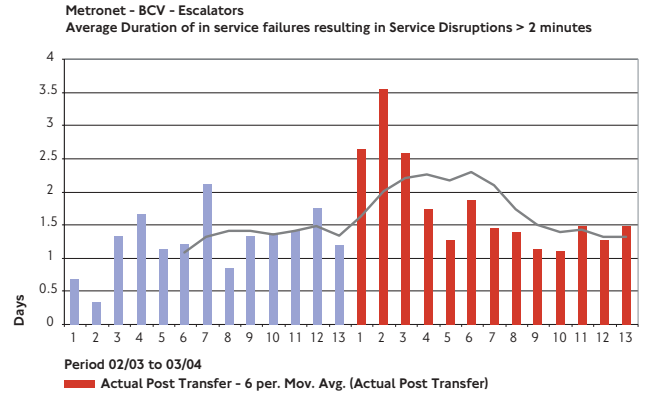
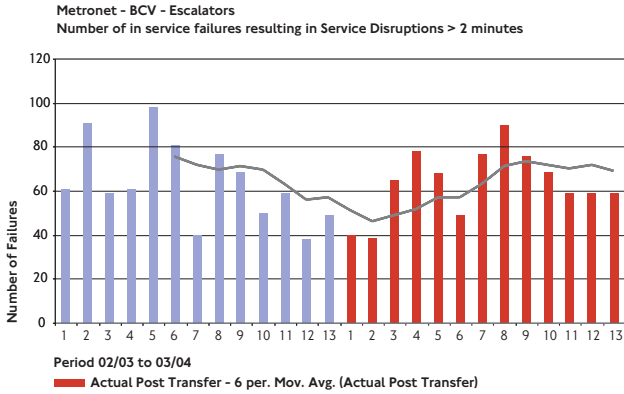


Metronet - Subsurface

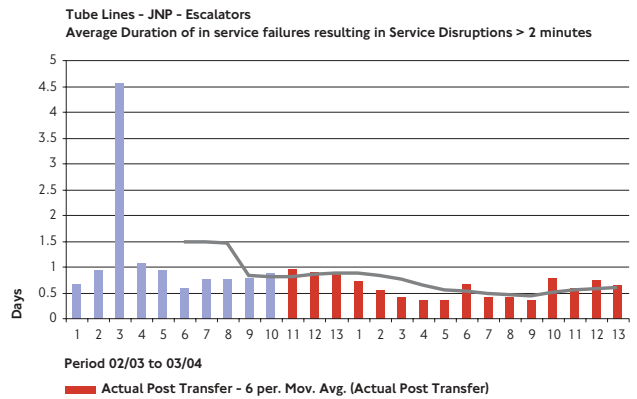
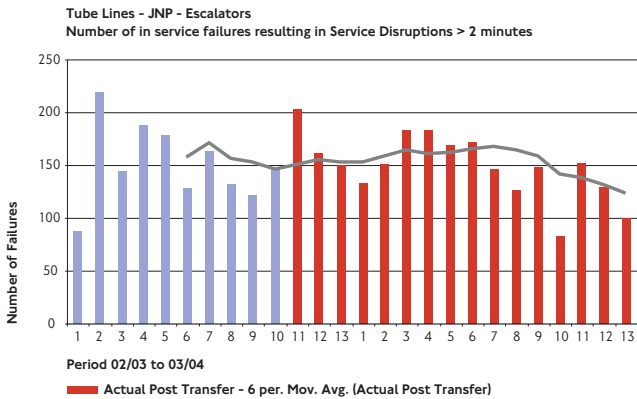


Escalators

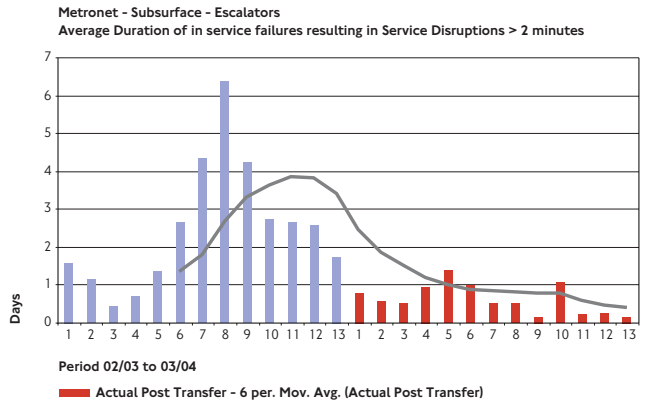
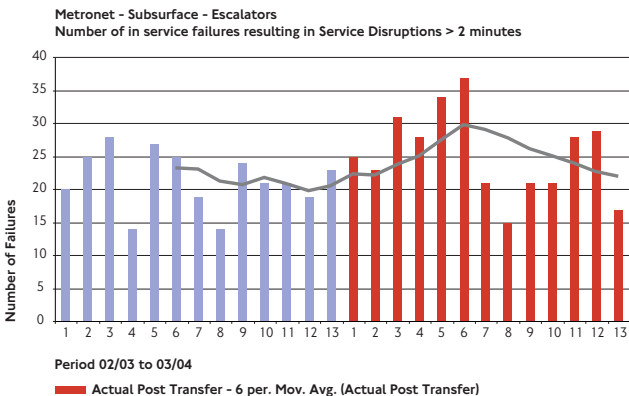
Metronet - BCV



Tube Lines - JNP



Metronet - Subsurface



6. Asset management

Definition and measurement

Efficient and economic asset management under the PPP imposes a number of requirements on the Infracos:

- Whole life cost approach. The Infracos must make decisions to optimise asset performance over the life of the asset, not simply over the life of the contract. This ensures that the assets are handed back to London Underground in good condition at the end of the PPP contracts
- Overall good condition. The Infracos are explicitly required to restore and manage assets to an overall state of good condition. They must demonstrate progressive improvement in asset health so that all assets are in good condition by the end of the PPP contracts
- Asset knowledge. The Infracos are required to improve the understanding of the link between asset condition and performance, which enables more effective management of the assets
- Safety and service loss. In managing the assets, the Infracos must improve asset condition so as to minimise service loss risks and safety risks.

Performance

There are three broad indicators of Infraco performance on asset management: 1) compliance with contract planning and reporting requirements, 2) compliance with input specifications regarding standards for nature and volume of work to be performed and 3) actual performance of the assets themselves. This section is restricted to a discussion of Infraco performance on the planning and reporting elements of asset

management. In this regard, the Infracos are required to develop the following plans that ensure the documentation of their effective asset stewardship:

Asset register. All three Infracos are developing asset information management systems, with the two Metronet Infracos developing their system jointly. The asset registers are not required to be delivered until several years into the contract. The Infracos have been cooperating well with London Underground's 'single source of truth' initiative. This will provide a shared source of information on assets. The first phase has already been completed and some of the 'vital sign' information on assets is already available.

Asset Management Strategy (AMS). The quality of the Infracos' initial AMS documents was disappointing. The initial documents focused on restating existing commitments and describing what systems would be used to manage the assets. Instead, this document should focus on what the Infracos' approach and aspirations are for the network's assets and how those aspirations will be delivered, including what approach will be taken to which asset, how the balance will be struck between maintenance and renewal, etc.

London Underground has now been through several rounds of comments on the AMS documents. London Underground has only granted conditional approval of all three Infraco AMS's. The approval requires that the Infracos deliver improvements to the AMS as agreed with London Underground in accordance with a timetable over the next 24 months, with the first deliverables in September 2004.

Annual Asset Management Plan (AAMPs). As with the AMS documents, the AAMP submissions initially were of poor quality. There was insufficient visibility of the problems to be addressed, how they will be addressed, and what the concrete outputs of the asset management regime would be (i.e. expected asset condition as a result of work done). Capital and maintenance programmes were included, but it was not clear how they would fit together to deliver a whole-life cost approach. The plans have now been developed further and have improved; however, we have been concerned at the level of involvement that was required from London Underground in developing the plans and the quality and scope of information provided on costs.

Asset Performance Review Meetings (APRMs). In the first year, the regular meetings to assess asset performance have been held, although substantial further progress is needed to make them as effective as they should be. This includes ensuring that appropriate people attend, actions are followed up appropriately, and the right type and level of information is provided to support effective decision-making.

Assurance regime. Each Infraco must submit an assurance regime to London Underground for approval so we can assure ourselves that the Infracos have controlled systems in place to deliver their maintenance obligations and their programmes. This has involved a number of iterations with both companies. We have conditionally accepted Tube Lines' regime. The latest version of the Metronet regime was received after the conclusion of the 2003/04 financial year and is yet to be approved. We continue to have some concerns that the systems fail to ensure a link between the maintenance and renewal work, and between different asset classes; we will be seeking improvements in this area. The Tube Lines improvement plan includes a timetable of programmes for building capability in systems and people (including recruitment and training), as well as creating greater emphasis on personal accountability, delivery, accurate reporting and timely escalation of problems. We will be monitoring monthly progress on the improvement plan. We will also be keeping the Infracos' detailed assurance plans under continuous review.



7. Safety performance

London Underground, as the operator of the Underground network, is responsible for the safety of the railway at all times. London Underground's safety management regime for the Underground, described in its statutorily required 'Safety Case', is independently assessed and accepted by the Health and Safety Executive (HSE). Each Infraco has its own Safety Case that it is contractually obligated to comply with, but it must also co-operate with London Underground on all health and safety matters to allow London Underground to meet its statutory Safety Case responsibilities.

London Underground monitors Infracos' safety performance and audits their compliance with their contractual Safety Cases and with London Underground standards. London Underground also works with them to ensure the jointly-agreed Safety Improvement Programme for all four companies is being delivered and is effective.

London Underground and the three Infracos give joint attention to safety through the structured Safety Improvement Programme mentioned above. In the last year, the Programme included initiatives to rationalise and improve London Underground's standards, to provide health and safety training for all managers, and to ensure more systematic application of risk assessment techniques and related risk controls. The Programme also delivered improvements in the way safety performance is measured, analysed and acted upon, including the introduction of leading indicators and the more rigorous application of safety decision-making techniques. The Managing Directors and other directors of all four companies closely monitor progress against the

Safety Improvement Programme on a monthly basis. All safety improvement activities in all companies are specified and tracked to completion on the London Underground Safety Action Tracking System, with a named accountable manager, deliverables and progress status for every piece of work.

In respect of the improvement programme for standards, the joint three-year project to establish a more coherent suite of output-based London Underground standards continued during the year. The changes mean significantly fewer standards and the elimination of duplication, overlap and unclear/conflicting requirements. The project will be completed during 2004/05. Within the overall framework of the standards improvement project the London Underground Health, Safety and Environmental Management System (HSEMS) has also been the subject of review and improvement as part of a commitment given in the London Underground Railway Safety Case. This was completed in June 2003 with the revised standards implemented from 1 July 2003. As with the wider standards project the number and complexity of standards has been reduced considerably. Since implementation some further improvements to standards have been made as the result of lessons learned from incidents such as the Camden Town derailment.

In 2003/04 BCV, SSL and JNP have all maintained compliance with the contractual Safety Case requirements and safety performance has been similar to or slightly better than in the preceding year. On-time delivery against the Safety Improvement Programme has improved as against the year before transfer.

Benchmarking of London Underground's and the Infracos' construction accident and workforce occupational health and safety performance (as measured by lost time injury accidents) remains significantly better than other comparable organisations. The wide range of other system safety performance indicators that are monitored by all four companies show stable performance when comparing pre- and post-transfer. That said, there is always room for further improvement in all areas by all four companies.

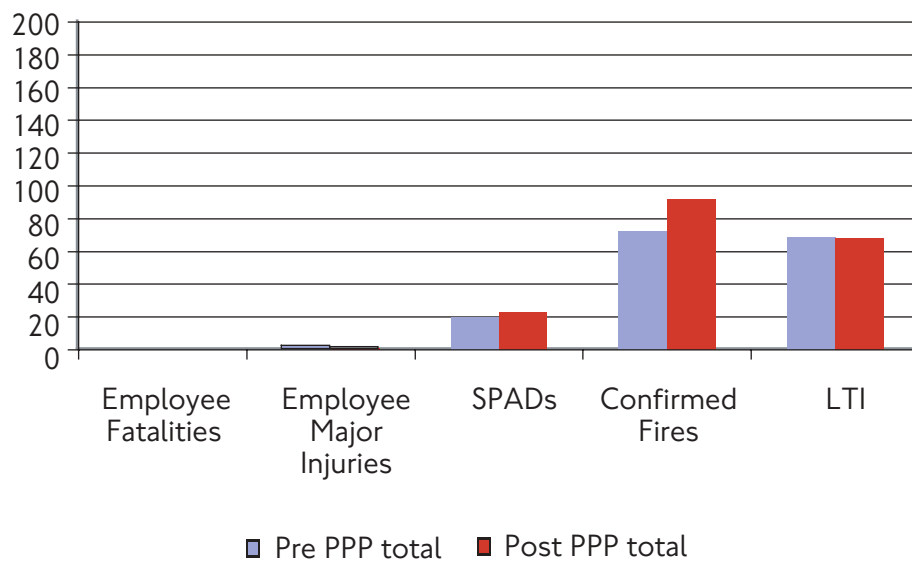
There has been co-operation between BCV, SSL, Tube Lines and London Underground on urgent safety-related issues such as the Chancery Lane, Hammersmith and Camden Town derailments. The thorough investigations into these major incidents have highlighted a number of key areas where

further improvements are needed across all four companies. Work is in progress to implement these improvements. This includes measures, prioritised on a safety risk basis, for continued and increased vigilance regarding asset condition, especially where sub-standard conditions have accrued from years of under-investment.

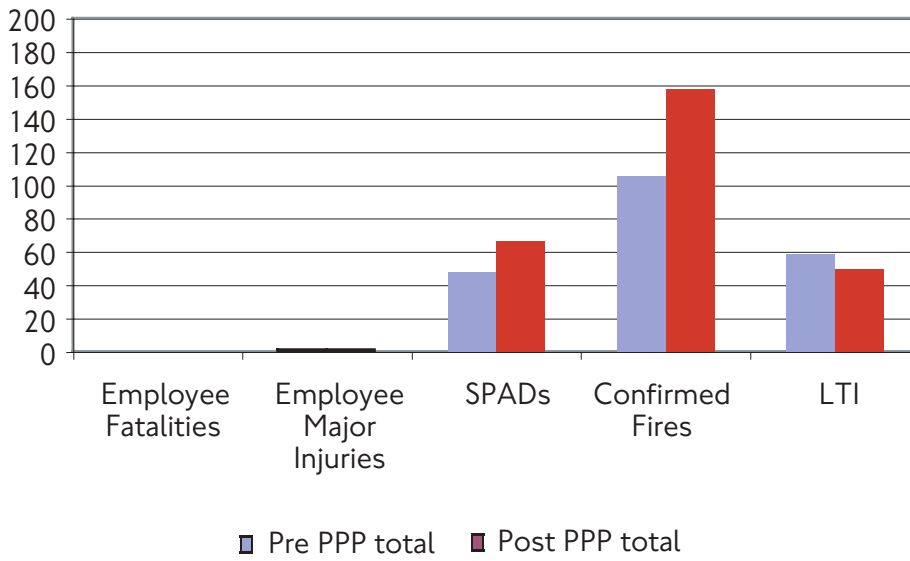
Safety performance: Safety Key Performance Indicators (SKPI)

The Safety Key Performance Indicators (SKPIs) are used by us to monitor safety performance. These data show relatively low overall numbers of incidents. Compared to safety performance prior to transfer, each SKPI has remained relatively stable. Analysis shows that there has been no statistically significant increase in these safety key performance indicators since transfer.

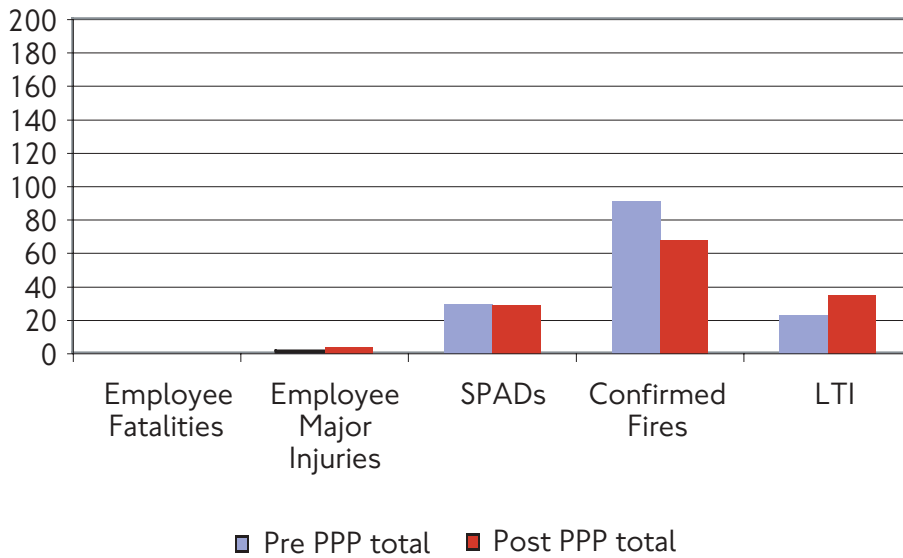
Metronet BCV: Pre and Post PPP Performance



Metronet SSL: Pre and Post PPP Performance



Tube Lines: Pre and post PPP Performance



8. Relations with the PPP Arbiter

The Greater London Authority Act 1999 established the position of the PPP Agreement Arbiter. Chris Bolt was appointed to this position by the Secretary of State in December 2002. A comprehensive description of this role can be found at the Arbiter's website, www.ppparbiter.org.uk.

The Arbiter's principal responsibility is to support London Underground and the Infracos in reaching a fair agreement when the PPP contracts come up for Periodic Review (every seven and a half years). At each review, London Underground may restate its requirements, including adjusting the service levels it requires from the Infraco for the next review period and negotiate ISC payments for revised requirements. If London Underground and the Infraco cannot reach agreement, the matter is referred to the Arbiter. In addition, the Arbiter has duties that may mean he is involved in the PPP contracts well before then. Of these, the most significant is that in the event an Infraco suffers cost overruns or revenue shortfall through no fault of its own and in excess of certain limits, the Arbiter can be asked to define an ISC increase to remedy the situation.

In both cases, the standard against which the Arbiter must judge the performance of the Infraco is contractually specified as 'economic and efficient' conduct. This means that any compensation for cost overruns can only include those costs incurred economically and efficiently by the Infraco. Overall costs that have not been incurred economically and efficiently

would also need to be considered as part of such a process. Clearly, the ability to judge whether an Infraco has been economic and efficient to date, and to assess whether its cost forecasts reflect economic and efficient cost increases at a Periodic Review, will be critical both to London Underground's ability to participate in any arbitration process and to the Arbiter's success in his role. London Underground has been working with the Arbiter's office over the last year to establish processes for sharing detailed information collected by London Underground on Infraco performance. This information will inform the Arbiter's analysis, but can only provide part of what is required: the Arbiter will be drawing on information from the Infracos as well.

London Underground believes that it is essential for it to develop the capability to sustain an ongoing overview of the Infracos' performance against the economic and efficient standard. This capability can only be achieved, however, once reliable information flows from the Infracos to both London Underground and the Arbiter on their costs and performance against plans can be measured. To date progress on this front has been disappointing. London Underground is also concerned that the Arbiter has so far resisted the notion that all information he obtains from the Infracos should be shared with London Underground. London Underground will continue to work with the Arbiter and Infracos to develop an analytical framework based on common and reliable sources of information.

9. Underground operations

While the Infracos are responsible for maintenance and renewal of the Underground's infrastructure, the daily job of delivering a service to three million people rests with London Underground. London Underground provides the train, station and signalling staff, and is responsible for planning services and managing the performance of the Infracos. While some major projects are part of the PPP contracts, others are not and it is London Underground's job to specify and manage those projects. Most importantly, London Underground has ultimate responsibility for safety and holding the Infracos to account for their safety performance.

The mammoth task of improving the Underground is as much dependent on London Underground's performance, as it is the Infracos and PFI contractors. A year ago Transport for London set out three priorities for the improvement of the Underground service: **safety**, **reliability** and **cleanliness**.⁹ London Underground's own surveys consistently show that these, above all, are the priorities for Tube users and in the last year, they have been the priorities for management.

9.1 Safe

Transport for London inherited the Underground in the shadow of the Chancery Lane derailment and prolonged closure of the Central and Waterloo and City lines. This incident cast a shadow over the Underground's otherwise good

safety record. One of the priorities for the Mayor, Transport for London and the new management team was to assure London that the Underground's safety regime was robust.

To this end Transport for London (TfL) and London Underground commissioned an independent safety audit of London Underground's operations and interfaces with Metronet and Tube Lines.

The purpose of the audit is both to provide assurance, and meet statutory obligations in London Underground's Railway Safety Case, (described in Chapter 7 above).

Following an extensive selection process, run jointly by TfL and London Underground, consultants A. D. Little were appointed to conduct the audit. A phased approach has been adopted starting with a very broad examination of LUL's safety management arrangements, followed by a detailed scrutiny of any areas of concern identified.

The initial works are now substantially complete. A.D. Little conclude that London Underground has developed and implemented:

- robust safety management arrangements
- a health and safety policy supported by appropriate organisational arrangements and resources
- a comprehensive and robust internal safety audit system covering LU, the Infracos and other suppliers.

9. Transport for London (2003) Focus on: London's Tube

Whilst the audit concluded that the critical processes required for managing safety were in place, it nevertheless identified a number of areas where improvement is needed. These will be closely examined, going forward, but meanwhile LU, and the Infracos where appropriate, have developed safety improvement actions to address these and included them within their overall safety improvement programmes, which are monitored internally and by the Health and Safety Executive.

In addition to the independent safety audit, London Underground has also been focusing on following up the actions identified by the investigation into the Chancery Lane incident. These not only included actions around safety procedures, but also actions to mitigate the disruptive effects of incidents. For example, a specific strategy has been developed for each line in the event of a major unplanned closure to ensure:

- swift deployment of replacement buses on routes that provide the best alternative journey for most users, rather than merely replicating the closed section of line
- swift and timely dissemination of information.

These measures were put to the test in October 2003, when a broken rail resulted in a Piccadilly line train derailment near Hammersmith, and two days later when a highly improbable set of circumstances led to a derailment on the Northern line at Camden Town. The responses to both of these incidents show a marked improvement on Chancery Lane. For example, within 90 minutes of the incident at Camden,

services had been restored on unaffected parts of the line, and replacement bus services were deployed. By Monday morning's peak, the bus service was expanded to 150 buses and alternative travel leaflets, posters and travel bulletins were issued. Moreover, as repairs were carried out and London Underground's engineers were assured it was safe to do so, service levels were increased such that by January as near to a full service as possible was operating on the line.

Meanwhile joint teams from London Underground and the Infracos have investigated the incidents to ensure the root causes are understood and action taken. All safety incidents are taken seriously and we are learning lessons not only about the specific incidents, but also about our own processes for managing investigations.

The strengthened processes include the following:

- Formal incident reports researched by LU and Infraco staff including engineers, safety professionals and operational managers, supported by independent experts¹⁰
- Engagement with our safety regulator HMRI including sharing plans and the status of progress on safety actions with HMRI
- Follow up with Health and Safety representatives at specific forums. This has, for example, led to changes in the inspection regimes
- Supporting the CIRAS confidential reporting system which enables staff to raise safety concerns anonymously via an independent industry body.

10. The full reports into the Chancery Lane, Hammersmith and Camden Incidents are available on the Tube section of TfL's website www.tfl.gov.uk

Despite three occurrences in the last year, derailments in service are actually rare events and Tube users are rightly confident in the safety of the system. Based on surveys and other market research, we are aware that issues of personal safety and security, in particular the fear of crime, are of much greater concern to many customers.

Actual instances of crime on the Underground are very low, with around 18,300 instances of recorded crime set against 947 million journeys. However the fear of crime can make the travelling experience stressful, and can even be a barrier to using the system altogether. In addition, since September 2001 the spectre of international terrorism has also been a concern for many Tube users. London Underground takes the security issue most seriously and we are determined to further reduce the actual risks to personal security and the perceived risk of crime or other security danger. Therefore in the last year we have undertaken the following:

- Recruited 100 extra officers dedicated to policing the Underground. This is an increase of 20 per cent in the total size of the Tube's police force¹¹
- Developed plans for recruitment of a further 100 officers in 2004/05
- Introduced a new deployment strategy for the BTP - bringing community policing to the Underground, with dedicated officers assigned to groups of stations. This shows some early signs of success, but full and effective deployment is a function of completion of recruitment and training of the new officers
- Taken a strong line on petty crime and anti-social behaviour, with a particular

focus on graffiti (see below), the imposition of 50 Anti-Social Behaviour Orders, more than in any previous year

- Launched a major campaign to focus staff on being alert and encourage customers to be vigilant
- Worked closely with BTP, the Metropolitan Police and other agencies on security matters, and hosted a full scale exercise at Bank station to test the robustness of plans
- Hosted a security summit following the bombings in Madrid to discuss and share best practice among all the major world metros including New York, Moscow, Paris, Tokyo and others.

Various attributes of the Underground service are measured by customer surveys. Overall our Customer Satisfaction Score for Safety and Security has increased from 79 to 80 out of 100. To increase the score is a remarkable achievement in a year that has unusually seen three derailments on the Underground and terrorist attacks on another European capital. We take this as a sign that Tube users are generally confident, and we remain focused on providing a safe and secure service.

9.2 Reliable

Reliability - consistent journey time every time - repeatedly tops surveys of what Tube users rate as important. Reliability has been a key focus for the new management team since day one and the initiatives introduced over the last year have not just been about kit, they have also been about embedding a reliability culture deep within London Underground.



11. British Transport Police (BTP) 'L' division

Just as a safety culture was embedded in the organisation in the changes following the 1987 King's Cross disaster, so the focus of 2003 has been on creating an organisation with a deep seated reliability culture. As a first step daily conference calls have been instituted, involving top-level management from London Underground and the Infracos reviewing every detail of the previous day's performance in order to learn lessons and improve performance. A weekly Operating Committee has also been established and involves all the London Underground Directors focusing on the performance issues of a particular line. These steps have focused management attention on reliability.

The most significant change however came on 24 November 2003, with the reorganisation of Operations and the appointment of a General Manager for each line. Previously responsibilities for trains and stations operations were split with three General Managers responsible for train services and another three responsible for station services. Intentional or not, the effect was to divide two essential parts of a functioning unit that has to work together if reliability is to be achieved. Under the new structure trains and stations operations are united with a single manager accountable for performance of each line. More than anything else this change has begun to embed the accountability that will lead to a reliability culture. In the new structure it is very clear that the rest of the business is there to support the line managers meet the tough targets they have for all aspects of service performance, particularly reliability.



In total around half of all delays relate to assets controlled by the Infracos and a further proportion can be attributed to external factors, such as security alerts etc. Around a fifth of delays are caused by LU activities.

Progress in reducing the number of the delays attributable to LU has been made, and the factors behind this include the following:

- The absence of industrial action in the last year. If the trade unions and management can continue to work together, this can be sustained. The challenges in this area cannot be underestimated
- Train operator attendance has continued to improve and the target of no more than three out of 512 peak trains being cancelled due to operator non-availability has been consistently beaten - averaging less than two per peak
- There have also been reductions in delays due to staff errors, particularly signals passed at danger (SPADs). If a train SPADs on the Underground, safety systems stop it safely before there is any possibility of a collision, however all SPADs are taken seriously hence there is a delay while the incident is investigated and safety measures applied. Last year 772 SPADs were recorded, down from 813 the previous year. Nonetheless, progress in this area has been slow and must be accelerated in the coming year. Line Managers will be making this an area for particular focus so that a real improvement can be demonstrated.¹²

12. Note that there is a second category of SPAD relating to equipment performance, which is the responsibility of the Infracos. Last year 208 of these type of SPADs were recorded, an increase on 161 the previous year.

Faster and more reliable journeys

Our long-term plan for the train service is to deliver faster and more reliable services through asset renewal and replacement. Many of these upgrades are a long way off, and in the short term we aim to get the most out of the current assets. All lines are now operating the maximum peak service levels possible with current assets. Therefore the focus of short-term changes will be around modifying the service to improve reliability (e.g. allowing more efficient turn-arounds at termini) or enhancing services around the peak and in the off-peak periods.

In the last year service enhancements have included a doubling of off-peak Metropolitan line services to Amersham, while on the Jubilee line an enhanced peak service was introduced in September, delivering 24-trains per hour in the peak direction for two-hours in the morning and evening peaks. Altogether service increases in 2003/04 deliver nearly half a million additional train kilometres a year.

The majority of lines will see some form of a service enhancement over the next two years, including:

- Central line: increases in off-peak frequencies delivering over a million extra operated train kilometres a year (May 2004)
- Victoria line: introduction of a standardised off peak service with trains scheduled every three minutes (July 2004)
- Metropolitan line: additional peak services running through to the City (May 2004)
- Northern line: reliability review (run time, dwell time) leading to more robust services
- Bakerloo line: enhance peak and off peak services as a result of improved train availability (Winter 2005 and 2006)

- Jubilee line: 16 per cent increase in capacity through the addition of a 7th car to each train (Spring 2006).

In addition, recognising the growing evening economy in London, we are drawing up plans to extend services later into the evenings on Fridays and Saturdays. It is estimated that 170,000 people a week could benefit from the Tube being open later on Fridays and Saturdays, and we hope to implement extended hours as soon as the staffing and technical issues have been worked through.

The focus of train improvements is greater reliability and reduced journey times. Making improvements in these areas will also tackle train crowding, which is an important factor in the quality of the on-train ride. Other aspects of the ride quality depend on train refurbishment and track replacement. The first refurbished District line train is expected in 2005. The programme for track replacement stretches many years into the future and necessarily requires temporary closures so the rails can be changed.

Delivering a faster and more reliable service is essential in the short term to enable the network to cope with temporary closures to facilitate maintenance and renewal works. These include, in the coming year, 17 weeks of weekend closures on the central part of the District line to enable track replacement; weekend closures in the Wembley Park area while the station is rebuilt; and an 18-month closure of the loop to Heathrow Terminal 4 to enable construction of the Piccadilly line extension to Terminal 5.

Information

An important element of a fast journey, especially in times of disruption, is having the right information to enable the right travel choices to be made.

There has been a real focus on improving the quality of information on the Underground in the last year. This focus will be ever more important during the disruption necessary to renew the Underground.

For the most part, the information systems on the Underground are antiquated and rely on manual processes. Despite this handicap our Customer Satisfaction Survey scored 78 for information during the year, beating the target by two points. This has been mainly due to the efforts of the Underground staff and a focus on providing information that is simple, relevant and timely. Improvements have included the following:

- Consistent language: from October 2003, we standardised our language, using 'good service' to indicate that the service is running to timetable or with variations that do not constitute barriers to overall reliability, thus enabling customers to distinguish between minor variations that have no significant impact on a journey and delays that should be factored in to choice of route
- Line information boards: every station now displays a board showing the status of all lines. Since 40 per cent of all Underground journeys involve at least two lines, a summary of the network service on entering the system enables customers to choose the best route given the current status of the service
- The newer train fleets are able to make automated announcements, and the Central line train announcements have recently been refreshed. On other lines the train

operator makes announcements, and our surveys show that the number and quality of messages has improved in just the last year. This has been reflected in an increase in the relevant customer satisfaction measure from 76 to a high of 78

- Pre-journey information on the website has also been improved so that customers can be confident in planning journeys in advance.

The improvement in information is mainly due to the efforts of Underground staff.¹³ Customers are often frustrated with the information provided during times of service disruption. Staff share these frustrations because many of the information systems they rely on are old and unreliable. In the coming year investment in information will include both direct customer information (such as trials of plasma screens to replace whiteboards) and on the tools staff need to provide quality information. Such tools include 'Tracker' - a real time display of the line showing the position and destination of trains. This is currently only available for a few lines, but it is planned to expand tracker coverage to more lines in the coming year. In the medium term Tracker information will be used to provide live next train information on the web, but in the short term the focus is on ensuring that all stations are equipped with a computer and can receive Tracker information. By far the most important new tool for staff will be the new radio system procured under the Connect PFI. This is due to start being rolled out from 2005 and will for the first time provide a common, consistent train and station radio system with complete network coverage.

13. This is evidenced in customer satisfaction with staff availability and helpfulness, which has increased every quarter in the last year, achieving a score of 76 for the first 3 months of 2004, compared to 72 a year before.

Another form of information will become increasingly important in the coming year as the Tube renewal programme really gets underway. This scale of works has never been attempted on the Underground before, and will see track and signalling replacement on multiple lines simultaneously, construction activities at 20-30 stations at a time, testing of prototype trains, platform closures, installations of lifts and closure of escalators for refurbishment. This level of work will make a complex network harder to negotiate - particularly at weekends when the bulk of temporary closures will occur. With all this work going on, the provision of pre-journey and on-system information will become all the more crucial. We will be making renewed efforts to get the message across about the type of disruption, what it means for journeys and why it is happening. Greater use will be made of the Internet, and posters and leaflets will be available at stations in good time.

9.3 Clean and welcoming

The third priority area in the last year has been improving the quality of journeys on the Underground by making the travelling environment clean and welcoming.

Graffiti

The new management of London Underground has been determined to tackle graffiti and the Infracos have joined us in adopting a zero tolerance approach to this unacceptable petty vandalism on trains. Cleaning up graffiti costs London Underground around £12m a year, but allowing graffiti to remain provides a platform for this anti-social behaviour, and also implies we do not care about our railway. Together with the Infracos we have begun a crack down and achieved the following:

- While the Central line was closed following the Chancery Lane incident,

the opportunity was used to 'deep clean' the trains and remove all graffiti

- Completed a special programme to remove graffiti from Hammersmith & City and Circle line trains. Metronet introduced the use of a new 'buffing' technique to remove graffiti that cannot be removed by conventional techniques
- Introduced a new approach to keep cleaned trains graffiti free - Metronet teams at the main Circle and H&C turning points are in place to ensure that any new non-scratched graffiti is removed in 24-48 hours
- Introduced daily reports identifying trains and stations with graffiti problems so that depot managers can take appropriate action
- Initiated a public 'name and shame' campaign in November. The campaign is publicised at stations and offers rewards to those who are able to 'Name that Tag'
- Successfully targeted the worst vandals, leading to the imposition of Anti-Social Behaviour Orders. Recordings from on-train CCTV systems have provided evidence to assist the police in bringing prosecutions.

Our intention is to build on this work in the coming year through three strands of activity:

- Further removal of existing graffiti - the Metropolitan line trains are currently undergoing the deep clean process
- Deterrent initiatives - e.g. changing the line diagram on Circle and Hammersmith & City line trains to provide less 'blank canvass' for graffiti vandals
- Maintaining the reduced levels of graffiti by aiming for removal of new graffiti within 24 hours.



Station improvements

At the outset of the PPP contracts both Metronet and Tube Lines promised to increase the frequency of cleaning activity. This, together with the anti-graffiti campaign, has led to improvements in customers' perceptions of cleanliness.¹⁴ However, the state of decor in many stations is poor and only the modernisation and refurbishment programme will address this.

All stations will receive some form of enhancement over the next decade. Most of the stations will undergo general refurbishment to renew finishes, prevent decline, etc. Around 100 stations are in need of more significant upgrades to restore the condition of the station. All stations, whether they are modernised or refurbished, will also benefit from a package of works to improve station facilities. These include upgrade to a comprehensive CCTV system, installation of Help Points, replacement signs, visual and audible information systems, and improved waiting facilities. The station enhancement programme is therefore much more than merely a decor improvement; the upgraded facilities are intended to make the station service more welcoming.

In the last year the focus has been on getting schemes designed and commencing the early schemes. From this year the pace of work will increase significantly, so that around 19 stations should be completed in the coming year, including:

- Bow Road, Plaistow and Turnham Green on the District line
- North Harrow on the Metropolitan line

- Kilburn on the Jubilee line
- Borough, Kennington and Tufnell Park on the Northern line
- Acton Town, Northfields and Arnos Grove on the Piccadilly line
- West Ruislip and Chigwell on the Central line.

By the end of 2006, 78 stations should have been completed and over 100 stations are due for completion by the end of 2007. Typically a station enhancement will take between ten months and two years on site to complete.¹⁵ In practical terms this means that roughly a third of all the stations on the network will be undergoing rebuilding work at any one time.

Our intention is to keep stations open throughout the works unless it is unsafe to do so. This approach means we can avoid lengthening journeys by requiring use of an alternative station, but it also means that during the works the stations will be far from welcoming, and Tube users need to be prepared for this. We are examining whether station closures, like line blockades, might be appropriate in particular cases in order to accelerate the benefits for our customers.

There will be a much greater focus on forewarning customers both through on-system information (particularly leaflets, more prominent posters and announcements) and off-system (including information on the website, travel information service and advertisements in local newspapers and other publications).

Oyster

One of the most significant achievements during the last year has

14. Customer Satisfaction scores for Cleanliness broke the 70 out of 100 barrier for the first time last year.

15. This is due to the need to undertake most works at night and keep the station open during the day. The variability depends on the complexity and condition of the station and the scope of works being undertaken.

been the launch of Oyster - Transport for London's new smartcard-based ticketing system. The Prestige PFI is managed by London Underground on behalf of the whole TfL group, and our role has been to ensure the contractor delivered a robust product without further delays to the programme.

Since the launch of Oyster in June 2003, over 800,000 Oyster cards have been issued to customers. Oyster is intended to make journeys quicker and simpler by eliminating the need to put a paper ticket through the gates and by allowing purchase of tickets over the internet and by phone without relying on the post to deliver the ticket.

In January 2004, a further step forward was made with the launch of Pre-Pay. Pre-pay allows irregular users to buy 'credit' in advance and then have this deducted off the card as they travel - saving multiple trips to the ticket office.

In total 1 in 5 journeys are now made with Oyster based tickets.

In the coming year we expect further growth of Oyster with the complete conversion of annual and monthly tickets to Oyster, replacement of Freedom Passes with Oyster equivalents and further extensions of Pre-pay. In particular, the introduction of smart pre-pay will ensure that users are charged the best fare for the journey - e.g. paying for a Travelcard if that is cheaper for the user than buying single tickets.

Improving access for all

TfL is committed to improving transport for all in London. At present the Tube is woefully inadequate at providing for the needs of those with mobility difficulties - not to mention those encumbered by luggage, pushchairs, etc.

The barriers to access on the Underground are mainly a function of the age of the system, and the solutions are complex and extremely expensive. Not all the barriers to using the Underground are physical however, and in the last year work has been undertaken to improve information, notably printed leaflets and brochures, so that information is accessible as possible, as well as the measures to address security fears described above.

Even on the physical barriers progress has been made. On the day TfL took over the Underground, Kilburn became the latest station to benefit from step-free access. West Ham is another recent addition. However in both of these cases the projects were delivered late and we will be demanding much better performance from the Infracos and their suppliers going forward. Works are in progress at Brixton, Earls Court, Hounslow East and East Ham, and these are due for delivery in the coming year. These are among the 18 step free stations promised over the next five years.

The Mayor has articulated an aspiration for half the network (140 stations) to be made accessible. This would expand upon a strategy previously put forth by London Underground for a key network of over 100 accessible stations by 2020. The core PPP contracts only require the Infracos to deliver a further 16 step free stations - somewhat short of the 60 required to meet the aspiration. The pace of delivery on further accessible stations is therefore largely determined by funding. Since even modest schemes can cost £3 million plus, considerable resource is required to achieve the accessible network we aspire to. The outcome of the Spending Review will be crucial in determining what can be achieved since we do not currently have the funding in place to support a programme on the scale of that we want to deliver.



Step-free access from street to platform provides a significant benefit, but for the full benefit to be realised the step between the platform and the train must be addressed. In the coming year we intend to conduct live trials of platform humps on the network. The trial will include installations at Wembley Park as part of the major redevelopment of that station.

In addition to the major projects delivering full step free access, lower cost works are also being pursued. Every station will undergo modernisation or refurbishment over the next decade (see above) and the scope of this work will include low cost measures such as improved signage, induction loops at ticket offices and tactile paving. We are working with the Infracos to ensure that designs and scopes of work follow best practice.

The Tube cannot be welcoming to all until the accessibility issue is addressed. This requires serious commitment not only from London Underground, but also from government, the Infracos, boroughs and other stakeholders.

Station congestion

While a key priority is reliability and journey times for train services, journey times in stations are also an issue. Many stations suffer severe congestion problems at particular times of the day. Victoria is a particular example where the station regularly has to close in the peaks to prevent overcrowding. The day to day focus for our staff is to manage congestion safely. This we do very well, but ultimately it still adds delay and discomfort to customers' journeys.

Increasing train frequency and capacity will help station congestion but ultimately the only effective solution is to invest in increased station capacity. In the last year some schemes have been progressed:

- Re-opening of the expanded Northern line ticket hall at Elephant and Castle
- Continuation of the rebuilding of Phase 1 of King's Cross St Pancras, which is due to complete for the opening of the channel tunnel high speed rail link in three years time
- Opening of the eastern entrance at Canary Wharf station
- Continuation of works to expand capacity at Brixton station, including completion of a planned three week closure a week early.

This year, in addition to work continuing at King's Cross St Pancras, the Brixton project is due for completion, designs will be undertaken for a scheme at Vauxhall, and a small scale scheme to re-order Covent Garden ticket hall will commence. The public inquiry assessing LU's plans to expand Camden Town station is expected to conclude, enabling a decision on the project. Most significantly, a major rebuild of Wembley Park station is being started. This project will involve capacity enhancement and provision of step free access in time for the opening of the National Stadium late in 2005. As with Brixton, a number of closures are required to enable the works to take place. Specifically, from September this year there will be sequential platform closures, followed by a number of weekend closures. Station capacity works are complex and expensive. The two large schemes being undertaken, King's Cross St Pancras and



Wembley Park, are being supported by specific government grant, which allows them to proceed. The stations where congestion relief is most needed is also where it is most expensive, e.g. Victoria, Tottenham Court Road, Paddington, Bank, Camden Town. Costs for these projects run into tens or even hundreds of millions of pounds; they are also time-consuming and disruptive. This renders the congestion relief programme largely unaffordable and unless government funding is forthcoming in the Spending Review only a few small schemes are likely to be taken forward.

In the meantime we shall continue to manage station congestion to maintain a safe service, and work will continue on making the train service faster and more reliable, to help alleviate station congestion.

10. Conclusion

Nobody should underestimate the enormity of the task facing London Underground and the Infracos in turning around decades of decline, and nobody should imagine that transition will be painless. The basic truth is that for much of the next decade large parts of the Underground system will be a virtual building site:

- Once the programme gets going, roughly a third of all Underground stations will be undergoing some form of building work at any one time
- Stations undergoing work are likely to close earlier than normal and open later
- Track work will require a temporary closure somewhere every weekend of the year.

Activity over the next 12-24 months (including works on going but not complete)

Expected Capital Works	Maintenance
<ul style="list-style-type: none"> ● Ongoing work on 65 station enhancements ● Ongoing work on extension of the Piccadilly line to the new Heathrow Terminal 5 ● Ongoing work on the East London Line Extension ● Station capacity and interchange works at King's Cross St Pancras, Wembley Park, Euston Square and Walthamstow Central ● White City Development ● Access projects, including lift installations currently on site at Brixton, Earl's Court, Hounslow East and East Ham ● Platform hump trials ● Line upgrades to the Victoria, Central and Waterloo & City lines ● 7-car Jubilee line trains ● Improvements to train crew accommodation/facilities at 20 sites to facilitate train service improvements ● Programme of refurbishment of District line trains ● Improvements to rolling stock on the Victoria and Circle lines ● Installation of radio and transmission equipment via the Connect PFI ● One additional Bakerloo line train in peak service from April 2005 ● A new escalator at Brixton ● Power supply works on the Northern line ● Chip & Pin modifications to ticketing equipment ● Install automatic meter reading to improve control of electricity usage ● Platform safety works at sub-surface stations (platform end barriers and CCTV enhancements) 	<ul style="list-style-type: none"> ● Over 160kms of track replacement ● Lift & Escalator maintenance and refurbishment or replacement at 45 sites ● Maintenance of earth structures and embankments at 13 sites on SSL and over 3.5kms on JNP ● Bridges and structures maintenance at four sites ● Deep cleans of stations and trains, including graffiti removal ● Renewal of staff accommodation ● General rolling stock maintenance ● Door upgrades on Bakerloo line trains ● Heavy overhaul of Central line rolling stock ● CCTV renewals and lighting works ● Permanent speed restrictions signage ● Electronic customer information boards ● SPAD mitigation works ● SSL Interlocking Machine Room wire degradation mitigation

In addition, we are planning a series of other improvements over the coming 12-24 months, including:

- Recruitment and training of a further 100 BTP officers
- Central line: increases in off-peak frequencies (May 04)
- Victoria line: introduction of a standardised three-minute off peak service (July 04)
- Metropolitan line: additional peak City services (May 04)
- Northern line: reliability review
- Bakerloo line: enhance peak and off peak services as a result of improved train availability (Winter 05 and 06)
- Develop plans for later running of services on Fridays and Saturdays
- Focus on SPAD reduction
- Accessibility information improvements
- Graffiti removal on Metropolitan line trains plus deterrent measures on other lines
- Oyster development: smart pre-pay and auto-load functionality
- Improved information about disruptions caused by the capital programme.

Yet despite this, real, tangible improvements are starting to come on

stream. The evidence for this is in our performance against targets. The table below shows that even without adjusting for the Camden Town effect, London Underground achieved all but one of the government targets.

The table also shows, however, that our targets for next year are tougher than last, and we have to achieve these while at the same time managing the level of work described above.

To reconcile these conflicting realities, we need the commitment of our staff, the support of our stakeholders and the understanding of our customers. We also need to remain clear on our priorities: to provide a **safe, reliable and clean** and welcoming service and deliver on an investment programme, the scale of which has never been seen before on the Underground. Real, tangible improvements will be delivered in the coming year, but the coming year will also see an increasing pace of work and the disruption that accompanies it. The first year of the PPP has raised more questions than it has provided answers, but London Underground is focused on representing its stakeholders' best interests as we restore the Tube.

Government Performance Target	2003/04 Actual	2003/04 Target	Status	2004/05 Target
Overall Customer Satisfaction (score out of 100)	76	75	Achieved	76
Excess Journey Time i.e. unreliability, crowding, queuing (unweighted mins)	3.36	3.36	Achieved	3.27
Excess Trains Journey Time i.e. unreliability (unweighted mins)	2.03	2.05	Achieved	1.97
Service Volumes (operated train kms, million)	67.7	67.7	Achieved	68.9
Scheduled kms not operated (%)	6.9%	6.2%	Missed	6.0%
% peak train cancellations -due to Operator Not Available (ONAs)	0.3%	0.6%	Achieved	0.6%
Lost Customer Hours (millions)	16.97	17.65	Achieved	16.75

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