

Too close for comfort

Passengers' experiences of the London Underground

December 2009



Copyright

Greater London Authority

December 2009

Published by

Greater London Authority

City Hall

The Queen's Walk

More London

London SE1 2AA

www.london.gov.uk

enquiries 020 7983 4100

minicom 020 7983 4458

ISBN

This publication is printed on recycled paper

Transport Committee Members

Caroline Pidgeon	Liberal Democrat - Chair
Valerie Shawcross	Labour - Deputy Chair
Jennette Arnold	Labour
Victoria Borwick	Conservative
James Cleverly	Conservative
Jenny Jones	Green
Joanne McCartney	Labour
Steve O'Connell	Conservative
Richard Tracey	Conservative

The Transport Committee agreed the following terms of reference for this review on 8 July 2009:

- To highlight the effects of current levels of overcrowding on the London Underground network and examine the ways in which it is managed and suggestions for improvements.
- To examine the impact of the Underground upgrade programme on passengers and London Underground's plans to ensure disruption is minimised.
- To make recommendations to the Mayor, TfL and relevant partners to mitigate current overcrowding on the London Underground network and help minimise disruption while the rest of the upgrade programme is undertaken.

The Committee would welcome feedback on this report. Please contact Tim Steer on 020 7983 4250 or tim.steer@london.gov.uk. For press enquiries please contact Dana Gavin on 020 7983 4603 or dana.gavin@london.gov.uk.

Contents

Chair’s foreword	6
Executive summary	8
1. Introduction	10
2. Overcrowding	12
3. Ongoing line closures	23
4. Future line upgrades	28
5. Conclusions	42
Appendix 1 Findings	43
Appendix 2 Recommendations	49
Appendix 3 Research	53
Appendix 4 Contributions	58
Appendix 5 Orders and translations	59
Appendix 6 Principles of scrutiny page	60

Chair's foreword

The Transport Committee's report on passengers' experiences of overcrowding and line closures on the London Underground has taken evidence from over 700 passengers who responded to our survey. We conducted hearings in which we heard not only from London Underground and Tube Lines about the upgrade work they are undertaking, but also from Metro de Madrid who work very differently.



It was the former Managing Director of London Underground, Tim O'Toole, who described the Tube upgrades programme as carrying out open-heart surgery on someone while they trained for the Olympics. No-one should underestimate the challenge faced by those in charge of this vital work, nor the difficulty of funding it.

We have made a number of recommendations.

We considered whether it would be better for passengers if sections of line were closed for longer periods, instead of the endless weekend and evening closures on the Jubilee and Victoria lines. I believe getting the work done "in one go" could be appropriate in some cases and we want to hear from London Underground on how this could work, where it would be appropriate and the money that could be saved from carrying out some of the upgrade works in this way.

It is clear from the chaotic final stages of the Jubilee line upgrade that London Underground and Tube Lines need better planning, communication and cooperation for the next project, on the Northern Line. London Underground needs to be clearer and more decisive about the scope of the work, and Tube Lines needs to learn from the experience of the Jubilee Line project. They should also take on board best practice from around the world.

A new mindset is needed. Minimising disruption for passengers should be given higher priority when London Underground plans and procures the next round of Tube upgrades.

The commissioning of new trains gives London Underground an opportunity to buy more spacious and better-designed trains which

will reduce overcrowding. It cannot be right that we have four people per square metre during the busiest hour in the morning on some parts of the network. I was impressed by inspecting the new Metropolitan Line trains under testing at London Underground's test track at Old Dalby in Leicestershire; these trains are "walk-through" with no interruptions between carriages, much like the DLR, and give much more space for passengers. This type of design needs adapting to the new trains for the deep lines like the Bakerloo and Piccadilly Lines.

Our report calls on the Mayor of London to ensure that the Board of Transport for London provides sufficient challenge to London Underground's entrenched thinking. The Board needs to listen to Tube Lines, other contractors, and to all those who could bring new ideas and new thinking to the vital upgrade projects on which the capital depends.

Caroline Pidgeon AM
Chair, Transport Committee

Executive summary

This report documents the passenger experience on the London Underground. It captures how the stress and frustrations of overcrowding and line closures affect peoples' behaviour and travel choices.

The Committee makes a number of recommendations about improving information for passengers, the planning and delivery of Underground upgrades, the design of new trains, and alternative transport options when lines are closed, including the standard of rail replacement buses.

The Committee carried out a survey of Underground passengers which received over 700 responses. We also commissioned research with commuters and leisure users to identify the effects of overcrowding and the 'coping strategies' people adopt, ranging from becoming more ruthless to 'shutting down'.

With more than four people per square metre during the busiest hour in the morning on some parts of the network, over 80 per cent of survey respondents said they experienced overcrowding which caused them discomfort, and more than half were sometimes unable to board the first train to arrive.

The Committee concludes that there are a number of ways the passenger experience during peak hours could be improved, including ensuring that all new trains make the most of the best available designs and through the provision of clear information about crowding levels and alternative routes before people pass through the ticket barriers.

The Underground is now the mode of choice for more than a billion journeys a year. Ongoing investment will create much-needed extra capacity, but the Committee believes there must be improvements in how upgrade works are planned, procured and undertaken, particularly in relation line closures.

The Committee heard from the key players in maintaining and upgrading the network – London Underground and contractor Tube Lines – as well as comparing the upgrade of the Jubilee line with similar works on the Metro de Madrid that involve far fewer line closures.

We found that the culmination of the Jubilee line upgrade has been chaotic, with hastily arranged and, possibly, inefficiently used closures causing unnecessary disruption to passengers and costing venues along the route like The O₂ and ExCel hundreds of thousands of pounds. That its completion will now be delayed until at least the third quarter of 2010 is extremely disappointing and deepens our concern that delays to the Jubilee line programme are affecting the timetable for the upgrade of the Northern line.

A third of survey respondents had been affected by planned closures more than once a week and a further 50 per cent were affected at least once a month. Alternative services when lines are closed rated poorly. In advance of a programme of closures, Transport for London (TfL) should devise a travel plan covering the affected corridor. The use of older fleet for replacement bus services must be discontinued.

The Committee recommends that London Underground should improve the way it plans and collaborates with its contractor Tube Lines so that closures are used to their maximum potential. It should review the procurement process for future upgrades to give minimising disruption for passengers a higher priority. This would help to deliver what Richard Parry told the Committee needed to be a “mindset shift” to achieve a substantial reduction in the number of closures required during the next of tranche of upgrades.

The Committee also found that there is more Tube Lines can do to ensure work on the Northern and Piccadilly lines is less disruptive, by learning from the Jubilee line upgrade and best practice from around the world.

We note that Tube Lines is unconvinced of London Underground’s argument that extended ‘block’ closures would not necessarily be more efficient than weekend or evening closures. The likely shape of block closures, if they were to be used, needs to be clearer for the effect on passengers to be fully assessed. The Mayor should ensure the TfL Board is providing sufficient challenge to entrenched thinking at London Underground about this kind of approach.

In this report we have focussed on the experiences of London Underground passengers. We have identified some practical steps to mitigate the effects of overcrowding and line closures. London Underground and Tube Lines must now look to implement our recommendations if they are serious about making improvements.

1. Introduction

The London Underground carries more than 1 billion passengers a year – as many as the entire national rail network. Significant increases in the level of service over the last decade, as well as improvements in reliability, have only just managed to keep pace with rising passenger numbers. You could certainly describe the Underground as a victim of its own success – a comment that has been made several times during our work.

As a result, regular passengers on the London Underground have, to a certain extent, become accustomed to the daily crush. Apart from the summer media stories about cattle truck conditions, there is a general acceptance that overcrowding on the Underground is inevitable.

The same is becoming true about the weekend and evening closures which have been particularly disruptive for passengers and businesses served by the Jubilee and Victoria lines. Jubilee line passengers in particular can now be heard to say that they no longer try and make journeys at the weekend because they feel it is so unlikely the line will be open – a situation which now looks unlikely to improve for months beyond the original completion date of 31 December 2009.

During our investigation into passengers' experiences of travel on the London Underground, we have looked in detail – for the first time – at the effects on passengers of the acute overcrowding and the seemingly never-ending line closures which they have to endure. Our survey of Underground passengers and a piece of new research looking at their experiences provide a unique insight into the way passengers think about these issues.

We have also attempted to understand whether overcrowding and closures are simply facts of life to be endured, or whether there are things London Underground and others could do to improve the situation. We have held hearings with the key players at London Underground and Tube Lines, the remaining private sector partner under the Public Private Partnership (PPP) structure, as well as passenger and business groups, and representatives from Madrid's metro system, which has used pioneering techniques to reduce the disruption of engineering works for passengers.

Although these are difficult problems to address, we conclude in this report that there are further practical measures which could be taken to reduce discomfort and inconvenience for passengers. We suggest

specific measures to relieve overcrowding and minimise the disruption caused by line closures. We make recommendations to London Underground, the Mayor and Tube Lines, the implementation of which we believe would bring about improvements for passengers.

2. Overcrowding

The level and effects of overcrowding

During the busiest hour in the morning there are more than four people per square metre in trains on some parts of the London Underground network. This experience is not restricted to an unlucky few – London Underground’s map of crowding hotspots (Figure 1) shows acute overcrowding in the morning peak in a number of areas, including in and around King’s Cross, between Bethnal Green and Bank on the Central line, and between Clapham and Kennington on the Northern line. Over 80% of respondents to a survey by the Committee said they experienced overcrowding which caused them discomfort, and over half were sometimes unable to board the first train to arrive.

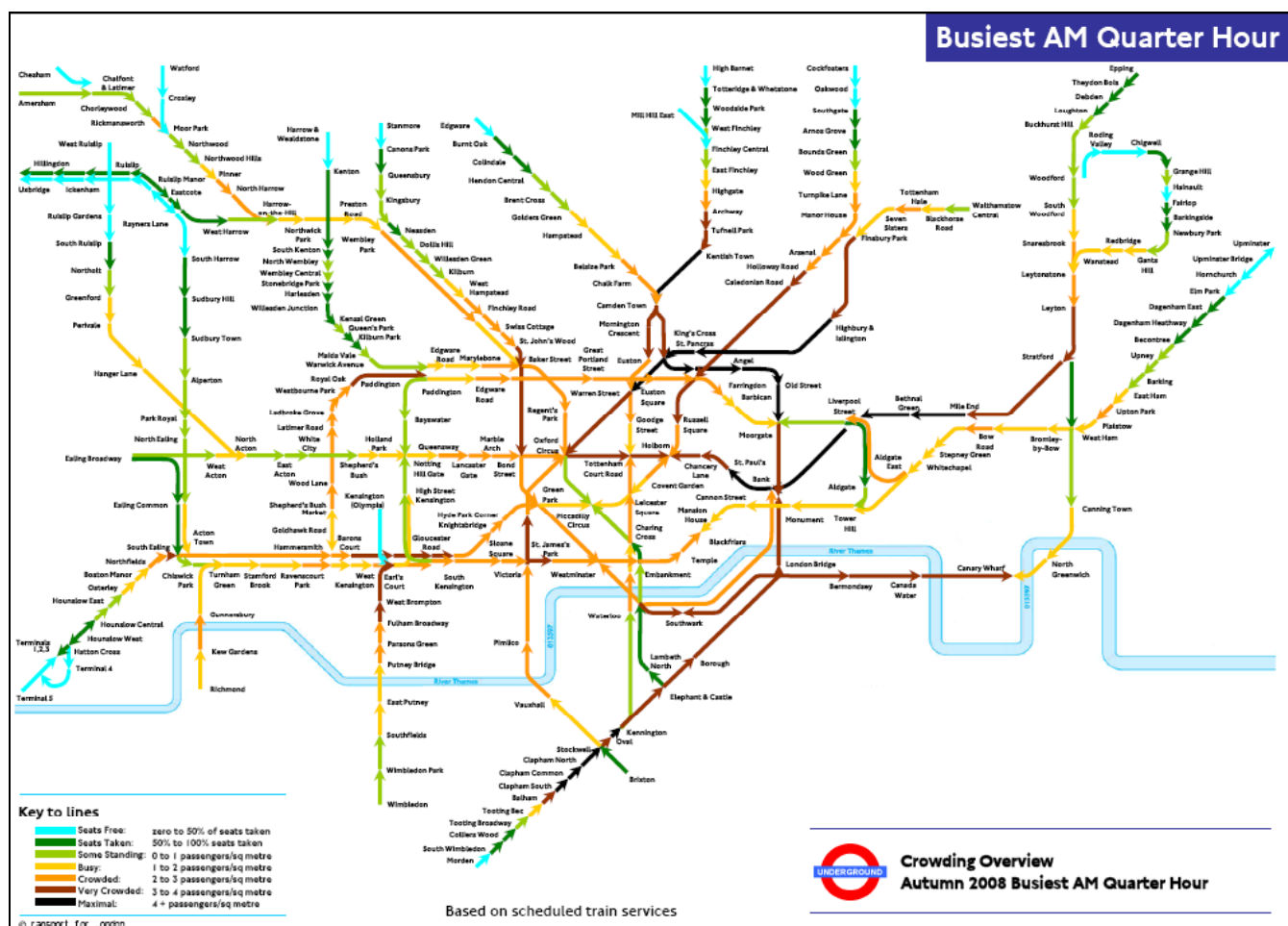


Figure 1: Map of crowding hotspots on the Underground during the morning peak (2008 data)

There is a lack of information about the effects of overcrowding. Although it is clear that passengers are unhappy about crowding levels,¹ previous studies have commented on the lack of research on the effects of overcrowding on public transport in general,² and we have heard that there is a particular paucity of specific research into the effects of overcrowding in the underground train environment.³

In other situations overcrowding is known to have a range of negative effects, including stress, poor productivity and, potentially, poor heart health. Referring to the areas of worst overcrowding during peak times, psychologist Dr Glenn Williams told us, “it probably would not be advisable” to use those parts of the network.⁴

Even though the highest levels of overcrowding are potentially unhealthy for passengers, London Underground has not undertaken any research into the potential effects specifically on the Underground network.⁵ Richard Parry, Interim Managing Director of London Underground, explained that his priority was to provide additional capacity in an attempt to reduce overcrowding, saying simply, “No one is obliged to use the system who does not want to”.⁶

In an effort towards filling the gap in information about the effects of overcrowding on the Underground network, the Committee invited passengers to complete a survey about their experiences and commissioned a piece of qualitative research into the effects on passengers of both overcrowding and planned closures of Underground lines.⁷

The results offer a unique record of the everyday experiences tolerated by passengers, often on a daily basis, and the ways in which

¹ London Underground’s regular customer satisfaction survey demonstrates that overcrowding, along with train cleanliness, is consistently the aspect of the network with which passengers are least satisfied.

² See, for example, Transport Select Committee, *Overcrowding on public transport*, September 2003 and Tom Cox, Jonathan Houdmont & Amanda Griffiths, *Rail passenger crowding, stress, health and safety in Britain*, 2005

³ Dr Glenn Williams, Transport Committee, transcript 8 July 2009, p. 17

⁴ Dr Glenn Williams, Transport Committee, transcript 8 July 2009, pp. 21-23

⁵ Letter from Richard Parry to Transport Committee Chair, 19 August 2009

⁶ Richard Parry, Transport Committee, transcript 8 July 2009, p. 33

⁷ The results of the Committee’s survey and more information about the commissioned research are included in Appendix 3. The research report by consultants Andrew Irving Associates is available in full on the Committee’s webpage (<http://www.london.gov.uk/assembly/reports/transport.jsp>).

we cope. Many of the kinds of behaviour described are readily recognisable:

- Mental preparation – psyching oneself up for the “struggle to clamber on board”
- A dog-eat-dog or survival of the fittest attitude
- Suspension of the normal codes of behaviour – for example, going after a seat regardless of who else might want it, ignoring pregnant women and people carrying babies
- Adopting a tube persona, more ruthless and selfish – one participant in the research said, “I’m a different animal on the Tube to normal life. I’m not me. I’m a bit less interested in others.”
- Switching off/shutting down – “going into an automatic pilot routine”, listening to music, turning one’s back
- Making sacrifices one would not usually consider – for example, losing personal space and comfort to be at a meeting on time
- Developing strategies to reduce the impact of overcrowding – for example, by going the opposite direction for one or two stops in order to get a seat

It notes that the overwhelming majority of passengers “perceive the experience of overcrowding as a highly unpleasant and abnormal situation”. In particular, passengers resent the sacrifice of personal space and “allowing other passengers to get close in a way that would not be acceptable in other circumstances”.⁸ For most passengers, “acceptable overcrowding” would allow standing passengers a degree of personal space, without others pressed up against them, and the ability to move about and enter and exit the carriage without difficulty.

The effects of this daily ordeal can be significant. Some commuters are left feeling tired and “stressed out” by overcrowding, and it can take an hour or two to calm down. One participant in the research summed up the feeling of many, saying,

⁸ Andrew Irving Associates, *The Passenger Experience of Overcrowding and Planned Closures on the Underground*, October 2009, p. 24

It really does build up rage because of the stress [...] especially if you are four deep on the platform and the train's a minute away and you see everyone getting really tense and you know it's just going to be a fight to get on.

Our research shows that those passengers who have some degree of control as to when they travel already avoid doing so at peak times if at all possible. Almost a quarter of respondents to the Committee's survey of passengers had changed the time of day they travelled in an attempt to avoid the worst overcrowding. Many leisure users have entirely given up on the Underground at rush hour. However, because they feel there is little choice, most commuters must accept overcrowding as an uncomfortable but inevitable part of their regular journey. One said,

You just have to use the Tube. There's just no choice, there is no option. Well, there is an option: just don't go to work but that's not really an option!

Measures to relieve overcrowding

In the short-term, small additions to capacity may go some way to relieving overcrowding. Richard Parry cited recent changes on the Northern and Piccadilly lines to optimise the timetable which have resulted in capacity enhancements – for example, an increase from 20 trains per hour to 22 trains per hour between London Bridge and Bank on the Northern line.⁹ However, our research shows that such measures to alleviate overcrowding are to a large extent seen by passengers as insufficient. One commuter's comments were typical:

I don't think they actually care! I honestly don't think the people who run the underground give a toss about the passengers – they know we've got no other choice.

There is a long-term programme to deliver significant additional capacity across the London Underground which is scheduled to be completed by around 2020. The series of "line upgrades" – new trains, signalling systems and track replacement – will eventually provide over 30 per cent more capacity and substantial reductions in journey times.

⁹ Richard Parry, Transport Committee meeting transcript, 3 September 2009, p. 32 and MQT 0599/2009

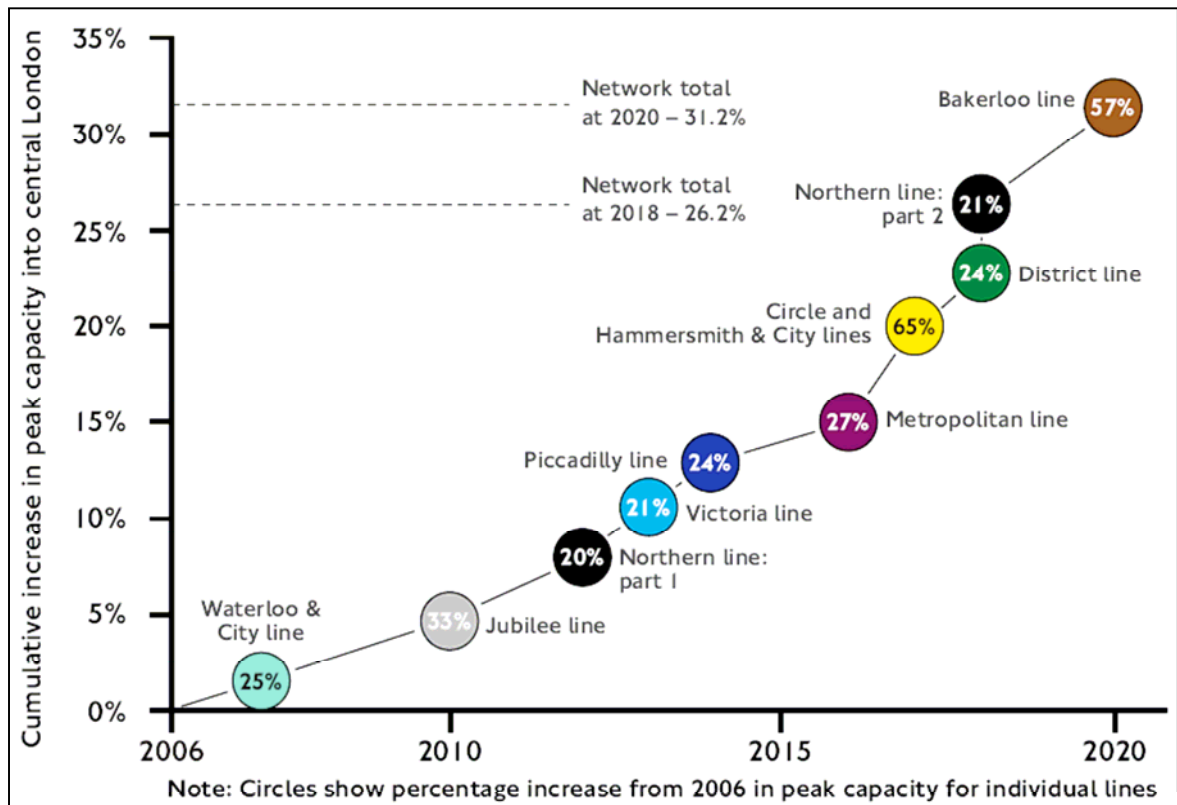


Figure 2: the capacity enhancements and timetable for the programme of line upgrades¹⁰

Figure 2 shows that capacity on the London Underground network will increase substantially over the next decade. The bad news is that even this major investment may not eliminate overcrowding. As Richard Parry explained, new capacity will be accompanied by growth in demand which will mean the problem of overcrowding will not go away. He said,

We are bringing the upgrades forward as quickly as we can to relieve that [crowding], but, over time, that will merely provide for the growth in demand forecast for the long-term. So the Underground system will remain busy.¹¹

Estimates have put the increase in demand on the Underground at 40 per cent in the long term.¹² When compared to the 30 per cent

¹⁰ TfL, Business Plan 2009/10 – 2017/18, October 2009, p. 33

¹¹ Richard Parry, Transport Committee meeting transcript, 3 September 2009, p. 32

¹² For example, London Underground's presentation to Underground News, as reported in Underground News Number 571, July 2009, p. 453

increase in capacity, it is clear that if the estimates are correct crowding will actually increase. As Dean Finch, Chief Executive of Tube Lines, put it,

With transport you have just got to keep it moving forward because there is inexorable growth and continued investment is what is required; because the benefits you see are fleeting, aren't they; because it does become a victim of its own success, the more people use it.¹³

The results of the survey and qualitative research undertaken by the Committee document in detail for the first time the experiences of passengers on the London Underground. The high level of discomfort and inconvenience endured as a result of overcrowding, as well as the techniques passengers use to cope, are striking.

However, passengers for the most part accept crowding and disruption to services as an integral part of their Underground journeys. The overall advantages of the Underground – speed, regularity, reliability, predictability – mean that on balance passengers decide that the Underground is the best mode of transport for over 1 billion journeys each year, even though it can sometimes be quite an unpleasant experience.

Although London Underground has recently managed to add small amounts of additional capacity to some sections of the network, it is the long-term programme of line upgrades which could eventually bring some relief to most passengers. More modern signalling systems and renewed infrastructure will result in a substantial increase in capacity across the network. Conditions will certainly be much improved compared to a scenario where the enormous investment involved in the upgrade programme had not been made. However, forecasts of long-term population and employment growth in the capital mean it is unlikely that this programme of line upgrades will in the end solve the problem of overcrowding on the Underground.

¹³ Dean Finch, Transport Committee meeting transcript, 3 September 2009, p. 34

New trains

Members of the Committee recently visited London Underground's test track at Old Dalby in the East Midlands.¹⁴ We were shown a new train from the fleet of 191 in development for the Sub-Surface lines.¹⁵ The new fleet is scheduled to be fully in place by 2015. As well as air conditioning, the new fleet will have "walk-through" carriages, allowing passengers to spread through the trains and potentially easing overcrowding.

Walk-through carriages are more difficult to achieve on trains designed for small tunnels, such as for the Victoria, Piccadilly and Bakerloo lines. Metronet, which procured the new trains for the Victoria line, did not specify a substantial update to the existing train layout; consequently the new trains now being tested on the Victoria line do not have walk-through carriages.

Following Metronet's collapse, London Underground has an aspiration to develop walk-through carriages for new Bakerloo line trains – not due until 2020 – now it is in control of the project. Tube Lines is due to provide new trains on the Piccadilly line by 2014 and its procurement process is well underway (it is due to choose a rolling stock supplier by the end of this year).¹⁶

As a further example of technology to address overcrowding in the future, we note the development of a new train, potentially for use on new Thameslink services, with sensors to count the number of passengers in each carriage. That information would then be used to advise passengers waiting at the next station if a section of the approaching train is less crowded.¹⁷ This is the sort of innovation which was expected from the PPP.

New trains will be the most visible aspect of the upgrade programme. Walk-through carriages will provide more space for passengers on the Sub-Surface lines and eventually, we hope, the Bakerloo line. Similarly, the new Piccadilly line trains

¹⁴ The Committee would like to express its thanks to London Underground staff for arranging this interesting and informative visit.

¹⁵ The Circle, District, Hammersmith & City and Metropolitan lines.

¹⁶ TfL Board, Rail and Underground Panel, Managing Director's Report – London Underground, 12 November 2009

¹⁷ Evening Standard, *New 'intelligent' train which tells passengers where to sit*, 23 November 2009

must be designed to achieve the maximum relief from overcrowding.

Following the successful development of the new Sub-Surface line rolling stock, Tube Lines and London Underground should commit to the development of an innovative new train design for the small tunnel lines. This would be an opportunity to demonstrate the sharing of best practice in relation to train design.

Recommendation 1

London Underground and Tube Lines should ensure improved train design, with walk-through carriages to relieve overcrowding. This should be pursued for the Piccadilly and Bakerloo lines, where new rolling stock is planned. Innovations in development for mainline trains, such as information for waiting passengers about crowding levels, should also be considered for their applicability to the Underground.

London Underground and Tube Lines should report to the Committee their progress in determining the design of new small tunnel trains by the end of January 2010, following Tube Lines' choice of a rolling stock supplier for the Piccadilly line.

Better information and alternative routes

One of the key messages from the research commissioned by the Committee is that more could be done to help passengers understand the potential alternative ways of making their journey which are available to them. Passengers believe that as all services are operated by TfL, the use of other forms of public transport should be encouraged to relieve pressure on the Underground and to help people "discover" the alternative travel options available.¹⁸

By a small margin, the most heavily used section of the network in the morning peak is between Bethnal Green and Liverpool Street on the Central line, with a 2008 average of close to 60,000 passengers over three hours between 7.00am and 10.00am. That part of the Central

¹⁸ Andrew Irving Associates, *The Passenger Experience of Overcrowding and Planned Closures on the Underground*, October 2009, p. 36

line is identified as experiencing 'maximal' overcrowding – more than four passengers per square metre – by London Underground.

Bethnal Green is a zone 2 station well served by buses and national rail services so it is possible there are viable alternatives for many of the passengers, particularly those travelling towards central London. One group which might be able to avoid using the Underground westbound in the morning peak are those entering the network at Bethnal Green station itself.

In 2008, an average of almost 7,500 passengers entered Bethnal Green station between 7.00am and 10.00am to use the Central line. According to London Underground surveys, at least 6,000 of these passengers were travelling westbound towards central London.¹⁹ These passengers alone make up around 10 per cent of the 60,000 passengers using one of the most overcrowded sections of the Underground during the busiest three hours in the morning.

Many passengers have already adjusted the time at which they travel to avoid the worst overcrowding at the height of the morning peak. For those who are not flexible in terms of time, our research indicates that passengers would consider avoiding the most acute overcrowding by adjusting the route of their journey if they had better information at stations. For passengers to be enabled to make informed choices between the various options, station specific improvements are required to information about levels of overcrowding and potential alternative routes to the most popular destinations.

It is remarkable that there is no information for passengers before they enter stations about the level of overcrowding which they are likely to encounter. London Underground should acknowledge severe overcrowding problems where they exist and develop a system to warn potential passengers if they are likely to experience them, similar to the existing real-time warnings about potential delays and station closures. The prevailing levels of overcrowding on trains from each station should be shown by a 'traffic light' indicator, or as an addition to the existing electronic signage, at a location outside the barriers. This would be simple to administer and represent a

¹⁹ London Underground origin and destination data for 2008

significant improvement in the information available to help passengers execute their journeys.

Alongside information about the level of crowding, passengers need simple information about alternative ways of getting to common destinations. Bespoke posters – such as the simplified mock-up in Figure 3, below – at the worst affected stations would provide those passengers who want to avoid overcrowded conditions with information about viable alternatives. Our research shows that some passengers feel under-informed about bus services and so are reluctant to use them. However, when they do, they are often pleasantly surprised by the quality of the service.

Together these two simple but fundamental improvements to the information available at Underground stations could, by allowing some passengers to make rational decisions to use less crowded modes of transport, not only make their journeys less unpleasant but also make a material difference to overcrowding on the Underground.

Gross overcrowding is confined to a relatively small proportion of the Underground network. It should be possible to extend this approach to, say, 30 stations where passengers entering the network would experience the worst train overcrowding. These are mostly in central London where destinations are closest together and best served by alternative modes anyway.

Recommendation 2

Passengers do not have all the information they need to make fully informed choices about their journeys, particularly about likely levels of overcrowding. London Underground should pilot the provision of specific information at stations about overcrowding levels, potentially using a ‘traffic light’ indicator, and alternative routes to popular destinations. Pilots should be undertaken at a small number of stations, including Bethnal Green. This information should be available to passengers before they pass through ticket barriers and information about train overcrowding should be updated regularly throughout the day as conditions change.

London Underground should report back to the Committee on the progress of the pilot by the end of June 2010.

Recommendation 3

Staff should also be aware of the range of alternative options available to passengers who want to avoid overcrowding. TfL should provide location-specific training for station staff on alternative routes by other modes to popular destinations.

In its report back to the Committee on enhanced station information, London Underground should include details of a refreshed training programme.

Travel from Bethnal Green to Liverpool Street Station

Tube: 10 minutes
AT PEAK TIMES IT WILL BE VERY CROWDED AND YOU MAY NOT BE ABLE TO BOARD THE FIRST TRAIN TO ARRIVE

Walk: 20 minutes
See map and directions

Cycle: 10 minutes
See map and directions

Bus: 20 minutes
8 from Stop B towards Oxford Circus
388 from Stop A towards Embankment

Rail: 10 minutes
Walk to Bethnal Green railway station (5 minutes) – see map and directions



MAYOR OF LONDON  tfl.gov.uk  020 7222 1234   

Figure 3: Simplified mock-up of signs outside stations with information about alternative routes to popular destinations. In the final design, the map would need to be enhanced to indicate specific walking and cycling routes and the locations of relevant bus stops.

3. Ongoing line closures

Much of the work to upgrade the Underground is undertaken overnight so as not to disrupt passengers. However, so the programme can be delivered more quickly, some lines and stations are also closed at weekends, early in the morning or during the evening.

Over the past year there have been closures to the majority of Underground lines: a series of weekend suspensions on all or parts of the Jubilee line; on the Victoria line both weekend suspensions and extended periods of early closures on Monday to Thursday evenings; closures on the Bakerloo, Central, Circle, District, Northern and Piccadilly lines. Parts of the Docklands Light Railway (DLR) have also been closed at weekends to allow work to lengthen platforms. A third of respondents to the Committee's survey of passengers' experiences had been affected by planned closures more than once a week and a further 50 per cent of respondents' journeys were affected at least once a month.

Weekend closures to sections of most London Underground lines are planned over the coming six months and, while work on the Jubilee line should be complete during 2010, the disruption on other parts of the network will continue for many years.²⁰

The Committee's research shows how passengers are affected by closures to Underground lines. Their "key irritations" are longer journey times, "broken journeys" and paying for a substandard service. Our evidence shows that passengers are being forced to adjust their lives to accommodate Underground closures, often by not making journeys at all or, in the case of evening closures, by changing social arrangements in order to travel home earlier. Passengers are particularly affected by multiple line closures affecting a particular area and closures which coincide with big events, such as football matches.²¹

Assembly Members have highlighted that passengers in east London constituencies felt cut off when, in particular, the eastern ends of the District line and the Jubilee line have been closed at the same time and when the Jubilee line has been closed at the same time as the

²⁰ For a full list of line closures in the next six months, please see: <http://www.tfl.gov.uk/assets/livetravelnews/realtime/tube/track-closures.pdf>

²¹ Andrew Irving Associates, *The Passenger Experience of Overcrowding and Planned Closures on the Underground*, October 2009, pp. 35-39

DLR.²² ExCeL told the Committee that closures of both the Jubilee line and the DLR together affected eight of its events in 2008 and would affect at least seventeen in 2009, with a significant impact on their revenue.²³

The Jubilee line upgrade

The Jubilee line upgrade, which will provide a third more capacity, was scheduled to have been completed by the end of this year but will not now be finished until sometime in 2010. The upgrade has resulted in disruption at weekends since April 2007. In 2008 there were 78 planned weekend closures out of a possible 104 weekend days. More recently, in the three months between September and November 2009, there was a full or partial closure of the Jubilee line on one or both days of every weekend. In addition, between March 2008 and March 2009, there were also at least twelve unplanned closures due to engineering overruns.²⁴

Representatives of the O2 and ExCeL told us about the effects of the Jubilee line weekend closures on them and their customers. ExCeL estimated that over 1 million visitors have been affected by disruption to public transport over the last two years and that it has lost 25 per cent of its turnover due to the closures. It had paid some £500,000 a year in compensation to clients and measures to reduce the impact on visitors.²⁵ The O2 had paid £400,000 in the last year for additional replacement transport for its customers when the Jubilee line was closed.²⁶

When London Underground and Tube Lines gave evidence to the Committee on 3 September the situation appeared to be chaotic. London Underground had granted Tube Lines a number of additional weekend closures in an attempt to keep the upgrade on schedule.²⁷ Passengers and other stakeholders were given as little as a few days' notice of some of the additional closures.²⁸

²² MQT 0763/2009

²³ Written submission from ExCeL

²⁴ http://www.whatdotheyknow.com/request/track_closures_and_jubilee_line

²⁵ Written submission from ExCeL

²⁶ Geoff Symonds, Transport Committee, transcript 8 July 2009, p. 8

²⁷ TfL press release, *Tube Lines granted extra closures to keep Jubilee line upgrade on time*, 20 May 2009

²⁸ Geoff Symonds, Transport Committee, transcript 8 July 2009, p. 8

Richard Parry, Interim Managing Director of London Underground, told us he had “very little confidence” in the information being provided by Tube Lines. He said,

We really want to understand where this project is headed. Our appeal is to get some clarity so we can be open and honest with you and with London about the likely outcome.

On the other hand, Dean Finch, Chief Executive of Tube Lines, indicated that because London Underground had not always granted Tube Lines closures on the dates it requested, productivity had been affected, leading ultimately to the requests for additional closures. Nonetheless, Mr Finch expressed optimism that Tube Lines could still complete the Jubilee line upgrade by the end of the year if it was granted five additional closures.²⁹

It is now clear that the 31 December deadline will be missed by many months. Although the line will be partially closed every weekend until Christmas and fully closed for four days at Christmas and a further four at Easter, Dean Finch has estimated that Tube Lines needs at least ten weekend closures during 2010 to complete the work. He said the project would over-run “well into 2010, probably into the third quarter or beyond”.³⁰

When he came to the Transport Committee in September, Mr Finch had commissioned an independent review in an attempt to clarify the situation, a copy of which the Committee has now received and which we publish with this report.³¹ It says, “Significant slippage to major Project milestones has led to a severely compressed programme to completion”. It finds that slippage has occurred as a result of the following:

- Significant under-estimation by Thales (the suppliers to Tube Lines of the signalling system) of the scope and complexity of the project, and “difficulties in working with London Underground operational and assurance procedures”

²⁹ Dean Finch, Transport Committee, transcript 3 September 2009, pp. 21, 17 & 24

³⁰ From articles in the Evening Standard and the Daily Telegraph on 24 November 2009.

³¹ The review is available in full on the Committee’s webpage (<http://www.london.gov.uk/assembly/reports/transport.jsp>).

- London Underground’s requirements for non-standard features, which have led to increased complexity
- The need for cabling to be replaced
- A delayed response by the Tube Lines project management team to these problems
- A limited amount of track access for testing and commissioning – according to Tube Lines records, 118 requests for line closures have been made and 113 have been granted by London Underground, but only 61 for the time and place requested
- Poor joint working, a “low level of trust” and a “credibility gap” between Tube Lines and London Underground³²

The review concludes, “Successful completion will only be achieved if all parties work together in a collaborative manner to an integrated programme, under strong, visible Executive leadership.”³³

Delays to the Jubilee line project are also affecting other parts of the upgrade programme. London Underground was expecting Tube Lines to propose a closures programme for the Northern line by October. However, it now reports that Tube Lines is working “to establish a revised programme that reflects the current situation on the Jubilee Line”.³⁴

We have no doubt that the time and money invested in upgrading the Underground will eventually be worthwhile. The additional capacity realised by, for example, the completion of the Jubilee line upgrade next year will help alleviate overcrowding for the long term. Renewed infrastructure should also reduce the unreliability of the network caused by many years when its upkeep was under-funded.

However, the upgrade programme is causing significant pain to passengers and businesses now and will do for many years to

³² Phil Gaffney Consulting Ltd, *Review of status of Jubilee line upgrade*, October 2009, pp. 9-11

³³ Phil Gaffney Consulting Ltd, *Review of status of Jubilee line upgrade*, October 2009, p. 13

³⁴ TfL Board, Rail and Underground Panel, Managing Director’s Report – London Underground, 12 November 2009

come. The evidence from the Committee’s survey and research shows the effects these closures have on people’s lives and the focus now must be on reducing the requirement for closures in the future and minimising the disruption caused by closures that remain necessary.

The culmination of the Jubilee line upgrade is proving to be particularly chaotic. The missing of the original deadline by months and a glut of hastily arranged additional closures give little grounds for confidence about the delivery of future upgrades. They demonstrate the importance of improved planning, communication and cooperation between London Underground and Tube Lines for future upgrades. Both parties will have to improve their performance and will not be able to rely on existing ways of working if unnecessary disruption for passengers, inefficiently used closures and missed deadlines are not to be repeated during the upgrades of the Northern, Piccadilly, Bakerloo and Sub-Surface lines.

Finally, we are concerned that the long delay to the Jubilee line work could seriously damage the wider programme of upgrades. As we have said, it is these large-scale capacity enhancements which could eventually relieve overcrowding for passengers so planned work on other lines – the Northern line in the first instance – must not be allowed to slip.

Recommendation 4

In its response to this report, London Underground should set out what effect the recently announced further delays to the Jubilee line upgrade will have on the timetable for upgrading the rest of the network.

4. Future line upgrades

Minimising closures

At his final meeting with the Committee in April 2009, the outgoing Managing Director of London Underground, Tim O'Toole, suggested it might be possible to undertake future upgrades with fewer closures than has previously been necessary. When asked if London Underground did enough to protect the needs of passengers during the upgrades, he explained that new signalling systems have been installed on the Metro de Madrid with no closures. He said,

I do think we have to ask ourselves fundamental questions if we are maybe in the wrong paradigm, because if you go to Madrid they have put in new signalling systems and they have no closures. [...] it seems to me we cannot just make excuses to say, "Well we're different." "Well I have this problem." I think we have to go there and see if that sort of thing can be done here in London.

He continued, specifically in relation to the forthcoming upgrade of the Piccadilly line:

I just do not believe you can upgrade the Piccadilly line the way you have done the Jubilee line, because the Piccadilly line is the central artery of the Underground on weekends in the city. When you think of Harrods, the West End, the football, Hyde Park, the Piccadilly line is heaving all weekend when you use it. I think the idea of closing that is unthinkable and we have got to go to something more like Madrid in order to both get the upgrade but worry about the people, the experience of Londoners, more.³⁵

Given Mr O'Toole's comments about what had been achieved in Madrid, the Committee invited the Managing Director of Metro de Madrid, Ildefonso De Matías, to speak at its meeting on 3 September 2009. While he highlighted the technological differences between the signalling systems in place in Madrid and in London, Sr De Matías suggested that London Underground should adopt the target of avoiding closures altogether.³⁶ His colleague, Aurelio Rojo, emphasised the importance of an aspiration to avoid closures: "it is very important,

³⁵ Tim O'Toole, Transport Committee, transcript 22 April 2009, p. 15

³⁶ Ildefonso De Matías, Transport Committee, transcript 3 September 2009, p. 11

[that] the first step of the project is to have the target not to close the network and to address effort in this direction”.³⁷

The Interim Managing Director of London Underground, Richard Parry, also considered that there needed to be a “mindset shift” in London. He said,

We have all assumed that to make significant upgrades to our systems and to bring in new signalling will require extensive amounts of access and a high number of closures for them to happen. We have seen, because they started with a different approach in Madrid, and asked themselves the question, “How do we do this without closures?” then they end up in a different place. Now I suspect, because we are so much further behind with the legacy systems that we have, we will always need some form of closures on our railway. However, it may be that we can radically change the approach that we take.³⁸

He explained that a potential way of reducing closures might be to implement an “overlay system”, where two signalling systems would temporarily be run concurrently to allow live testing during operating hours. Such a solution, Mr Parry said, would not necessarily be more expensive than that used for the Jubilee line upgrade.³⁹

The world has moved on since the Victoria and Jubilee line upgrades were being planned. As Richard Parry put it, there needs to be a “mindset shift” like there has been in Madrid. In Madrid, there was an assumption that there would be no closures during the recent upgrades of lines 1 and 6.

London Underground must learn from the most recent international experiences of upgrading metro lines. While the antiquated signalling systems in place in London might make upgrades with no closures at all unlikely, it must now be possible to plan future work with greater consideration for the needs of passengers. During the next tranche of upgrades, if it is not possible to specify that there should be no closures, the

³⁷ Idefonso De Matías and Aurelio Rojo, Transport Committee, transcript 3 September 2009, pp. 5, 11 & 12

³⁸ Richard Parry, Transport Committee, transcript 3 September 2009, p. 14

³⁹ Richard Parry, Transport Committee, transcript 3 September 2009, pp. 19 & 20

aim must be for the requirement for closures to be substantially reduced from that for the Victoria and Jubilee lines.

Reducing future disruption for passengers will be, in some ways, complicated by the fact that responsibility for planning and executing the remaining line upgrades is split between London Underground and Tube Lines, the remaining PPP company. The next section first addresses the challenges for London Underground as it upgrades the lines for which it is solely responsible; it then looks at the Northern and Piccadilly lines where, within the terms of the PPP contract, Tube Lines will ultimately determine the ways in which the upgrades are undertaken.

Lines under the control of London Underground

Since Metronet collapsed, London Underground has been in control of the upgrades of the Sub-Surface lines – the Circle, District, Hammersmith & City and Metropolitan lines – which cover some 40 per cent of the network. London Underground put out an invitation to tender for updating the signalling system on the Sub-Surface lines in July 2009. It says it has incorporated some of the best practice learnt from Madrid and elsewhere into the specification for the contract and encouraged potential suppliers to submit proposals which minimise the requirement for closures.⁴⁰

London Underground says its tender assessment will “[set] the baseline for measurement as no major closures”, however, it has reiterated that it expects a number of closures to remain necessary.⁴¹

Richard Parry explained that London Underground will not “dictate the solution” and would choose from the options put forward by potential suppliers. Although he told us he anticipated overlay systems to be among the technological solutions proposed, he said,

We are setting the supplier market the challenge of how you are able to introduce a new signalling system without having the same intensity of closures. [...]

⁴⁰ Letter from Richard Parry to Transport Committee Chair, 19 August 2009

⁴¹ Email from London Underground to the Transport Committee, 25 September 2009

Our approach is to learn from what the market is doing, much as we are learning from what Madrid is doing, so that we are not imposing a solution; we are allowing suppliers to come forward with their solutions.⁴²

As a public body working in the public interest on the instructions of the Mayor, TfL needs to minimise the number of closures required during the upgrade of the Sub-Surface lines. Of course, the benefit of fewer closures should be balanced against any increase to the costs of the work but, when the inconvenience of closures for passengers is taken into account, keeping the network open should be one of London Underground's highest priorities.

Allowing the market to come up with a solution carries the risk that the needs of passengers will be swamped by the priorities of potential suppliers. From the evidence we have received in relation to the Sub-Surface line resignalling procurement, the level of priority attached to minimising closures, relative to other imperatives such as minimising cost or technological risk, remains unclear.

Minimising closures during upgrade works should be at the heart of London Underground's procurement process. For the Sub-Surface lines resignalling contract, London Underground has not, as Madrid did, specified that there should be no closures. Minimising disruption must be a high priority in future tender specifications.

Recommendation 5

Minimising disruption for passengers should be a higher priority during the planning and procurement of the forthcoming upgrades to London Underground lines.

In relation to the new signalling system for the Sub-Surface lines, London Underground should report to the Committee the outcomes of its tender assessment when it is completed early in 2010. It should make clear the extent to which the procurement was successful in minimising line closures, drawing comparisons between the closures required by the

⁴² Richard Parry, Transport Committee, transcript 3 September 2009, p. 20

winning tender and other proposals, and the scale of closures required for previous upgrades.

Lines under the control of Tube Lines

Because of the output-based PPP contract Tube Lines will determine the approach taken for the Northern and Piccadilly line upgrades, so determining the requirement for line closures. Dean Finch, Chief Executive of Tube Lines, indicated that Tube Lines would be prepared to consider an overlay system for the Piccadilly line upgrade.⁴³

However, built into the PPP contract there is an allowance for line closures from which Tube Lines can draw. Richard Parry told us that Tube Lines is currently attempting to negotiate an increase in that allowance for the contractual period between 2010 and 2017, which may indicate a potential increase in the scale of closures to come.⁴⁴

Dean Finch told us that planning for the Northern line upgrade was now too advanced for an overlay system to be possible if the work was to be completed within the contractual deadline. We heard that early evening closures to sections of the line were likely.⁴⁵ Compared to the Victoria line, where evening closures have previously been employed, around double the number of Northern line passengers would be affected.⁴⁶

For Tube Lines the only real incentives are financial. Under the output-based PPP contract Tube Lines is required to install a signalling system to facilitate a certain frequency of trains but the choice of technology is theirs alone. Tube Lines must find a way to deliver for London by reducing the number of closures on the Northern and Piccadilly lines.

For the Northern line this may mean more efficient use of nighttime engineering hours or the use of evening closures. Evening closures would be very disruptive on the Northern line

⁴³ Dean Finch, Transport Committee, transcript 3 September 2009, p. 20

⁴⁴ Richard Parry, Transport Committee, transcript 3 September 2009, p. 15

⁴⁵ Dean Finch and Richard Parry, Transport Committee, transcript 3 September 2009, pp. 24 & 25

⁴⁶ London Underground line load data for 2008

because of the number of passengers who use the line at that time of day, so they must be used to their full potential.

For the Piccadilly line, the signalling technology has not yet been determined and there is time to ensure the kind of disruption experienced on the Jubilee line is not repeated. To undertake the Piccadilly line upgrade with significantly fewer closures will require a radical new approach – potentially the type of overlay system that has been described.

London Underground, through its decisions on the Sub-Surface lines signalling procurement, could increase the possibility that Tube Lines will adopt a new approach. If London Underground can prove such a system's viability and demonstrate it would not be more expensive to install, Tube Lines would be more likely to consider it. Beyond that, the levers with which to encourage Tube Lines to pursue this kind of option are very limited. The potential for damage to the reputations of Tube Lines and its parent companies Amey and Bechtel might be the only incentive for the company to reduce the number of closures it requires. It is disconcerting to learn that Tube Lines is attempting to increase its allowance for closures between 2010 and 2017.

Recommendation 6

Tube Lines must learn from the Jubilee line upgrade, as well as best practice from around the world, to minimise closures in the future.

For Londoners to have confidence that work on the Northern and Piccadilly lines will be less disruptive, Tube Lines should report to the Committee its progress in determining the technological solutions it will use. It should include the likely requirements for closures and a comparison with the Jubilee line upgrade so passengers can judge what scale of disruption they should expect.

This report should be provided to the Committee by the end of March 2010.

Extended closures

It has been suggested there could be cost and efficiency advantages to closing lines for a number of weeks for engineering works, rather than the long programmes of weekend and evening closures which have so far been employed. Our research shows that passengers might under some circumstances also prefer longer closures. Indeed, former passengers on the East London line, which has been closed since December 2007, have adjusted to life without the service, becoming accustomed to using other modes of transport such as the DLR, buses, cycling and river services.

There is a fairly widespread feeling that one “block” closure would be easier to cope with than months of weekend or evening disruption. This is largely due to the frustration and stress caused by the unpredictability of such closures – passengers are often ‘caught out’ by weekend and evening closures. Many passengers find it easier to adapt to a consistent problem than to continually adjust travel plans, although there is a limit of between two weeks and a month to the length of what is usually seen as an acceptable block closure.⁴⁷

Several representatives of major destinations also advocated the exploration of longer closures, rather than a long series of weekend closures, if it meant the work could be completed more quickly.⁴⁸

London Underground argues that block closures would not be an effective approach. Its principal concern is what it describes as “the massive and disproportionate disruption it would cause to peak hour customers, affecting many more people than weekend closures”. It has calculated that, for the Bank branch of the Northern line, an individual weekday closure would result in a “customer disbenefit” over ten times higher than that for a closure at the weekend.

London Underground also claims there would be no guarantee that block closures would in fact be more efficient in terms of getting work done.⁴⁹ Tube Lines has specifically disputed this point saying, “When looking at the work involved in upgrading lines there could be significant cost and efficiency advantages to closing lines for extended

⁴⁷ Andrew Irving Associates, *The Passenger Experience of Overcrowding and Planned Closures on the Underground*, October 2009, pp. 44-48

⁴⁸ Transport Committee, transcript 8 July

⁴⁹ Letter from Richard Parry to Transport Committee Chair, 19 August 2009

possession periods, particularly for the installation part of the programme.”⁵⁰ Tube Lines does, however, agree with London Underground that extended possessions would not offer efficiency gains during the testing phase.

London TravelWatch has undertaken research for the Committee on the forthcoming Piccadilly line upgrades and potential options for block closures to a number of sections of the line. In particular, it assesses what alternative LUL and National Rail routes would be available for passengers, what spare capacity these would have to carry diverted passengers and what replacement bus services might be needed.⁵¹

TravelWatch concludes that the idea “should not be dismissed out of hand”. It says,

For passengers from the western end of the line in particular, there is a range of alternative routes which are not at present heavily crowded even in the peaks. These could probably cope with displaced Piccadilly line passengers, as the comprehensive LUL and National Rail network would enable the extra load to be spread around several lines.

It is a great help that by the time Piccadilly line upgrade works have to start in earnest around 2012, current investment in several alternative routes will have come to fruition and will provide significant extra capacity.

At the northern end of the line, particularly on the busy “Green Lanes” corridor through Turnpike Lane and Wood Green, the capacity of alternative routes would be more of a problem. Nevertheless we recommend that the idea [of block closures] be fully investigated.⁵²

TravelWatch suggests that Piccadilly line passengers and other stakeholders could be consulted on two broad options for closures – weekends/evenings and longer closures – and that the consultation should include information about the relative costs of the alternatives

⁵⁰ Letter from Dean Finch to Transport Committee Chair, 16 October 2009

⁵¹ London TravelWatch, second submission, para E

⁵² London TravelWatch, second submission, paras F-H

and the extent to which the cheaper one might allow other improvements to go ahead.⁵³

The use of block closures would not be new. In Madrid block closures of up to a month to sections of lines have been used during work on the energy supply and to reinforce the structure of tunnels.⁵⁴ Here in London, the Bakerloo line was closed between Paddington and Elephant & Castle for four days in August to replace a set of points at Piccadilly Circus.

The Committee considers that the evidence is not sufficiently compelling to rule out block closures at this stage. London Underground’s argument that they would not necessarily be more efficient than weekend or evening closures is disputed by Tube Lines, which is actually delivering the work. Furthermore, our research has shown that passengers also consider there could be benefits to longer closures, if that would reduce the overall period over which there will be disruption. The work by London TravelWatch on behalf of passengers also suggests that the availability of potential alternative routes makes the option of block closures worth proper consideration at least in the case of the Piccadilly line.

London Underground’s assessment that lower passenger numbers at weekends and evenings should always mean closures being restricted to those times may miss some of the less quantifiable potential benefits of longer closures, such as predictability for passengers, which was rated highly in our research. Nor does it account for the opportunity to implement more intensive complementary measures, such as enhanced bus priority or the production of specific information for passengers who might want to walk or cycle, for the duration of a closure.

However, the extent to which block closures would in fact be tolerated by passengers would be dependent on their duration and on how many would be needed – information which we have not been able to determine. Additionally, a realistic assessment is required of the potential cost savings associated with longer closures, compared with the kind of programme of

⁵³ London TravelWatch, second submission, paras K

⁵⁴ Transport Committee, transcript 8 July, p. 8

weekend closures we have seen on the Jubilee line over the last two years, particularly given the recent repeated requirements for additional closures.

Recommendation 7

Block closures, in some cases and with the right complementary measures, could be beneficial for passengers.

In order that informed comments can be made about the best approach for future upgrades, London Underground and Tube Lines should report to the Committee their assessments of the likely shape of block closures if they were to be used – how long they would be and how many would be necessary. They should make clear the extent to which the overall requirement for closures would be reduced. They should also include estimates of the potential financial savings associated with longer closures.

These reports should be received by end of March 2010.

Recommendation 8

The Mayor, as Chair of TfL, should ensure that the TfL Board is providing sufficient challenge to entrenched thinking at London Underground.

So passengers are confident they are benefiting from up-to-date assessments of the most modern ways of working, he should at least require London Underground to look at the issue of line closures and report back to the Board in more depth. Beyond that, the Board might like to take representations on this crucial issue from Tube Lines and potential suppliers of the Sub-Surface lines resignalling contract, as well as the Transport Committee, London TravelWatch, business groups and other stakeholders.

In his response to this report, the Mayor should explain how he will ensure the TfL Board is providing sufficient challenge to London Underground.

Alternative options

Arrangements for dedicated rail replacement bus services have been put in place for many of the recent closures to Underground lines, including the weekend suspensions of the Jubilee line. In some other locations, London Underground has determined that existing bus services in the area would be adequate or has arranged for temporary enhancements to the local bus network.

Just over 30 per cent of respondents to the Committee's survey had made use of rail replacement bus services; over half of those who used them considered the service to be poor. Almost a third of respondents said they did not use any alternatives because they were unsuitable or inconvenient.

Our research confirmed that the level of disruption caused by line closures depended on the ease with which passengers could access alternative modes of transport. While the alternative options are seen as acceptable, being fairly regular and inexpensive, they are considered to be "time-inefficient", especially over longer distances. Rail replacement buses are perceived as resulting in fragmented journeys, rarely offering a like for like replacement covering the whole affected line. Passengers using the general bus network when Underground lines are closed inevitably experience slower journeys, although some are pleasantly surprised by the efficiency and convenience of buses, particularly if they have not used them for some years.⁵⁵

Richard Parry told us that it is impossible to replace the quality of a journey on the Underground using a bus service. He said, "we are fighting a losing battle, if you like, in trying to overcome the fact that the Tube service has been withdrawn".⁵⁶ However, responding to questions about the quality of the buses used for rail replacement services, he explained that the recent scale of closures combined with a general increase in bus services at weekends had meant that the most modern and accessible buses were not always available. He said

⁵⁵ Andrew Irving Associates, *The Passenger Experience of Overcrowding and Planned Closures on the Underground*, October 2009, pp. 39-41

⁵⁶ Richard Parry, Transport Committee, transcript 3 September 2009, p. 29

he would look at what could be done “to provide more modern and more accessible buses”.⁵⁷

On measures to encourage passengers to walk or cycle during closures to Underground lines, Richard Parry explained that London Underground supported TfL’s general efforts to promote walking and cycling. However, he agreed to consider suggestions as to what London Underground specifically could do to encourage walking and cycling during closures.⁵⁸ Making improvements to pedestrian signage through the Legible London scheme has been highlighted to us as a particularly useful way of assisting passengers during closures, especially in central London where distances between stations are often short.⁵⁹

We are pleased to note that route 7, one of two pilot cycle superhighways due for completion by summer 2010, follows part of the route of the Northern line in south London and should be in place before work begins on the Northern line upgrade. Route 12, between East Finchley and Angel, would serve Northern line passengers north of the river so seems worthy of consideration for early implementation.⁶⁰

As an example of what more might be possible during closures for planned engineering works, it is interesting to look at the alternative transport arrangements in place during the recent closures as a result of industrial action. In addition to around 100 additional buses, arrangements were made for Oyster Pay As You Go to be accepted across the National Rail network in London, a fixed-fare taxi sharing service was organised, road works were suspended where possible, guided cycle rides for commuters were led by members of the London Cycling Campaign and publicised by TfL, additional temporary cycle parking was provided, cycle maps were handed out, and capacity on river services was increased from 1,500 an hour to 8,000 an hour, including an extra free shuttle service.⁶¹

The provision of decent alternatives for passengers during the programme of Underground line closures will require teams

⁵⁷ Richard Parry, Transport Committee, transcript 3 September 2009, p. 30

⁵⁸ Richard Parry, Transport Committee, transcript 3 September 2009, p. 31

⁵⁹ Eg, Alexander Nicoll, Transport Committee, transcript 8 July 2009, p. 18

⁶⁰ <http://www.tfl.gov.uk/roadusers/cycling/11901.aspx>

⁶¹ Mayor of London press release 291, *Plans released to keep London moving*, 8 June 2009

across TfL to be mobilised with the aim of keeping London moving. In addition to replacement buses and information at stations, TfL as a whole should be focused on the needs of passengers along the corridor in question.

Better preparation in advance of closures should also be possible. For example, targeted enhancements to Legible London or the prioritisation of relevant cycle superhighways would enhance walking and cycling as viable alternatives to the Underground. Similarly, TfL's travel planning work with businesses and schools could be concentrated in areas which are due to be affected. Training for staff on the other travel options in the locality of affected stations could also be improved.

Disruption to Underground services provides an opportunity for TfL to demonstrate that it is capable of working across its historical organisational divisions. We have seen little evidence that such a cross-TfL approach to preparing for closures is yet being pursued.

Recommendation 9

Alternatives for passengers when Underground lines are closed are not sufficiently planned and coordinated across TfL.

TfL should publish a specific multi-modal travel plan for each programme of closures, making provision for the different sections of the affected corridor. They would be similar to the workplace and school travel plans which TfL has so much experience in developing and should be coordinated by TfL's travel planning team. The primary responsibility for informing people and marketing the alternatives should be with London Underground as they have the most immediate access to the people who need that information.

For the Piccadilly line, London TravelWatch's work for this investigation provides a good starting point by listing alternative rail routes for passengers. However, it would need to be augmented with information about general bus services, rail replacement buses and other specific measures to minimise disruption for passengers. Details of walking and cycling options should also feature and tailored information should be

provided when Underground lines are closed.

London Underground should report back to the Committee on its progress on this recommendation by the end of March 2010.

Recommendation 10

It is unacceptable that the quality of rail replacement buses can be below that which passengers can usually expect. Standards, particularly of accessibility and emissions, must be improved and should match the general bus fleet.

London Underground should report back to the Committee on their progress in resolving this issue by the end of January 2010.

5. Conclusions

During this work on overcrowding and line closures on the Underground network, the Transport Committee has focused on the experiences of passengers. We have identified some practical steps to mitigate the effects of overcrowding and contribute to an overall reduction in the scale of the problem – principally, improvements to the information which is available to passengers. To reduce the impact of line upgrades, a determination to reduce the number of closures and the development of new technological solutions will be required. Alongside this, we believe the implementation of our relatively simple proposal that line upgrades should be accompanied by multi-modal travel plans would bring about significant improvements for passengers.

As well as disrupting the journeys of individual passengers, overcrowding and line closures on the Underground damage London's economy because of reduced connectivity and, ultimately, increased road congestion as passengers drive instead. Although we have not focused on the economic arguments, London First recently stressed again the importance of continuing the programme of investment to improve the Underground. It estimated that the Underground line upgrades will generate economic benefits for Britain of around £24 billion in additional GDP.⁶²

Making these arguments, based on the contribution of the transport networks to London's economy and competitiveness, is crucially important, particularly in a financial environment where the value for money of all infrastructure projects is under the microscope. However, there is a danger that such technocratic considerations could overshadow the voices of passengers – the people who often have little choice but to use the system every day and who pay to maintain and improve it through fares and taxation. Through this report we have sought to redress this balance by documenting passengers' experiences on the Underground and representing their position in the debate about how transport should be improved in the future.

⁶² London First, *Holding the line: The economic benefits of modernising the Tube*, 27 October 2009

Appendix 1 Findings

Overcrowding

The level and effects of overcrowding

The results of the survey and qualitative research undertaken by the Committee document in detail for the first time the experiences of passengers on the London Underground. The high level of discomfort and inconvenience endured as a result of overcrowding, as well as the techniques passengers use to cope, are striking.

However, passengers for the most part accept crowding and disruption to services as an integral part of their Underground journeys. The overall advantages of the Underground – speed, regularity, reliability, predictability – mean that on balance passengers decide that the Underground is the best mode of transport for over 1 billion journeys each year, even though it can sometimes be quite an unpleasant experience.

Although London Underground has recently managed to add small amounts of additional capacity to some sections of the network, it is the long-term programme of line upgrades which could eventually bring some relief to most passengers. More modern signalling systems and renewed infrastructure will result in a substantial increase in capacity across the network. Conditions will certainly be much improved compared to a scenario where the enormous investment involved in the upgrade programme had not been made. However, forecasts of long-term population and employment growth in the capital mean it is unlikely that this programme of line upgrades will in the end solve the problem of overcrowding on the Underground.

New trains

New trains will be the most visible aspect of the upgrade programme. Walk-through carriages will provide more space for passengers on the Sub-Surface lines and eventually, we hope, the Bakerloo line. Similarly, the new Piccadilly line trains must be designed to achieve the maximum relief from overcrowding.

Following the successful development of the new Sub-Surface line rolling stock, Tube Lines and London Underground should commit to the development of an innovative new train design for the small tunnel lines. This would be an opportunity to demonstrate the sharing of best practice in relation to train design.

Better information and alternative routes

Many passengers have already adjusted the time at which they travel to avoid the worst overcrowding at the height of the morning peak. For those who are not flexible in terms of time, our research indicates that passengers would consider avoiding the most acute overcrowding by adjusting the route of their journey if they had better information at stations. For passengers to be enabled to make informed choices between the various options, station specific improvements are required to information about levels of overcrowding and potential alternative routes to the most popular destinations.

It is remarkable that there is no information for passengers before they enter stations about the level of overcrowding which they are likely to encounter. London Underground should acknowledge severe overcrowding problems where they exist and develop a system to warn potential passengers if they are likely to experience them, similar to the existing real-time warnings about potential delays and station closures. The prevailing levels of overcrowding on trains from each station should be shown by a 'traffic light' indicator, or as an addition to the existing electronic signage, at a location outside the barriers. This would be simple to administer and represent a significant improvement in the information available to help passengers execute their journeys.

Alongside information about the level of crowding, passengers need simple information about alternative ways of getting to common destinations. Bespoke posters – such as the simplified mock-up in Figure 3 – at the worst affected stations would provide those passengers who want to avoid overcrowded conditions with information about viable alternatives. Our research shows that some passengers feel under-informed about bus services and so are reluctant to use them. However, when they do, they are often pleasantly surprised by the quality of the service.

Together these two simple but fundamental improvements to the information available at Underground stations could, by allowing some passengers to make rational decisions to use less crowded modes of transport, not only make their journeys less unpleasant but also make a material difference to overcrowding on the Underground.

Gross overcrowding is confined to a relatively small proportion of the Underground network. It should be possible to extend this approach

to, say, 30 stations where passengers entering the network would experience the worst train overcrowding. These are mostly in central London where destinations are closest together and best served by alternative modes anyway.

Ongoing line closures

The Jubilee line upgrade

We have no doubt that the time and money invested in upgrading the Underground will eventually be worthwhile. The additional capacity realised by, for example, the completion of the Jubilee line upgrade next year will help alleviate overcrowding for the long term. Renewed infrastructure should also reduce the unreliability of the network caused by many years when its upkeep was under-funded.

However, the upgrade programme is causing significant pain to passengers and businesses now and will do for many years to come. The evidence from the Committee's survey and research shows the effects these closures have on people's lives and the focus now must be on reducing the requirement for closures in the future and minimising the disruption caused by closures that remain necessary.

The culmination of the Jubilee line upgrade is proving to be particularly chaotic. The missing of the original deadline by months and a glut of hastily arranged additional closures give little grounds for confidence about the delivery of future upgrades. They demonstrate the importance of improved planning, communication and cooperation between London Underground and Tube Lines for future upgrades. Both parties will have to improve their performance and will not be able to rely on existing ways of working if unnecessary disruption for passengers, inefficiently used closures and missed deadlines are not to be repeated during the upgrades of the Northern, Piccadilly, Bakerloo and Sub-Surface lines.

Finally, we are concerned that the long delay to the Jubilee line work could seriously damage the wider programme of upgrades. As we have said, it is these large-scale capacity enhancements which could eventually relieve overcrowding for passengers so planned work on other lines – the Northern line in the first instance – must not be allowed to slip.

Future line upgrades

Minimising closures

The world has moved on since the Victoria and Jubilee line upgrades were being planned. As Richard Parry put it, there needs to be a “mindset shift” like there has been in Madrid. In Madrid, there was an assumption that there would be no closures during the recent upgrades of lines 1 and 6.

London Underground must learn from the most recent international experiences of upgrading metro lines. While the antiquated signalling systems in place in London might make upgrades with no closures at all unlikely, it must now be possible to plan future work with greater consideration for the needs of passengers. During the next tranche of upgrades, if it is not possible to specify that there should be no closures, the aim must be for the requirement for closures to be substantially reduced from that for the Victoria and Jubilee lines.

Lines under the control of London Underground

As a public body working in the public interest on the instructions of the Mayor, TfL needs to minimise the number of closures required during the upgrade of the Sub-Surface lines. Of course, the benefit of fewer closures should be balanced against any increase to the costs of the work but, when the inconvenience of closures for passengers is taken into account, keeping the network open should be one of London Underground’s highest priorities.

Allowing the market to come up with a solution carries the risk that the needs of passengers will be swamped by the priorities of potential suppliers. From the evidence we have received in relation to the Sub-Surface line resignalling procurement, the level of priority attached to minimising closures, relative to other imperatives such as minimising cost or technological risk, remains unclear.

Minimising closures during upgrade works should be at the heart of London Underground’s procurement process. For the Sub-Surface lines resignalling contract, London Underground has not, as Madrid did, specified that there should be no closures. Minimising disruption must be a high priority in future tender specifications.

Lines under the control of Tube Lines

For Tube Lines the only real incentives are financial. Under the output-based PPP contract Tube Lines is required to install a signalling system to facilitate a certain frequency of trains but the choice of technology is theirs alone. Tube Lines must find a way to deliver for London by reducing the number of closures on the Northern and Piccadilly lines.

For the Northern line this may mean more efficient use of nighttime engineering hours or the use of evening closures. Evening closures would be very disruptive on the Northern line because of the number of passengers who use the line at that time of day, so they must be used to their full potential.

For the Piccadilly line, the signalling technology has not yet been determined and there is time to ensure the kind of disruption experienced on the Jubilee line is not repeated. To undertake the Piccadilly line upgrade with significantly fewer closures will require a radical new approach – potentially the type of overlay system that has been described.

London Underground, through its decisions on the Sub-Surface lines signalling procurement, could increase the possibility that Tube Lines will adopt a new approach. If London Underground can prove such a system's viability and demonstrate it would not be more expensive to install, Tube Lines would be more likely to consider it. Beyond that, the levers with which to encourage Tube Lines to pursue this kind of option are very limited. The potential for damage to the reputations of Tube Lines and its parent companies Amey and Bechtel might be the only incentive for the company to reduce the number of closures it requires. It is disconcerting to learn that Tube Lines is attempting to increase its allowance for closures between 2010 and 2017.

Extended closures

The Committee considers that the evidence is not sufficiently compelling to rule out block closures at this stage. London Underground's argument that they would not necessarily be more efficient than weekend or evening closures is disputed by Tube Lines, which is actually delivering the work. Furthermore, our research has shown that passengers also consider there could be benefits to longer closures, if that would reduce the overall period over which there will be disruption. The work by London TravelWatch on behalf of passengers also suggests that the availability of potential alternative

routes makes the option of block closures worth proper consideration at least in the case of the Piccadilly line.

London Underground's assessment that lower passenger numbers at weekends and evenings should always mean closures being restricted to those times may miss some of the less quantifiable potential benefits of longer closures, such as predictability for passengers, which was rated highly in our research. Nor does it account for the opportunity to implement more intensive complementary measures, such as enhanced bus priority or the production of specific information for passengers who might want to walk or cycle, for the duration of a closure.

However, the extent to which block closures would in fact be tolerated by passengers would be dependent on their duration and on how many would be needed – information which we have not been able to determine. Additionally, a realistic assessment is required of the potential cost savings associated with longer closures, compared with the kind of programme of weekend closures we have seen on the Jubilee line over the last two years, particularly given the recent repeated requirements for additional closures.

Alternative options

The provision of decent alternatives for passengers during the programme of Underground line closures will require teams across TfL to be mobilised with the aim of keeping London moving. In addition to replacement buses and information at stations, TfL as a whole should be focused on the needs of passengers along the corridor in question.

Better preparation in advance of closures should also be possible. For example, targeted enhancements to Legible London or the prioritisation of relevant cycle superhighways would enhance walking and cycling as viable alternatives to the Underground. Similarly, TfL's travel planning work with businesses and schools could be concentrated in areas which are due to be affected. Training for staff on the other travel options in the locality of affected stations could also be improved.

Disruption to Underground services provides an opportunity for TfL to demonstrate that it is capable of working across its historical organisational divisions. We have seen little evidence that such a cross-TfL approach to preparing for closures is yet being pursued.

Appendix 2 Recommendations

Recommendation 1

London Underground and Tube Lines should ensure improved train design, with walk-through carriages to relieve overcrowding. This should be pursued for the Piccadilly and Bakerloo lines, where new rolling stock is planned. Innovations in development for mainline trains, such as information for waiting passengers about crowding levels, should also be considered for their applicability to the Underground.

London Underground and Tube Lines should report to the Committee their progress in determining the design of new small tunnel trains by the end of January 2010, following Tube Lines' choice of a rolling stock supplier for the Piccadilly line.

Recommendation 2

Passengers do not have all the information they need to make fully informed choices about their journeys, particularly about likely levels of overcrowding. London Underground should pilot the provision of specific information at stations about overcrowding levels, potentially using a 'traffic light' indicator, and alternative routes to popular destinations. Pilots should be undertaken at a small number of stations, including Bethnal Green. This information should be available to passengers before they pass through ticket barriers and information about train overcrowding should be updated regularly throughout the day as conditions change.

London Underground should report back to the Committee on the progress of the pilot by the end of June 2010.

Recommendation 3

Staff should also be aware of the range of alternative options available to passengers who want to avoid overcrowding. TfL should provide location-specific training for station staff on alternative routes by other modes to popular destinations.

In its report back to the Committee on enhanced station information, London Underground should include details of a refreshed training programme.

Recommendation 4

In its response to this report, London Underground should set out what effect the recently announced further delays to the Jubilee line

upgrade will have on the timetable for upgrading the rest of the network.

Recommendation 5

Minimising disruption for passengers should be a higher priority during the planning and procurement of the forthcoming upgrades to London Underground lines.

In relation to the new signalling system for the Sub-Surface lines, London Underground should report to the Committee the outcomes of its tender assessment when it is completed early in 2010. It should make clear the extent to which the procurement was successful in minimising line closures, drawing comparisons between the closures required by the winning tender and other proposals, and the scale of closures required for previous upgrades.

Recommendation 6

Tube Lines must learn from the Jubilee line upgrade, as well as best practice from around the world, to minimise closures in the future.

For Londoners to have confidence that work on the Northern and Piccadilly lines will be less disruptive, Tube Lines should report to the Committee its progress in determining the technological solutions it will use. It should include the likely requirements for closures and a comparison with the Jubilee line upgrade so passengers can judge what scale of disruption they should expect.

This report should be provided to the Committee by the end of March 2010.

Recommendation 7

Block closures, in some cases and with the right complementary measures, could be beneficial for passengers.

In order that informed comments can be made about the best approach for future upgrades, London Underground and Tube Lines should report to the Committee their assessments of the likely shape of block closures if they were to be used – how long they would be and how many would be necessary. They should make clear the extent to which the overall requirement for closures would be reduced. They should also include estimates of the potential financial savings associated with longer closures.

These reports should be received by end of March 2010.

Recommendation 8

The Mayor, as Chair of TfL, should ensure that the TfL Board is providing sufficient challenge to entrenched thinking at London Underground.

So passengers are confident they are benefiting from up-to-date assessments of the most modern ways of working, he should at least require London Underground to look at the issue of line closures and report back to the Board in more depth. Beyond that, the Board might like to take representations on this crucial issue from Tube Lines and potential suppliers of the Sub-Surface lines resignalling contract, as well as the Transport Committee, London TravelWatch, business groups and other stakeholders.

In his response to this report, the Mayor should explain how he will ensure the TfL Board is providing sufficient challenge to London Underground.

Recommendation 9

Alternatives for passengers when Underground lines are closed are not sufficiently planned and coordinated across TfL.

TfL should publish a specific multi-modal travel plan for each programme of closures, making provision for the different sections of the affected corridor. They would be similar to the workplace and school travel plans which TfL has so much experience in developing and should be coordinated by TfL's travel planning team. The primary responsibility for informing people and marketing the alternatives should be with London Underground as they have the most immediate access to the people who need that information.

For the Piccadilly line, London TravelWatch's work for this investigation provides a good starting point by listing alternative rail routes for passengers. However, it would need to be augmented with information about general bus services, rail replacement buses and other specific measures to minimise disruption for passengers. Details of walking and cycling options should also feature and tailored information should be provided when Underground lines are closed.

London Underground should report back to the Committee on its progress on this recommendation by the end of March 2010.

Recommendation 10

It is unacceptable that the quality of rail replacement buses can be below that which passengers can usually expect. Standards, particularly of accessibility and emissions, must be improved and should match the general bus fleet.

London Underground should report back to the Committee on their progress in resolving this issue by the end of January 2010.

Appendix 3 Research

Commissioned research

The Committee commissioned consultants Andrew Irving Associates to undertake research into passengers' experiences of overcrowding and line closures. The report is available in full on the Committee's webpage: <http://www.london.gov.uk/assembly/reports/transport.jsp>.

Objectives

The research had the following primary objectives:

- To identify how overcrowding and planned closures have affected passenger journeys and travel planning
- To explore rational (physical) and emotional responses to the impact of over-crowding/planned closures on travel experience and daily living
- To explore and understand people's expectations in relation to overcrowding and planned closures and the criteria by which these expectations are set
- To explore what factors are considered in whether people feel overcrowding levels to be acceptable or not (e.g. length of journey, speed, cost, convenience, etc.) – and how this affects usage (and why)
- To explore views about patterns of closure and whether this is acceptable

Method and sample

A qualitative research approach was adopted, involving 6 group discussions with regular users of the London Underground. In addition to the group discussions, the research was supplemented by 'travel diaries' which were completed by most participants in the week prior to attending the group discussions.

The total number of participants was 57 with between 8 and 10 people attending each group. Group discussions lasted approximately 1½ hours.

Survey results

The Committee invited London Underground passengers to complete an online survey about their experiences of overcrowding on the network, closures to Underground lines and the alternative travel options which are available. Over 700 people completed the survey and the results are set out below:

London Underground usage

How often do you use the London Underground?		
Answer Options	Response Percent	Response Count
3+ days a week	75.3%	533
1-2 days a week	13.1%	93
Less than once a week	10.5%	74
Almost never	1.1%	8

Which line(s) do you use the most often?		
Answer Options	Response Percent	Response Count
Bakerloo	14.2%	101
Central	24.8%	176
Circle	11.4%	81
District	25.1%	178
Hammersmith and City	8.3%	59
Jubilee	44.0%	312
Metropolitan	13.4%	95
Northern	34.0%	241
Piccadilly	17.5%	124
Victoria	30.3%	215
Waterloo and City	2.0%	14

When do you travel on the Underground?		
Answer Options	Response Percent	Response Count
In the week	11.3%	80
At the weekend	5.6%	40
Both	82.8%	587
Not applicable	0.3%	2

Overcrowding

Are the journeys that you make on the line(s) indicated in question 3 affected by overcrowding?

Answer Options	Response Percent	Response Count
Most of my journeys on the Underground are overcrowded	41.7%	288
Some of my journeys on the Underground are overcrowded	53.5%	370
My journeys on the Underground are rarely overcrowded	4.8%	33

How does overcrowding affect your journey?

Answer Options	Response Percent	Response Count
I am unable to board the first train to arrive	50.0%	341
I use alternative modes (e.g. bus) of transport	22.0%	150
I use an alternative London Underground line	7.5%	51
I experience discomfort during my journey	79.8%	544
I change the times of day that I travel	22.4%	153
I travel less often	8.8%	60
Not Applicable	3.7%	25
Other (please specify)		48

If you use alternative modes of transport as a result of overcrowding, which modes do you use?

Answer Options	Response Percent	Response Count
Local bus service	58.4%	222
Overground Rail	31.3%	119
Walk	47.1%	179
Cycle	8.4%	32
Private vehicle	5.5%	21
Dial-a-ride	0.3%	1
Taxi	8.9%	34
DLR	9.5%	36
Tram	0.0%	0
River services	4.7%	18
Other (please specify)		14

Are there any reasons why overcrowding on the Underground particularly affects you?

Answer Options	Response Percent	Response Count
No.	88.5%	500
Yes - I have a disability which makes overcrowded conditions particularly difficult for me	7.8%	44
Yes - I travel with small children which makes overcrowded conditions particularly difficult for me	4.1%	23
Yes - other (please specify)		109

Line closures

In the last year, have your journeys been affected by planned weekend / evening closures?

Answer Options	Response Percent	Response Count
More than once a week	33.2%	223
At least once a month	49.1%	330
Less than once a month	13.7%	92
Never	4.0%	27

Where you have been affected by weekend / evening closures, which line (s) would you have been using?

Answer Options	Response Percent	Response Count
Bakerloo	5.5%	35
Central	13.9%	89
Circle	11.1%	71
District	22.3%	143
Hammersmith and City	7.8%	50
Jubilee	60.8%	390
Metropolitan	12.5%	80
Northern	14.0%	90
Piccadilly	8.4%	54
Victoria	40.9%	262
Waterloo and City	1.9%	12

How well informed do you feel about future line or station closures?

Answer Options	Response Percent	Response Count
Well informed	22.0%	145
Satisfactorily informed	50.3%	332
Poorly informed	27.7%	183

Alternative options

How well informed do you feel about possible alternative ways of making your journey?

Answer Options	Response Percent	Response Count
Well informed	10.1%	67
Satisfactorily informed	42.3%	281
Poorly informed	47.6%	316

Where you have been affected by weekend / evening closures, which alternative modes of transport do you use most often?

Answer Options	Response Percent	Response Count
None – the alternatives are unsuitable	12.1%	77
None – the alternatives are inconvenient	17.2%	110
Rail replacement bus service	31.1%	199
Local bus service	40.5%	259
Overground Rail	24.3%	155
Alternative London Underground routes	40.5%	259
Walk	22.8%	146
Cycle	3.4%	22
Private vehicle	11.9%	76
Tram	0.0%	0
River services	3.0%	19
Dial-a-ride	0.3%	2
Taxi	8.0%	51
DLR	8.5%	54

If you have you used rail replacement bus services, how would you rate the service?

Answer Options	Response Percent	Response Count
Good	8.8%	38
Satisfactory	40.0%	173
Poor	51.3%	222

Is there anything about the accessibility of alternative modes of transport that prevents you using them?

Answer Options	Response Percent	Response Count
No	94.2%	537
Yes – I have a disability which makes it difficult to use alternative modes of transport	3.2%	18
Yes – I travel with small children which makes it difficult to use alternative modes of transport	2.8%	16
Yes - other (please specify)		78

Appendix 4 Contributions

Oral information

The Transport Committee has heard from guests about the passengers' experiences of the London Underground at two meetings, minutes of which are available at:

<http://www.london.gov.uk/assembly/transport/index.jsp>

8 July 2009

Geoff Symonds, The O2
James Mark, ExCeL London
Michael Ward, Harrods
Alexander Nicoll, Liberty International
John Thomason, Underground News
Faryal Velmi, Transport for All
Dr Glenn Williams, Nottingham Trent University
Sharon Grant, London TravelWatch
Tim Bellenger, Research and Development, London TravelWatch

3 September 2009

Ildfonso De Matías, Metro de Madrid
Aurelio Rojo, Metro de Madrid
Carlos Esquíroz, Metro de Madrid
Dean Finch, Tube Lines Limited
Richard Parry, London Underground

Written information

The Committee received written submissions and data from the following organisations:

Transport for London (principally London Underground)
Tube Lines Limited
Metro de Madrid
London TravelWatch
Liberty International
ExCeL London
Network Rail
Transport for London Independent Disability Advisory Group
Paddington Residents' Active Concern on Transport
St Marylebone Society

Appendix 5 Orders and translations

How to order

For further information on this report or to order a copy, please phone Tim Steer, Scrutiny Manager, on 020 7983 4250 or email tim.steer@london.gov.uk.

See it for free on our website

You can also view a copy of the report on the GLA website:
<http://www.london.gov.uk/assembly/reports>

Large print, braille or translations

If you, or someone you know, needs a copy of this report in large print or braille, or a copy of the summary and main findings in another language, then please call us on: 020 7983 4100 or email: assembly.translations@london.gov.uk.

Chinese

如您需要这份文件的简介的翻译本，
请电话联系或按上面所提供的邮寄地址或
Email 与我们联系。

Vietnamese

Nếu ông (bà) muốn nội dung văn bản này được dịch sang tiếng Việt, xin vui lòng liên hệ với chúng tôi bằng điện thoại, thư hoặc thư điện tử theo địa chỉ ở trên.

Greek

Εάν επιθυμείτε περίληψη αυτού του κειμένου στην γλώσσα σας, παρακαλώ καλέστε τον αριθμό ή επικοινωνήστε μαζί μας στην ανωτέρω ταχυδρομική ή την ηλεκτρονική διεύθυνση.

Turkish

Bu belgenin kendi dilinize çevrilmiş bir özetini okumak isterseniz, lütfen yukarıdaki telefon numarasını arayın, veya posta ya da e-posta adresi aracılığıyla bizimle temasa geçin.

Punjabi

ਜੇ ਤੁਸੀਂ ਇਸ ਦਸਤਾਵੇਜ਼ ਦਾ ਸੰਖੇਪ ਆਪਣੀ ਭਾਸ਼ਾ ਵਿਚ ਲੈਣਾ ਚਾਹੋ, ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਇਸ ਨੰਬਰ 'ਤੇ ਫੋਨ ਕਰੋ ਜਾਂ ਉਪਰ ਦਿੱਤੇ ਡਾਕ ਜਾਂ ਈਮੇਲ ਪਤੇ 'ਤੇ ਸਾਨੂੰ ਸੰਪਰਕ ਕਰੋ।

Hindi

यदि आपको इस दस्तावेज़ का सारांश अपनी भाषा में चाहिए तो उपर दिये हुए नंबर पर फोन करें या उपर दिये गये डाक पते या ई मेल पते पर हम से संपर्क करें।

Bengali

আপনি যদি এই দলিলের একটি সারাংশ নিজের ভাষায় পেতে চান, তাহলে দয়া করে যোগাযোগ করুন অথবা উল্লিখিত ডাক ঠিকানায় বা ই-মেইল ঠিকানায় আমাদের সাথে যোগাযোগ করুন।

Urdu

اگر آپ کو اس دستاویز کا خلاصہ اپنی زبان میں درکار ہو تو، براہ کرم نمبر پر فون کریں یا مذکورہ بالا ڈاک کے پتے یا ای میل پتے پر ہم سے رابطہ کریں۔

Arabic

الحصول على ملخص لهذا المستند بلغة،
فجاء الاتصال برقم الهاتف أو الاتصال على
العنوان البريدي أو العادي أو عنوان البريد
الإلكتروني أعلاه.

Gujarati

જો તમારે આ દસ્તાવેજનો સાર તમારી ભાષામાં જોઈતો હોય તો ઉપર આપેલ નંબર પર ફોન કરો અથવા ઉપર આપેલ ટપાલ અથવા ઈ-મેઈલ સરનામા પર અમારો સંપર્ક કરો.

Appendix 6 Principles of scrutiny page

An aim for action

An Assembly scrutiny is not an end in itself. It aims for action to achieve improvement.

Independence

An Assembly scrutiny is conducted with objectivity; nothing should be done that could impair the independence of the process.

Holding the Mayor to account

The Assembly rigorously examines all aspects of the Mayor's strategies.

Inclusiveness

An Assembly scrutiny consults widely, having regard to issues of timeliness and cost.

Constructiveness

The Assembly conducts its scrutinies and investigations in a positive manner, recognising the need to work with stakeholders and the Mayor to achieve improvement.

Value for money

When conducting a scrutiny the Assembly is conscious of the need to spend public money effectively.

Greater London Authority

City Hall

The Queen's Walk

More London

London SE1 2AA

www.london.gov.uk