

TRANSPORT FOR LONDON

RAIL AND UNDERGROUND PANEL

SUBJECT LONDON UNDERGROUND DEMAND TRENDS

DATE: 5 MAY 2011

1 SUMMARY

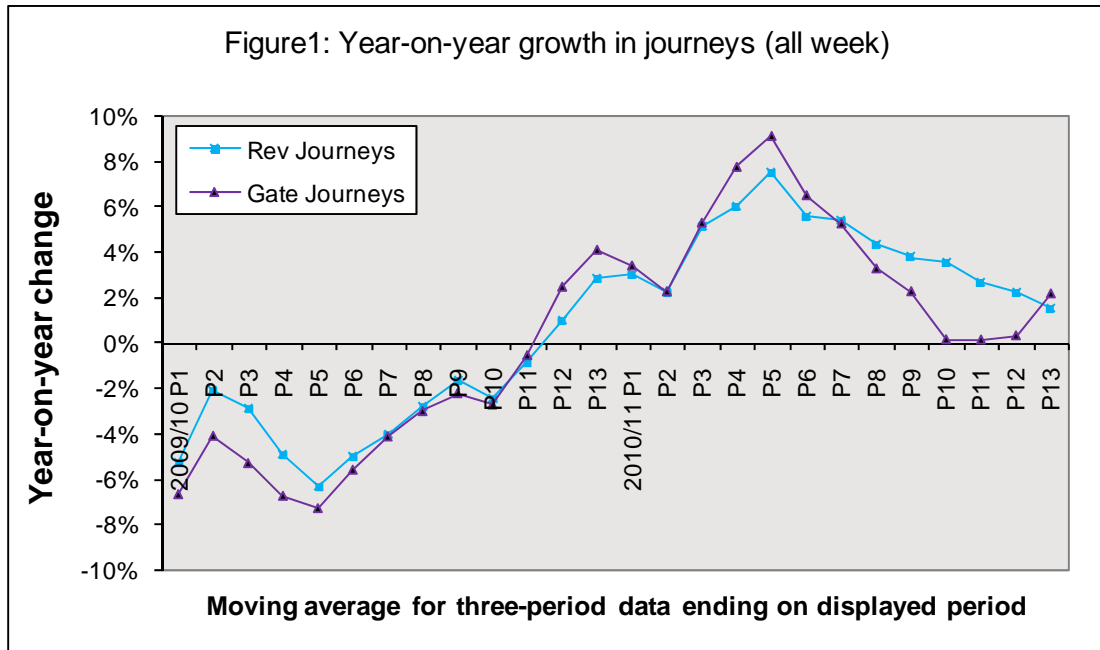
- 1.1 London Underground carried 1,107 million passengers in 2010/11, a record figure and the first time LU has exceeded 1.1billion journeys.
- 1.2 London Underground year-end revenue was a record £1,757m. This compares with a quarter 3 forecast of £1,744m and a budget of £1,659m.
- 1.3 The Panel is asked to note this paper.

2 INTRODUCTION

- 2.1 This report provides an analysis of changes in demand and passenger revenue during 2009/10 and 2010/11.
- 2.2 Demand figures are derived from two sources: revenue data (the official method from which year-end figures are produced) and counts of customer journeys through ticket gates. Typically these two methods produce slightly different results. Gate data provides more disaggregated detail and thus the following charts and analysis in this paper draw on gate data, with reference to official figures where appropriate.
- 2.3 2010/11 had five network-wide strikes. Around 30-40 per cent of the full service was operated, with a consequent reduction in passenger numbers on these days.

3 TRENDS IN PASSENGER DEMAND

- 3.1 Figure 1 shows the year-on-year trend using both methods. Period 10 covers the Christmas and New Year holiday period and therefore gate journeys are traditionally lower than at other times of the year.



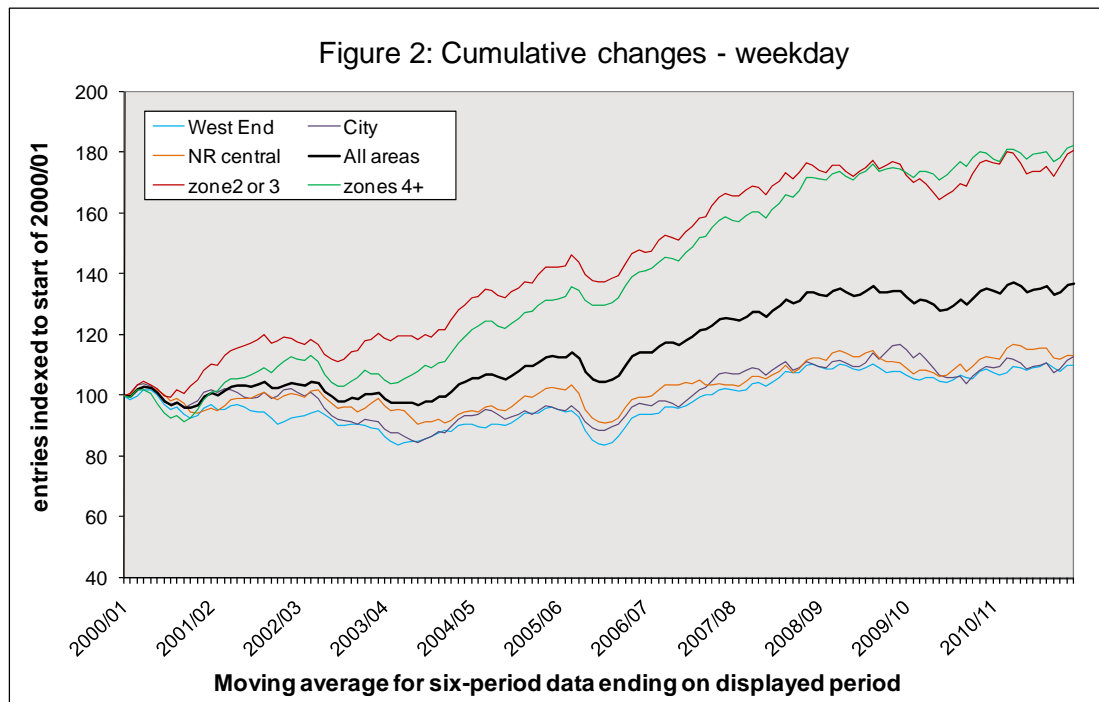
3.2 During 2009/10 demand suffered a small year-on-year decline as a result of the recession. Since period 11 (January) 2009/10 year-on-year growth has been positive, initially strongly so and then slowing such that, by quarter 4 2010/11 demand is around 1 per cent higher year on year.

3.3 Gate counts are more responsive to changes in demand (official ticket-based figures use quarterly-updated factors for Travelcard journeys). Easter is later in 2011 than 2010. This may explain the apparent growth in year-on-year demand in this year's period 13 gate counts, as well as the lower growth at period 10, when adverse weather reduced the trips made per customer.

3.4 Overall, gate-based data shows growth of about 2.7 per cent for 2010/11 compared to 2009/10, reflecting the trends within the wider economy.

4 LONGER TERM TRENDS

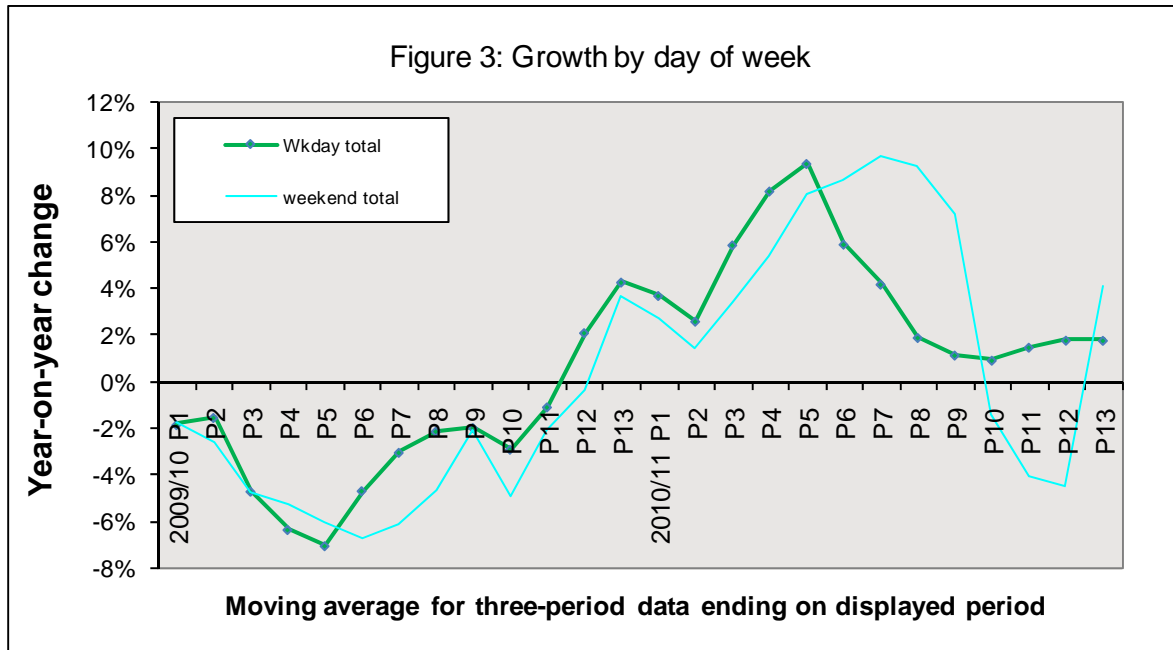
4.1 To put recent changes in longer term context Figure 2 shows cumulative demand changes indexed to period 1 of 2000/01.



- 4.2 This shows a general increase (using gate data) of around 20 to 25 per cent since 2000/01 with significant relative increases for Inner and Outer London (zones 2/3, zones 4/5/6) and lower increases for central area stations.
- 4.3 Using official journey figures (not shown on graph) growth in demand has been 40 per cent over the last 15 years and 14 per cent over the last five years.

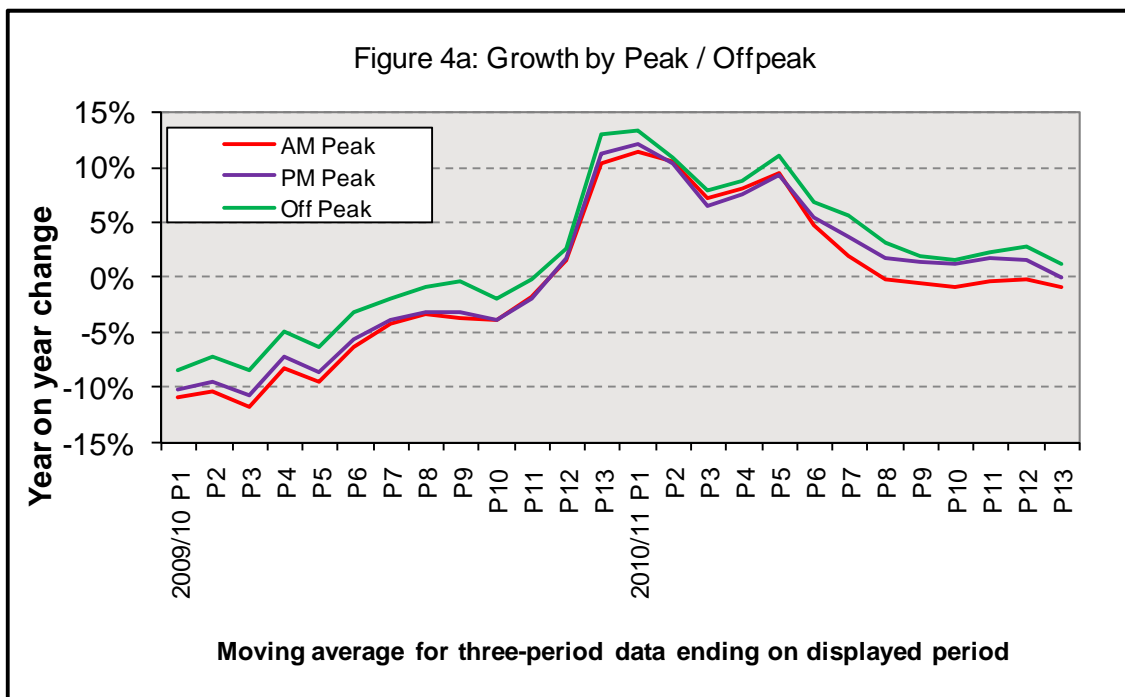
5 TRENDS IN DEMAND BY DAY

- 5.1 Figure 3 shows the year-on-year trend by weekday and weekend using gate data. Weekend growth was strongest during the summer months probably buoyed by the relatively good weather. The sharp fall in weekend growth during period 10 can be attributed to Christmas and Boxing Day falling over the weekend this year, as well as the strike on Boxing Day which affected all lines. As the figure displays three period moving averages this effects continues in periods 11 and 12.
- 5.2 2010/11 saw fewer closures for engineering work than 2009/10, which supports weekend growth. The year-on-year reduction in closures was greatest on the Victoria and Jubilee lines.



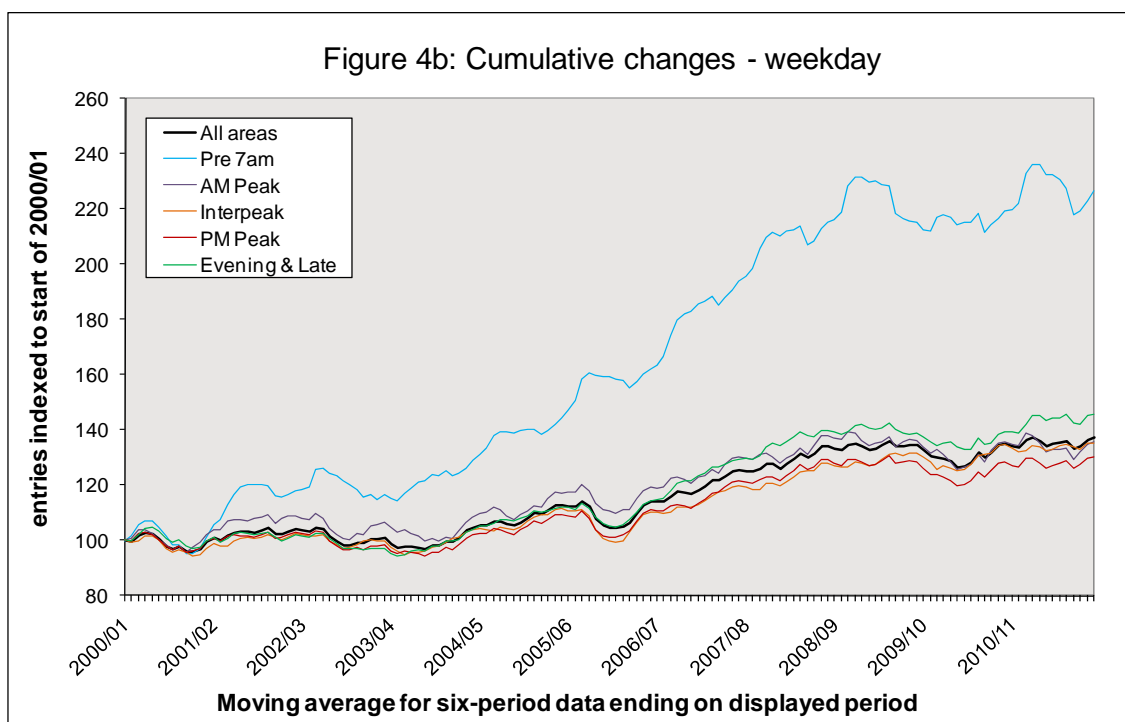
6 TRENDS IN DEMAND BY PEAK / OFF-PEAK

6.1 Figure 4a shows the year-on-year trend by weekday peak / off-peak. It shows the off-peak with rather higher growth than the peaks. This gap closed during Quarter 1, however has since widened. AM peak travel has shown no significant difference in passenger growth over Quarter 3 and 4 when compared to the same period in the previous year.



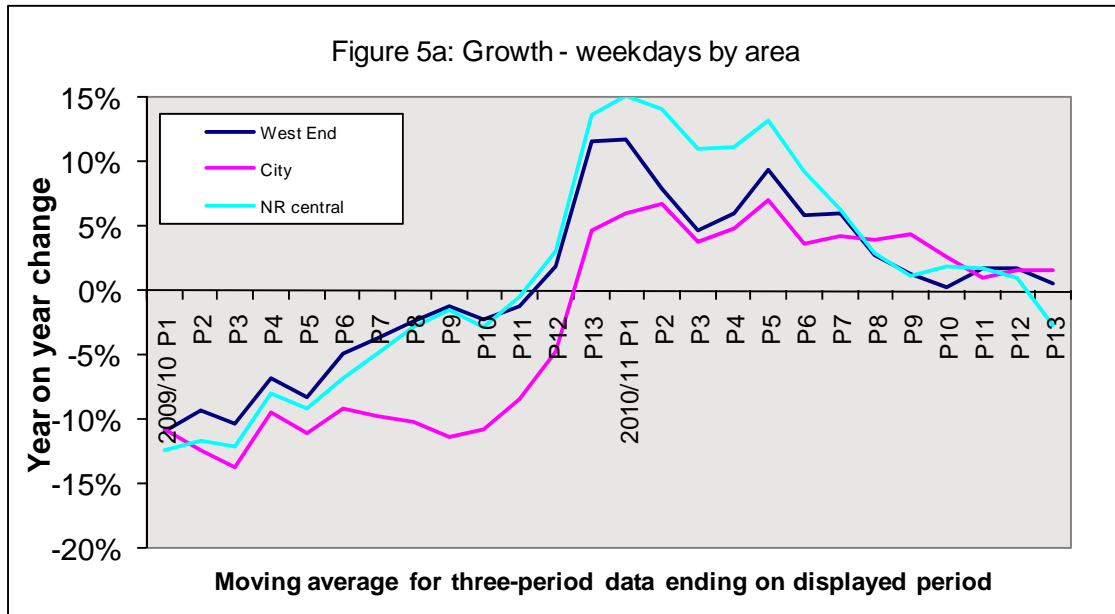
6.2 In longer-term trends there has been a considerable growth in travel before 7am; the percentage of trips in this time period is now more than double the proportion in 2000/01 (Figure 4b). Three reasons account for this growth:

- (a) The AM peak has broadened with customers altering their journey times whether because jobs require earlier starts or to adjust for crowding;
- (b) LU fares have in recent years made a pre-peak period, for customers entering before 06:30, where fares are charged at off-peak rates; and
- (c) The 2000 base was a small number of journeys per day (around 50,000). A small transfer from customer who previously travelled during 07:00-10:00 will provide a comparatively large percentage increase.

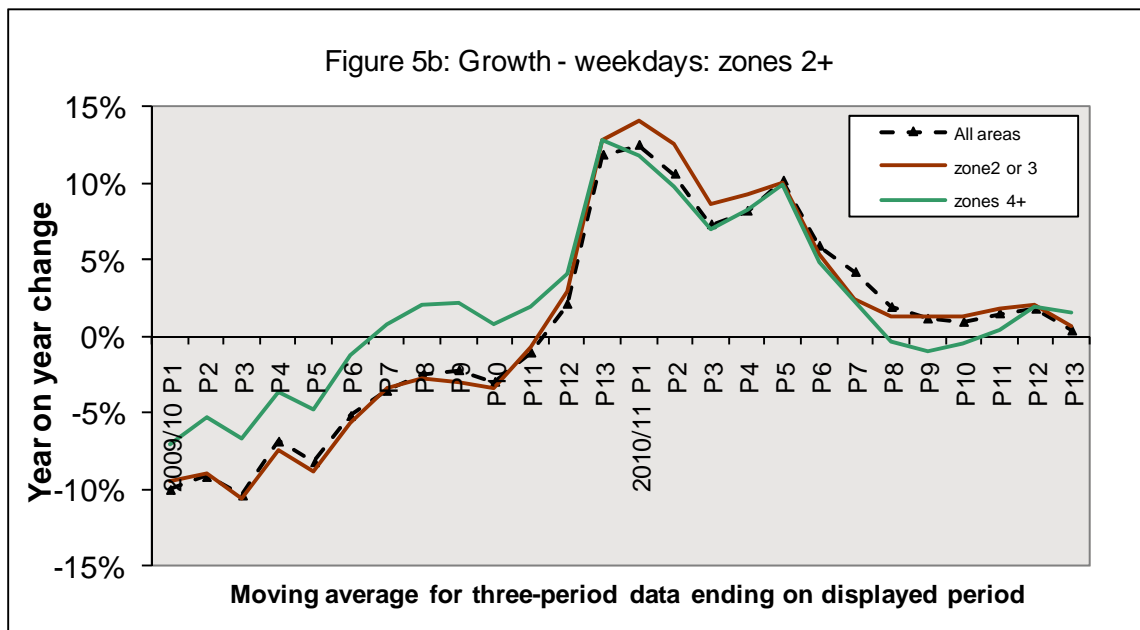


7 SPATIAL TRENDS

7.1 Figure 5a compares the weekday trend across different areas of central London.

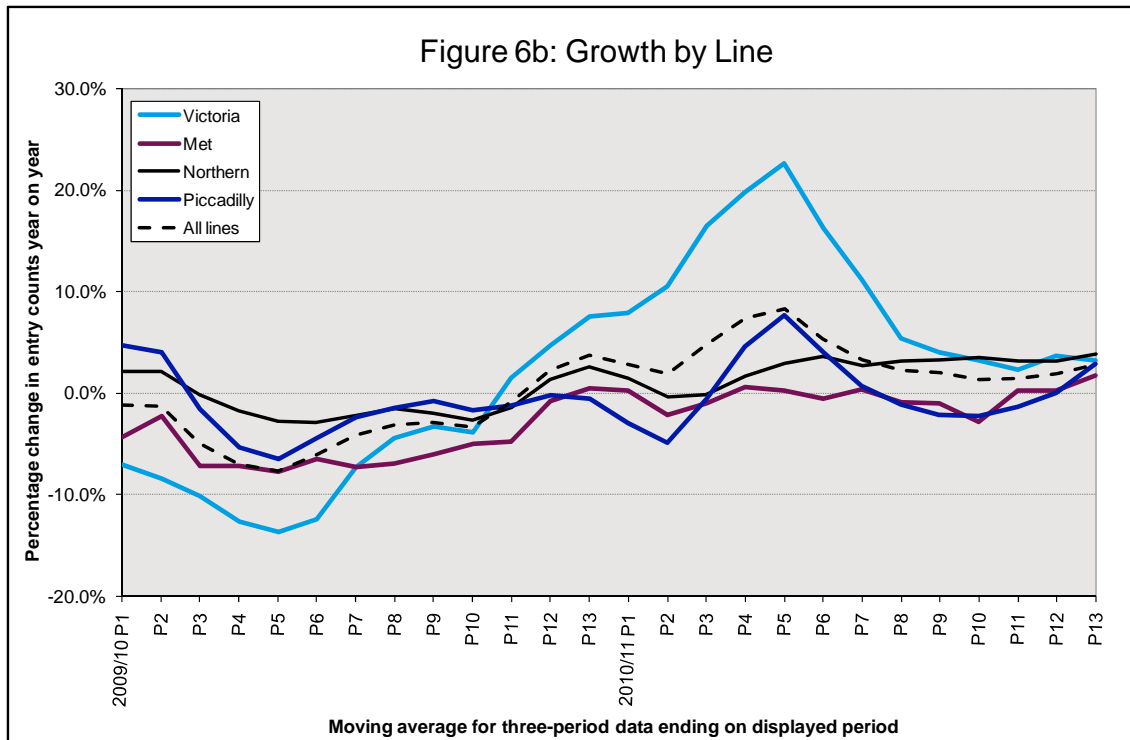
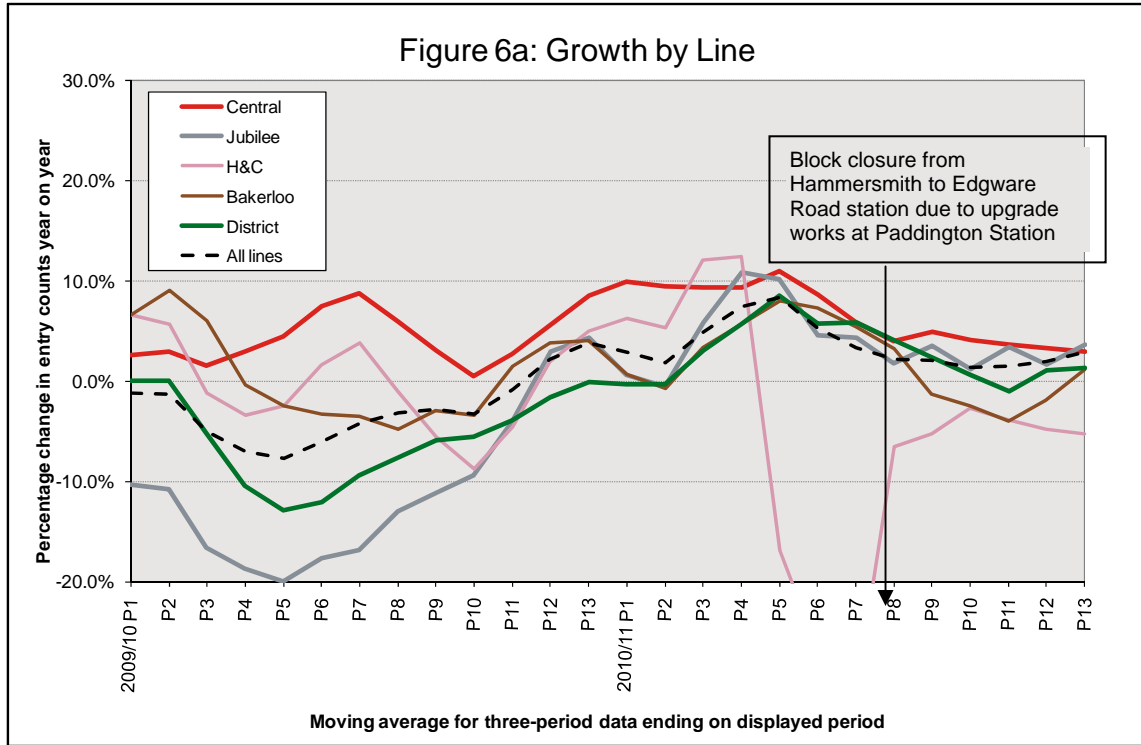


- 7.2 The growth in City stations over the past year represents a partial recovery of the demand lost in 2009/10. LU stations which serve National Rail termini show a recent decline in part because of the reduction in usage at Victoria during escalator works (see figure 7a below). It is likely that, rather than customers avoiding the Tube, many are using an alternative station.
- 7.3 Figure 5b compares the weekday growth of the zones outside Central London. As can be seen there has been little variation by zonal area over the past year. The apparent year-on-year reduction in zones 4+ in recent periods is a less than one percent change and below the statistical significance of these gate data.



8 LINE TRENDS

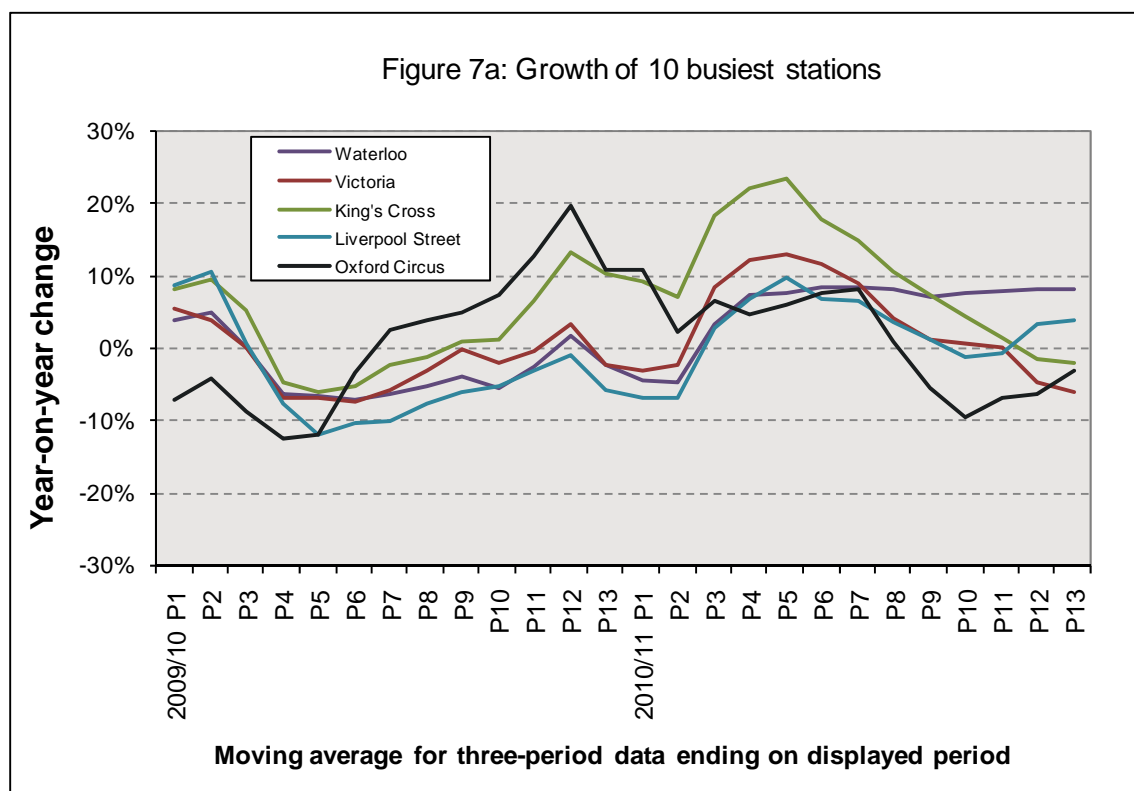
8.1 Figures 6a and 6b compare the trend across different lines for the outer areas only (i.e. excluding the part of the line in zone 1).



- 8.2 There have been fewer Jubilee and Victoria line closures this year than in 2009/10 enabling these lines to return to positive growth over the past year and on par with the network average. While the Victoria line saw an above-trend growth, peaking at 24 per cent in period 5, this slowed to just above the network average during the latter half of the year.
- 8.3 The large fall in growth of demand on the Hammersmith & City line during period 5 correlates to the block closure that was in operation during August 2010 when the stations between Hammersmith and Edgware Road were closed for three weeks to enable work to be undertaken at Paddington station to support the station upgrade. This work was integrated with Crossrail works.
- 8.4 The year-on-year fall in demand on the Bakerloo line in periods 9-11 is in part explained by the strikes on the line in December (period 10) and January (period 11).

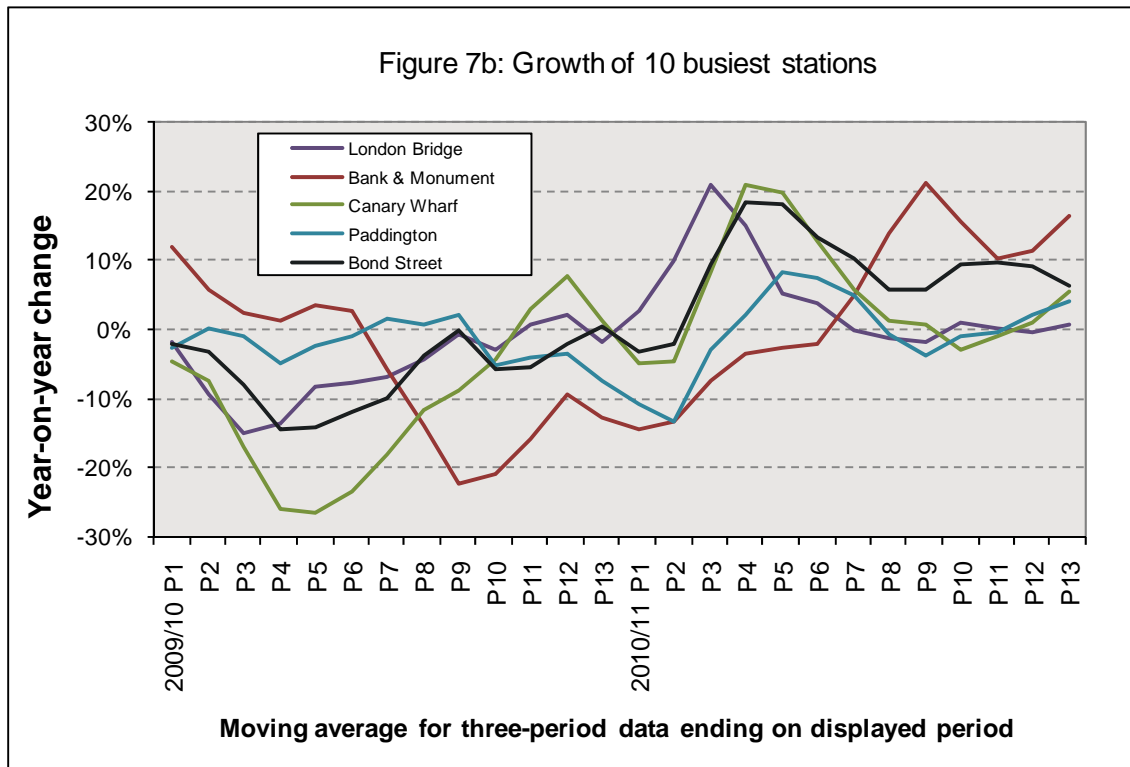
9 STATION TRENDS

- 9.1 Figures 7a and 7b show the year-on-year changes in demand at the ten busiest Tube stations, measured through entries and exits.



- 9.2 **Waterloo** and **Liverpool Street** show the typical pattern of demand – below 0 per cent year-on-year growth last year which have in 2010/11 returned to match secular growth increases. This is more pronounced at **Victoria** which also shows the effect of recent station restrictions as escalator replacement occurs before the main station upgrade works commence. **King's Cross**

shows stronger year-on-year growth, noticeably increasing in late 2009/10 as the Northern Ticket Hall opened. **Oxford Circus** is the only station in the ten reviewed here where there is a significant reduction in demand in the latter half of 2010/11. Because of escalator replacement works customers have been encouraged to use other nearby stations and the station has been exit only at busy periods.



9.3 **London Bridge** shows a year-on-year reduction centred around Period 3 2009/10 (a year later this is reflected as a peak in year-on-year growth). In addition to the reduction in demand from the City the station was also affected by closures on the Jubilee line. **Bank & Monument** show year-on-year reduction in 2009/10 and recover in 2010/11. Demand changes are accentuated by the scale of escalator replacement work taking place in 2009/10. **Canary Wharf** shows a similar pattern to London Bridge, but was the station most affected by the recession. **Paddington** is relatively flat, with some variance most likely caused by gating changes to the two Paddington stations rather than a true change in demand.

9.4 This increase in annual demand at stations such as Waterloo, London Bridge and Canary Wharf means that any crowding relief caused by the recession has been short-lived.

10 CONCLUSIONS ON DEMAND TRENDS

10.1 Although the recession of 2009 reduced demand, 2009/10 was still the third busiest year in LU's history. The year end official journey figure for 2010/11 is

1,107 million journeys, which is the highest annual journey figure ever recorded on London Underground.

- 10.2 This year has been strong for London Underground and included our busiest ever period where, for the first time, LU carried over 90 million passengers in one 28-day period (Period 9).
- 10.3 London Underground has over the last decade consistently predicted that demand will increase. Such increases are an important driver of the line upgrade programme, which replaces life-expired assets with modern technology allowing LU to increase capacity.
- 10.4 As demand continues to increase the challenges associated with operating and upgrading the railway grow. Carrying four million passengers a day will become the expected norm and even small disruptions will affect more customers. While 2010/11 has seen disruption from the upgrade works on the Jubilee and Victoria lines, as these programmes complete they will increase capacity on the lines by 33 and 21 per cent respectively. The upgrade programme is vital to support LU's demand forecast of 1.2 billion journeys in 2014/15.

11 REVENUE

- 11.1 TfL uses the economic forecast of GLA Economics to develop its revenue forecasts. Between January 2010 (when the 2010/11 budget was set) and November 2010 (the most recent forecast) the forecast for 2010 substantially improved, with a 1.6 per cent decline in London employed being revised to a 0.6 per cent decline.
- 11.2 January 2011 saw a fare rise on LU with an average increase of 6.8 per cent. There is a small lag before this rise is seen in revenue figures because period Travelcards are sold in December at the 2010 and continue to be valid, but LU's period 12 revenue was 7.6 per cent up year-on-year which is a strong growth consistent with the around 1 per cent demand growth seen in quarter four. Year end revenue for 2010/11 was £1,757m, LU's best ever year and a 6 per cent improvement on the budget of £1,659m.
- 11.3 LU's forecast revenue for 2011/12 is £1,909m which requires demand growth of around 2 per cent. With increases in capacity planned for the Jubilee and Victoria lines during 2011/12 this forecast continues to appear achievable.

12 RECOMMENDATION

12.1 The Panel is asked to NOTE this paper.

13 CONTACT

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