

# **TfL 90993 - Impact of the Night Tube on London's Night-Time Economy**

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## **Report**

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## Executive Summary

### Key conclusions

The new Night Tube service will open up London's night-time economy to a whole host of new opportunities, altering the way that people behave and the way that businesses choose to operate. It will support and help maintain London's status as a vibrant and exciting place to live, work and visit.

It is estimated that the Night Tube will lead to a gross impact of 1,965 permanent jobs. The net additional output produced as a result equates to an additional £360m<sup>i</sup> over 30 years (a standard length of time for a transport appraisal), which would increase the Benefit Cost Ratio (BCR) to approximately 3.9:1 – greater than TfL's own estimate.

The way that the Night Tube can really add to the scale of economic activity and money circulating in the economy is by making London a more attractive place to live, work and visit – so that more people and businesses locate and invest here, and more tourists visit and spend money. Tourism was worth £16bn to London in 2013 and for every £1 spent in London by a tourist, 78p is spent by an overseas visitor. Even if the Night Tube only has a marginal effect in retaining London's position as a top destination then this is beneficial.

London has never had an overnight underground service. In providing one, London will join New York, Chicago, Stockholm, Copenhagen, Berlin and Sydney, which all offer night time metro services to differing extents. London is the most visited city in the world and the most attractive city for Foreign Direct Investment. It is a place where people love to come to do business, to see the sights, experience the culture and heritage, to socialise and have fun. In order to remain globally competitive and attractive to investors and visitors it needs to continue to innovate and stay at the forefront. Introducing a Night Tube service will play a vital part in this.

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<sup>i</sup> As a Present Value

**Summary**

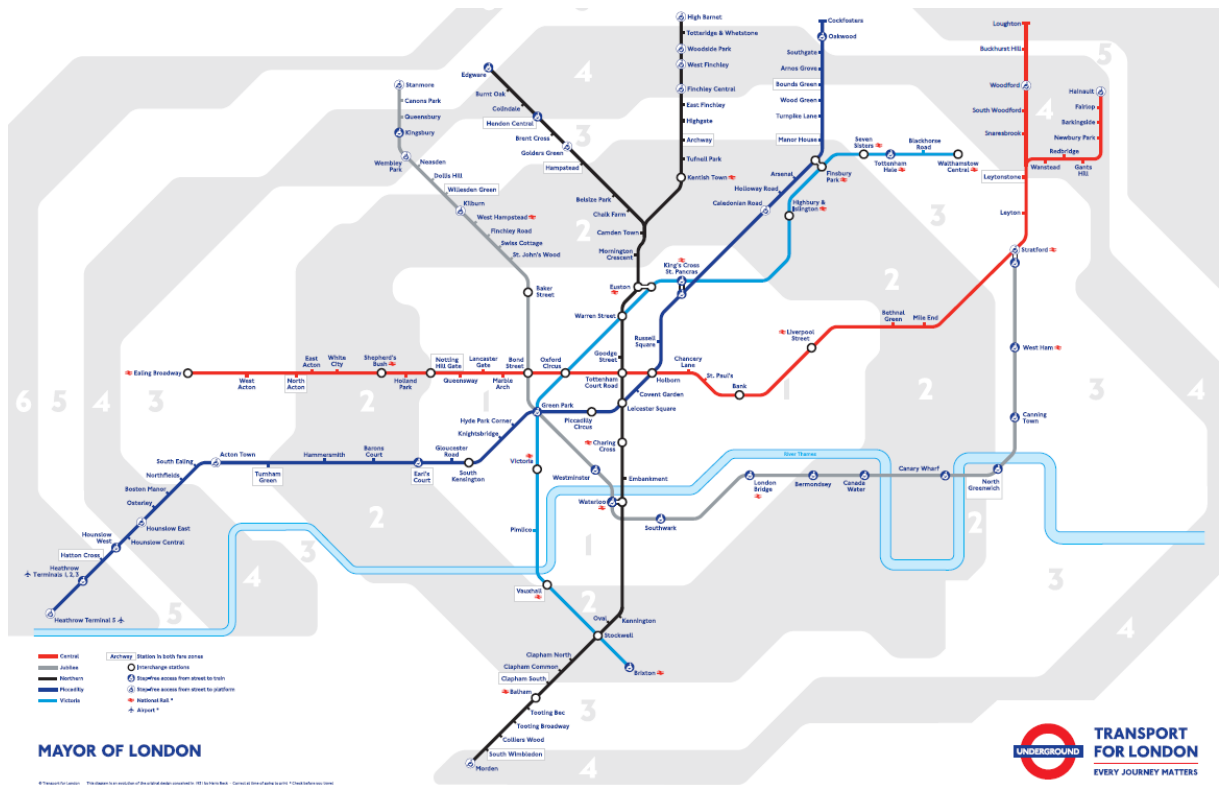
<i>Quantifiable impacts</i>	<i>Unquantifiable impacts</i>
<ul style="list-style-type: none"> <li>• We estimate that 1,965 permanent jobs will be supported by the Night Tube – 265 through direct operation of the service and 1,700 indirectly in the night-time economy, taking into account impacts on London’s night-time economy and the additional London Underground staff that would be required.</li> <li>• Time savings will be on average 20 minutes but up to an hour will be saved on some routes.</li> <li>• Standard business case shows that for each £1 spent on delivering the Night Tube, benefits will be £2.70.</li> <li>• Adding in wider economic impacts increases this benefit by £1.20 for every pound spent.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced demand for illegal minicabs, thus improved safety in taxis at night.</li> <li>• Improved commuter journeys for many people who work during the night-time in central London but live further out.</li> <li>• Potential for longer operating hours for bars, clubs, restaurants, bowling alleys, cinemas, museums, art galleries, attractions.</li> <li>• Reduced congestion at stations after events at entertainment venues like the O2 as people are not in such a rush to leave to catch the last tube as events finish.</li> <li>• Improved accessibility to Heathrow for passengers flying before 7am at the weekends.</li> <li>• This would all contribute towards a more vibrant night-time economy in London, with a greater range of uses and a wider demographic.</li> <li>• Help to retain London’s attractiveness to visitors, residents and businesses.</li> </ul>

**The proposal**

The Night Tube will see services continue throughout the night on five London Underground lines on Friday and Saturday nights, from the middle of 2015: the Central, Jubilee, Northern (Charing Cross branch), Piccadilly and Victoria lines. This means the service on these lines will operate continuously at weekends from Friday morning to Sunday night. The exact routes served are shown in the figure below – all stations will be served, with no skipping stops.

# Economic impact of the Night Tube

## Proposed Night Tube route



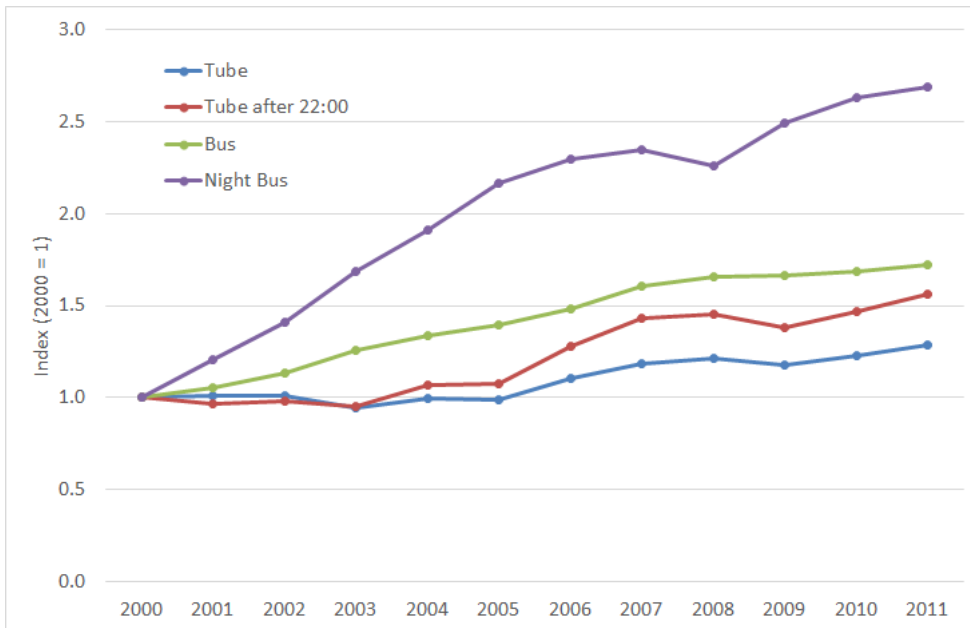
Source: TfL

## Why we need it

Night bus usage has risen 170% since 2000, with many users suffering delays due to having to wait for multiple buses before they can get on. Demand for night buses has outstripped all other forms of transport across London – daytime buses, tubes and overland. Similarly late night (after 10pm) tube ridership has risen at around double the rate of daytime underground trips. Around 560,000 people use the tube after 10pm on Fridays and Saturdays already, equivalent to 8% of all trips, and this is only forecast to rise.

Economic impact of the Night Tube

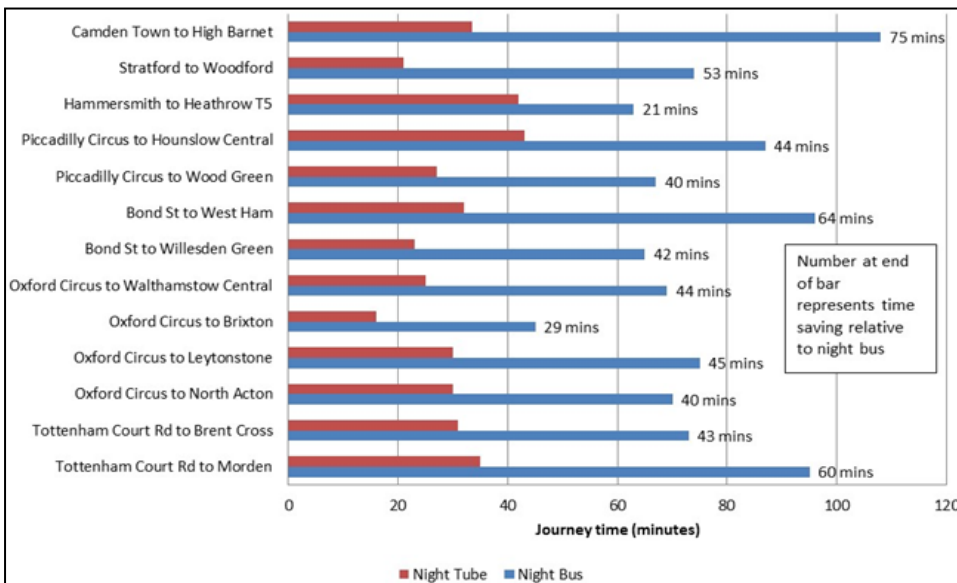
Demand for Travel 2000-2011 (Index, 2000 = 1)



Source: TfL

TfL’s modelling suggests that nearly 180,000 trips will be made on the Night Tube between 00:30 and 06:00. Just under half of this is expected to be newly generated trips, with the remainder resulting from mode switch from night bus and taxis / private hire vehicles. Those who switch from night bus to Night Tube are estimated to get an average time saving of 20 minutes. The figure below highlights some of the larger journey time savings.

Journey time savings for a variety of routes across London

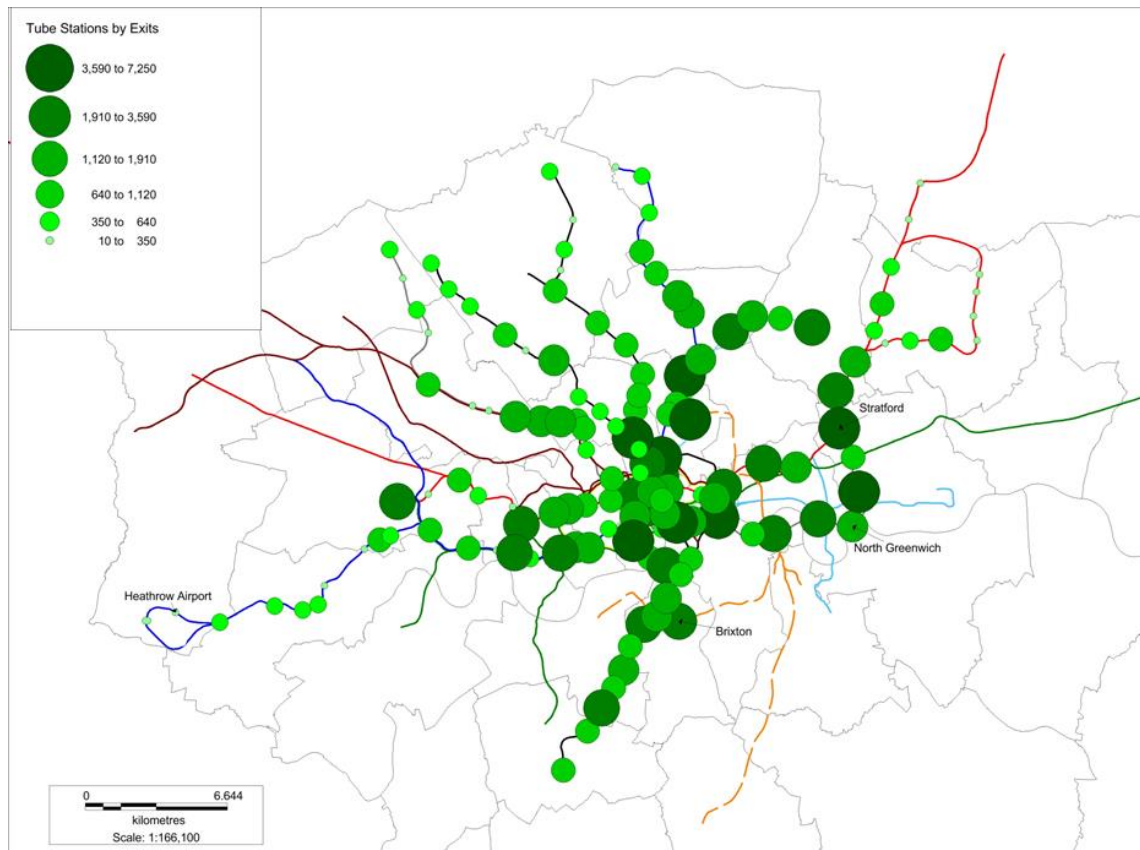


Source: Volterra estimates

## Economic impact of the Night Tube

There is strong support for the scheme from London's business leaders, such as London First and the West End Commission, since it will help to support London's growing night-time economy. The map below shows the distribution of people exiting the Night Tube. This shows how widespread the usage and benefits will be.

### *Forecast Station Exits with Night Tube*



Source: TfL

### **The business case**

TfL have undertaken a cost-benefit analysis of the scheme based on the 'conventional' transport impacts. This suggests that the scheme has a Benefit Cost Ratio (BCR) of 2.7:1. This means that for every £1 spent on it, it will generate £2.70 in benefits (time savings to users and fare revenue). Furthermore, it is financially positive as the additional fare revenue (estimated at £291m as a Present Value over 30 years) will outweigh the additional capital and operating costs (estimated at £287m).

### **The wider case**

Whilst it is important to assess the standard business case, this report seeks to set out the wider economic case for the Night Tube over and above this. This involves both a quantitative and a qualitative exercise. A Night Tube service will benefit a wide range of individuals: from people undertaking leisure activities and those in the hospitality sector through to tourists, shift workers, taxi drivers and office support staff, and many more.

## Economic impact of the Night Tube

We have built a model which estimates a relationship between the size of the night-time economy and the tube service and usage, which applies the most conservative assumptions about what could be additional. This results in an estimate of the gross impact of 1,965 permanent jobs – 265 through direct operation of the service and 1,700 indirect jobs supported throughout the night-time economy. The net additional output produced as a result equates to an additional £360m as a Present Value over 30 years, which would increase the BCR to approximately 3.9:1 – an extra £1.20 of benefits from every £1 spent over and above the standard business case.

The Night Tube will open up London to a whole host of new opportunities, altering the way that people behave and the way that businesses choose to operate. For example, theatres could start their shows later so that audiences can have a more leisurely pre-theatre dinner; retailers might start to open at night time; museums and attractions may have more evening openings and events; restaurants may add an extra sitting; bands and entertainment events at venues such as the O2 might stay open longer, which could reduce the congestion caused by large numbers of people leaving at the same time. Sporting events such as running clubs and organised races frequently start early in the morning, meaning that people have to drive to them, the Night Tube would offer an alternative to this. These examples all serve to support London's place as a vibrant and exciting place to live, work and visit. Thus by improving the night-time offer, this makes London more attractive.

The way that the Night Tube can really add to the scale of economic activity and money circulating in the economy is by making London a more attractive place to live, work and visit – so that more people and businesses locate and invest here, and more tourists visit and spend money. Tourism was worth £16bn to London in 2013 and for every £1 spent in London by a tourist, 78p is spent by an overseas visitor. Even if the Night Tube only has a marginal effect in retaining London's position as a top destination then this is beneficial.

### **Retaining London's attractiveness**

London has never had an overnight underground service. In providing one, London will join New York, Chicago, Stockholm, Copenhagen, Berlin and Sydney, which all offer night time metro services to differing extents – some 7 days a week and other on Fridays and Saturdays as proposed in London. Both Tokyo and Paris are looking to introduce an equivalent service to that being proposed in London. London is the most visited city in Europe and the most attractive city for Foreign Direct Investment (FDI). It regularly ranks first on global city rankings – most recently ranking top in PWC's 2014 Cities of Opportunity index. It is a place where people love to come to do business, to see the sights, experience the culture and heritage, to socialise and have fun. In order to remain globally competitive and attractive to investors and visitors it needs to continue to innovate and stay at the forefront. Introducing a Night Tube service can play a vital part in this.



# 1 Introduction

- 1.1 Volterra has been commissioned by Transport for London (TfL) and London First to assess the impact on the night-time economy of the forthcoming Night Tube.
- 1.2 The Night Tube will see services continue throughout the night on five London Underground lines on Friday and Saturday nights, from the middle of 2015. The scheme has a Benefit Cost Ratio (BCR) of 2.7:1 as a result of the time savings that it will bring about to users of London's transport network, and the costs of running additional services are expected to be covered by the additional fare revenue. As a Present Value over 30 years the benefits (time savings and additional revenue) are valued at £771m, with the costs amounting to £287m.
- 1.3 This report goes further than the transport appraisal by examining the economic benefits that will result from the scheme. It will generate additional economic activity by making London more accessible at night and increasing its attractiveness as a place to live, work and visit. A number of case studies are also highlighted so as to demonstrate the benefits that will accrue to a range of groups.
- 1.4 The rest of this report is structured as follows:
  - Chapter 2 outlines the need for the scheme
  - Chapter 3 summarises the business case
  - Chapter 4 outlines the wider case for the scheme
  - Chapter 5 considers how it can contribute towards retaining the attractiveness of London
- 1.5 Additional technical material is provided in the Appendices.

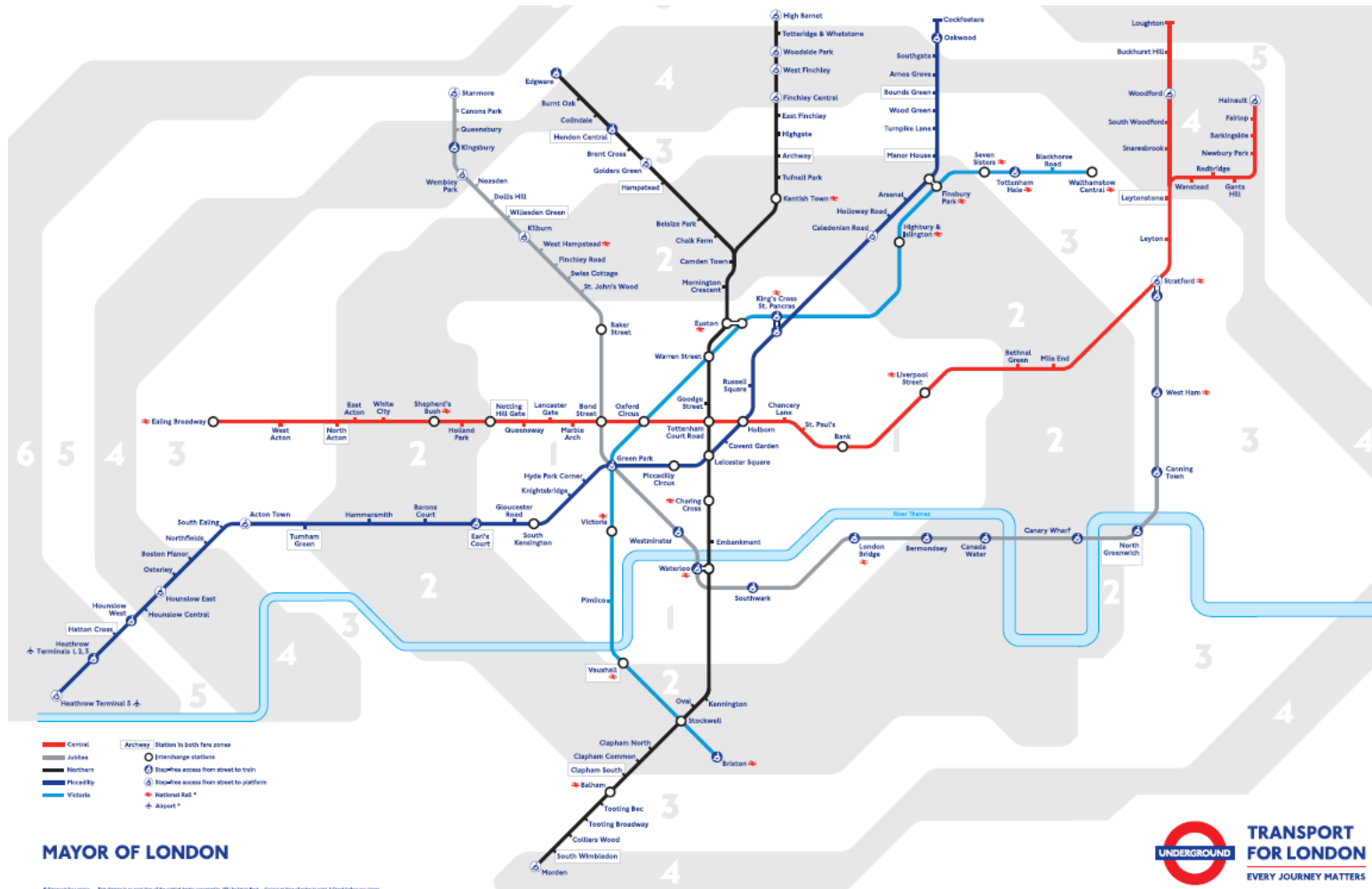
## 2 The need for the scheme

2.1 TfL plans to start operating a Night Tube on the London Underground network starting from the middle of 2015. This will provide a Friday and Saturday night-time service on five of the main lines: Central, Jubilee, Northern (Charing Cross branch), Piccadilly and Victoria. The service on these lines will therefore operate continuously at weekends from Friday morning to Sunday night. A summary of the night-time service pattern is as follows:

- Central line: 3tph Ealing Broadway to Hainault, and 3tph White City to Loughton (combined 6tph between White City and Leytonstone) (the West Ruislip branch is excluded due to lack of established demand)
- Jubilee line: 6tph Stratford to Stanmore
- Northern line: 4tph Edgware to Morden, and 4tph High Barnet to Morden, both via Charing Cross (combined 8tph between Camden Town and Morden with no service on Bank or Mill Hill East branches)
- Piccadilly line: 6tph Cockfosters to Heathrow Terminal 5 (thus excludes the Rayners Lane / Uxbridge branch due to lack of established demand)
- Victoria line: 6tph Walthamstow to Brixton

2.2 The map below shows the lines that will operate a Night Tube. All stations along the routes will be served, with no skipping of stops (although as stated above, particular branches of the Central, Northern and Piccadilly lines are excluded).

Figure 2.1: Night Tube routes

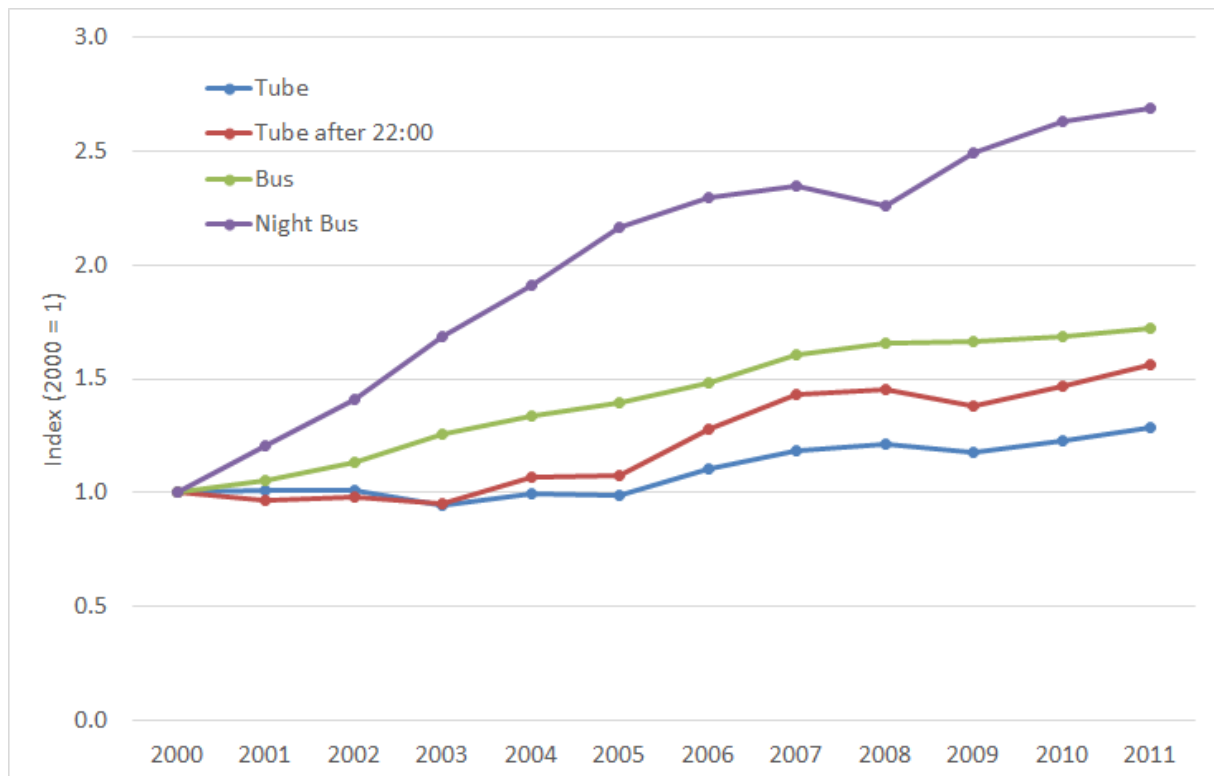


Source: TfL

## Economic impact of the Night Tube

- 2.3 The Night Tube is being implemented in recognition of the fact that there is increasingly strong transport demand at night time. Demand on TfL's night bus routes has risen by 170% since 2000, a far greater increase than for day time bus or tube services. This is shown in Figure 2.2 below. As a result, many users suffer delays due to having to wait for multiple night buses before they can get on.

**Figure 2.2: Demand for Travel 2000-2011 (Index, 2000 = 1)**



Source: TfL

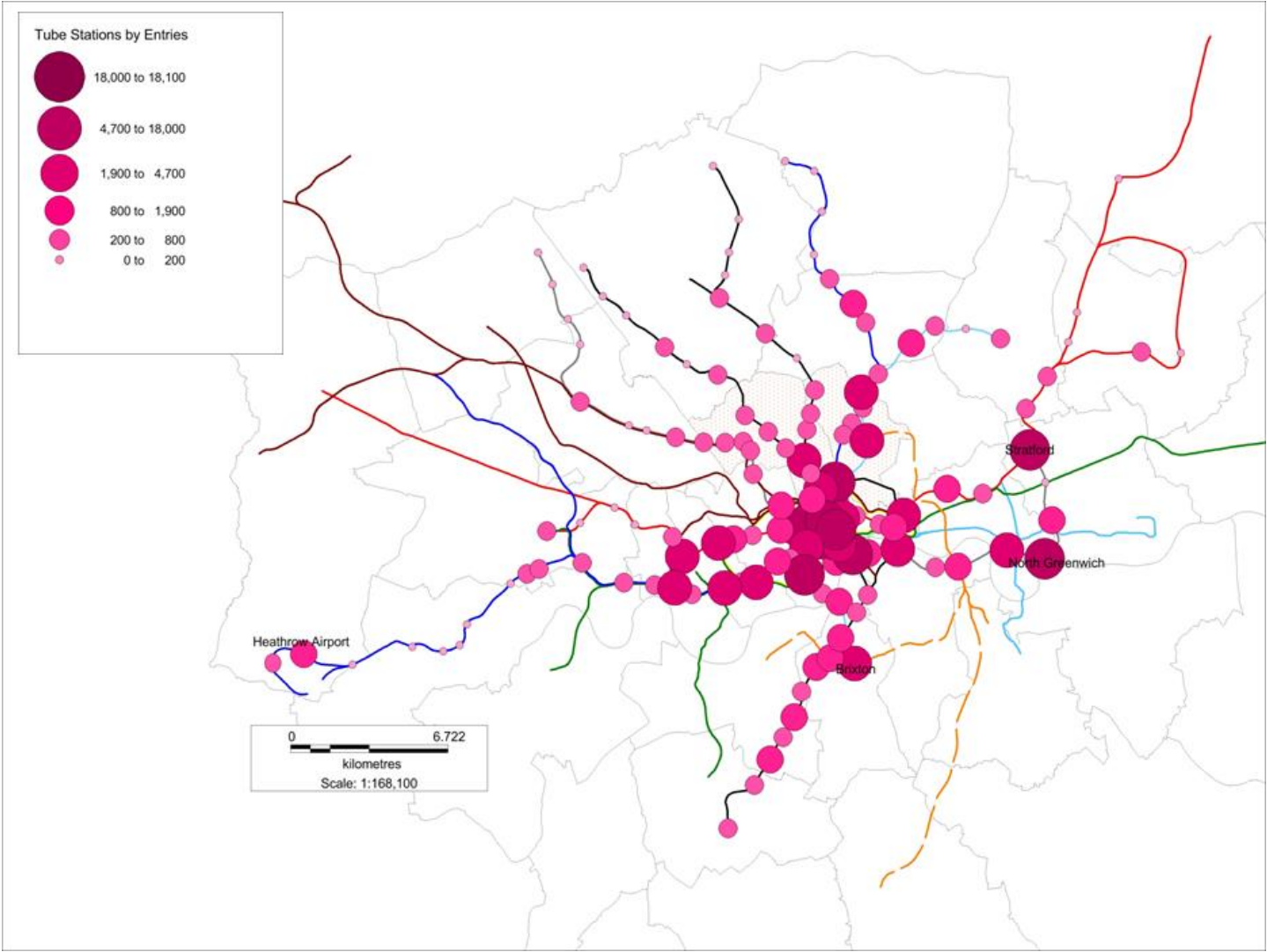
- 2.4 At present, around 560,000 people use the tube after 10pm on Fridays and Saturdays, and this is forecast to rise. With the introduction of the Night Tube, there will be an increased demand for Underground services through the night, as capacity and accessibility are improved for passengers where no service previously existed.
- 2.5 TfL's modelling suggests that nearly 180,000 trips will be made on the Night Tube services between 00:30 and 06:00. Just under half of this is expected to be newly generated trips, with the remainder resulting from mode switch from night bus and taxis / private hire vehicles.
- 2.6 Figure 2.3 below shows the forecast volume of station entries on the Night Tube, with Figure 2.4 showing the same data but focused on the central area. Figures 2.5 and Figure 2.6 show station exits.
- 2.7 As would be expected, station entries are dominated by central London stations, as many people will use the Night Tube to make a journey home from a central destination. Leicester Square is the busiest station, with 50% more trips than the second busiest, Piccadilly Circus.

## Economic impact of the Night Tube

- 2.8 Station exits are more evenly spread around London, although with more exits from central London stations. Stratford is expected to be the busiest station in terms of exits.

Economic impact of the Night Tube

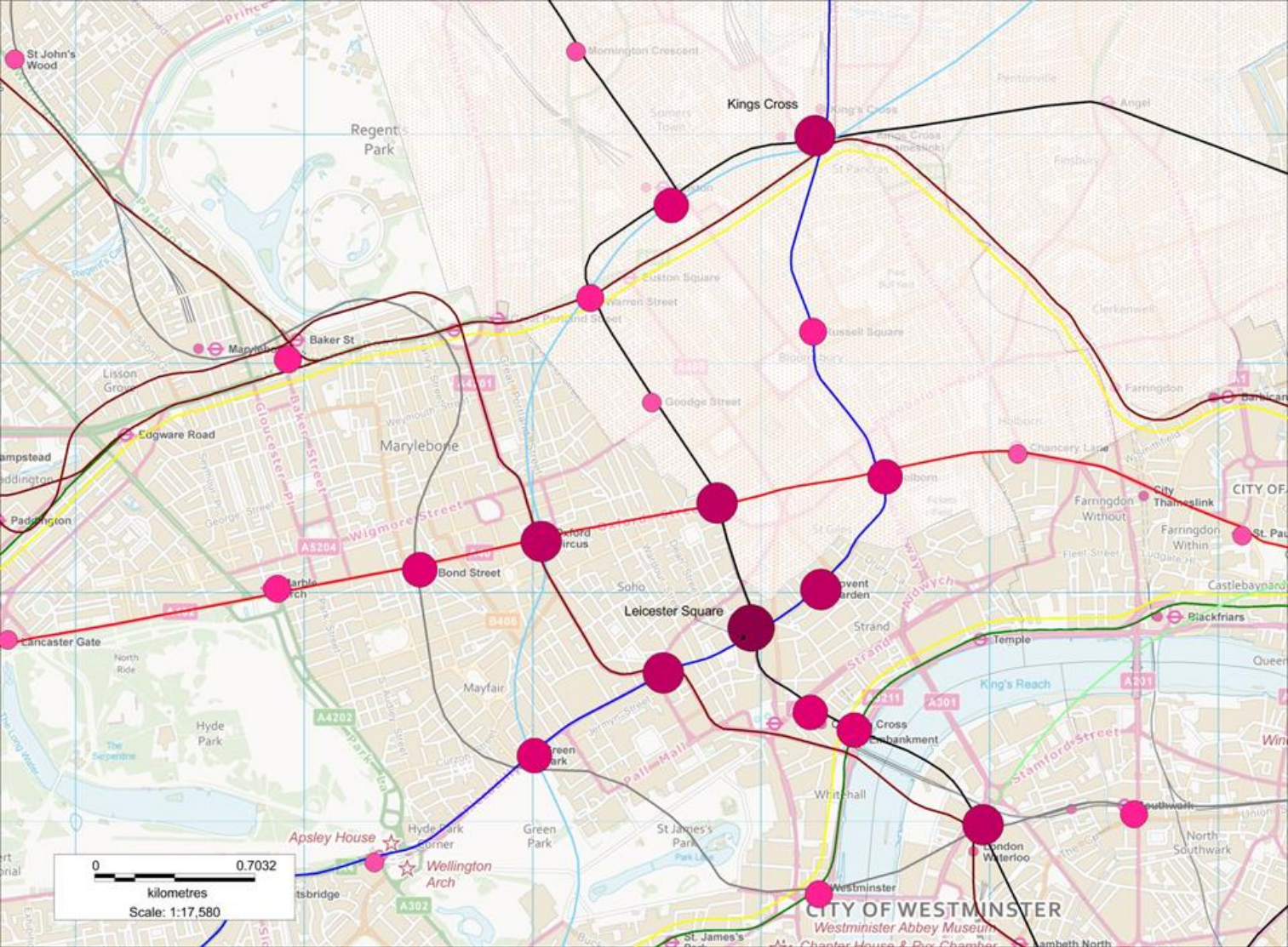
Figure 2.3: Forecast station entries on Night Tube





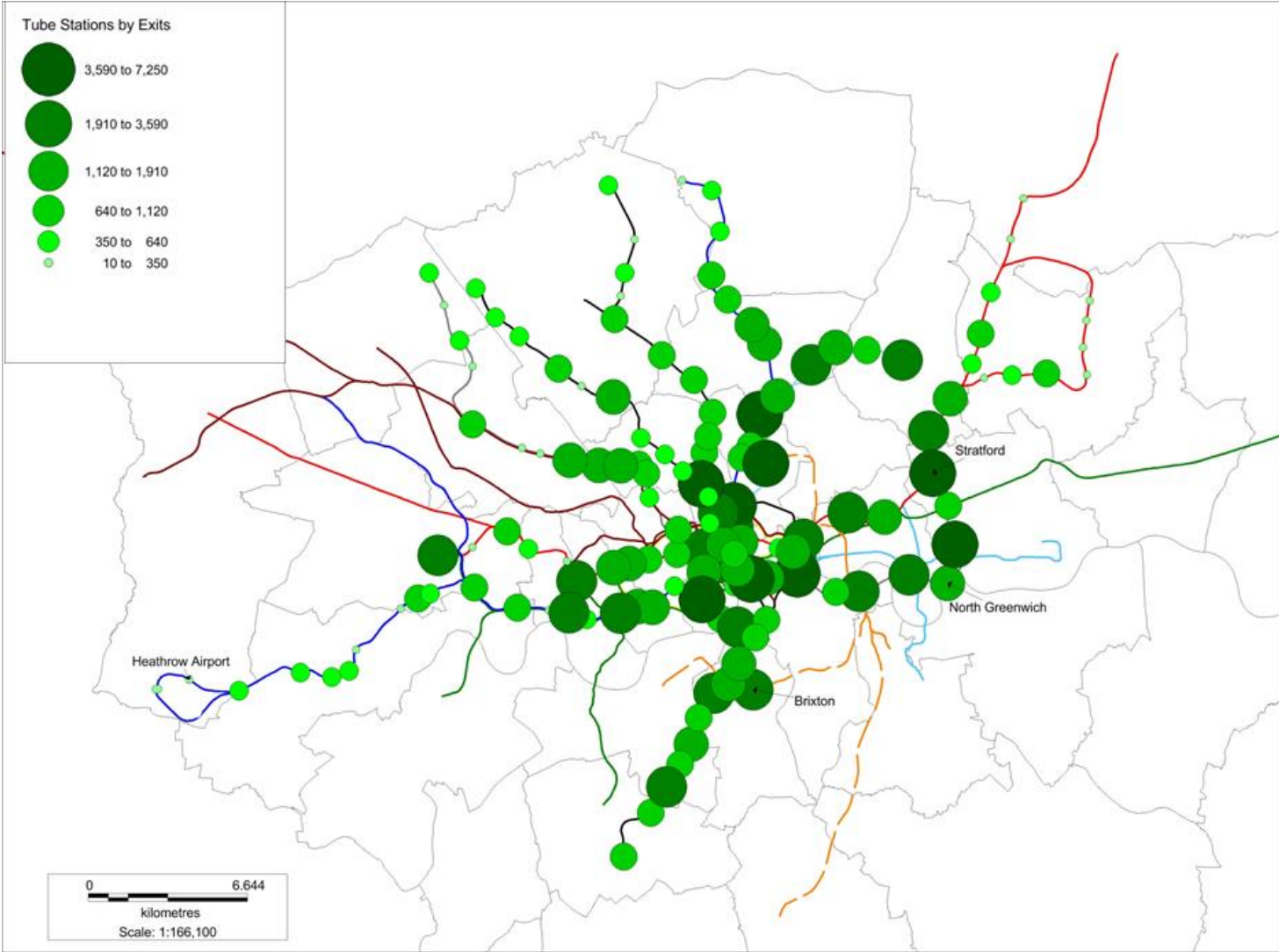
Economic impact of the Night Tube

Figure 2.4: Forecast station entries on Night Tube – central area



Economic impact of the Night Tube

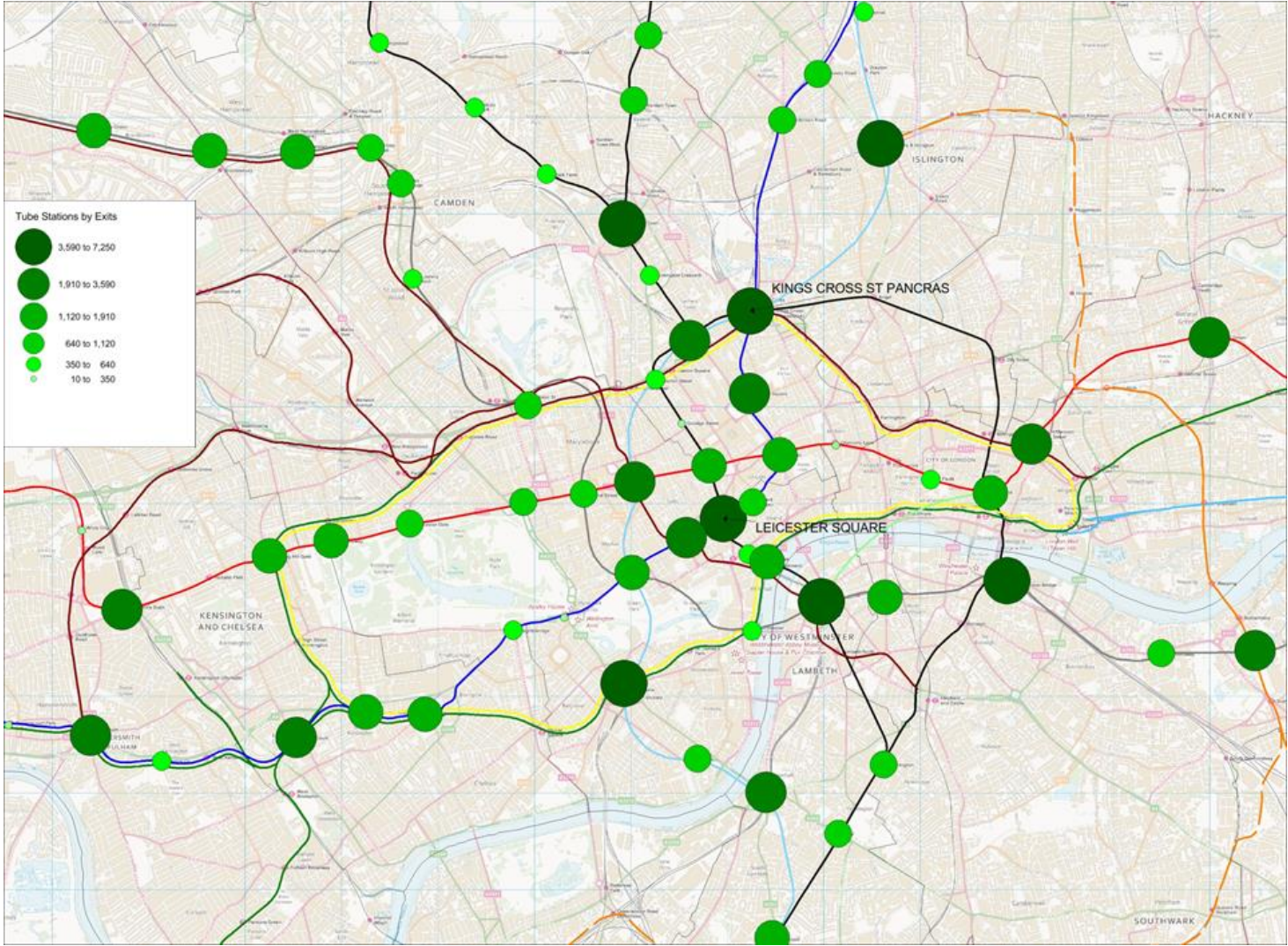
Figure 2.5: Forecast station exits on Night Tube





Economic impact of the Night Tube

Figure 2.6: Forecast station exits on Night Tube – central area



***Case study: Taxi Driver***

- 2.9 Demand for taxis at night is considered to be in excess of the level of capacity that can be provided by legal taxis. It is therefore expected that the Night Tube, rather than being detrimental to London's taxi business, will instead remove demand for illegal minicabs. A black cab driver was quoted in the Financial Times as saying "*I think it's great for Londoners. I don't think it will harm my trade... And it will deter people from using illegal minicabs*"<sup>ii</sup>.
- 2.10 Illegal minicabs still make up a notable amount of taxi travel during night hours in London. Over 170 arrests were made in just two crackdowns on illegal minicabs last year, as part of the Operation Safe Travel at Night<sup>iii</sup>. Illegal minicabs are able to undercut fares offered by legitimate taxi drivers, as they avoid the costs associated with the legal permit process. Further reductions in the activity of illegal minicabs will be of benefit to London's taxis, reducing the downward pressure on fares and increasing the reputation of safety.

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<sup>ii</sup> <http://www.ft.com/cms/s/0/01998a38-52d9-11e3-a73e-00144feabdc0.html#axzz39igaRTvP>

<sup>iii</sup> <http://www.tfl.gov.uk/info-for/media/press-releases/2014/january/more-than-170-drivers-arrested-as-part-of-illegal-cab-touting-crackdown>

### 3 Business Case of the Night Tube

- 3.1 In terms of its direct transport impacts, the Night Tube will:
- Lead to time savings for people travelling during Friday and Saturday nights. TfL has conservatively assumed an average time saving of 20 minutes per passenger;
  - Generate additional fare revenue; and
  - Lead to additional operating and maintenance costs for TfL.
- 3.2 The value of these direct transport impacts according to TfL estimates is shown in the table below.

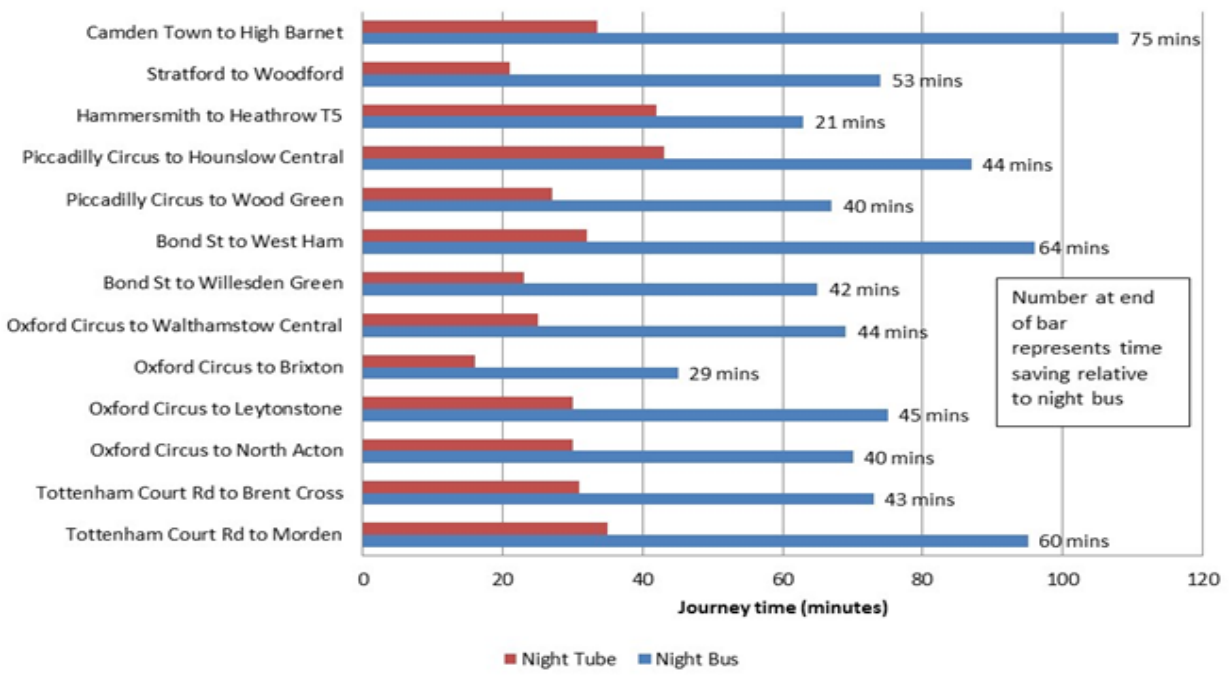
**Table 3.1: Business case for Night Tube based on conventional impacts**

	Total value over 30 years (Present Value, £m)
Time savings	481
Revenue	291
Costs	287
Benefit/cost ratio	2.7

*Source: TfL*

- 3.3 Thus the scheme not only has a Benefit/Cost Ratio (BCR) of 2.7:1, indicating good value for money, it is also expected to be financially positive with the additional revenues outweighing the costs.
- 3.4 In reality, the time saving will be considerably more than 20 minutes for many users of the Night Tube. The figure below compares the journey time on night bus and Night Tube for a selection of origin-destination pairs. It shows that some passengers could save more than an hour of time by using the Night Tube.

Figure 3.1: Journey times by night bus and Night Tube



Source: TfL journey planner / Volterra estimates

Total bus journey time estimated by adding 10 minutes of wait time per bus used along the journey. Night Tube journey time estimated by adding wait time equivalent to the headway divided by two.

3.5 The scale of potential time savings is particularly important because users of public transport at night-time are not just people making leisure trips – a significant proportion are travelling to get to or from work. A 2008 Bus Survey Analytical report produced for TfL indicated that 49% of night bus passengers are either travelling to or from work, or on employer’s business.

***Case study: Night-time workers***

- 3.6 Many different people work during the night. This includes those in the traditional leisure and recreation sectors but also many others including office cleaners, and other support functions such as IT maintenance and office removal. The emergency services – health workers, police, and so on also work during the night.
- 3.7 London has a very wide labour catchment – people travel all across Greater London (and further afield) to get to work. Many of the positions that involve night-time working are low-medium earnings sectors. Generally, evidence tells us that the less people earn the shorter the distance they are willing to travel to work. However recent Census 2011 information shows that this is less true in London than elsewhere across the country. Living in central London is often not an option for low earners because rents are so high.
- 3.8 This means that many people who work in central London in night time roles are likely to live out in Zones 4+. For example someone starting out their career in the food industry might currently work all evening at a restaurant and then spend several hours cleaning up, after which their current only option to get home is a time-consuming and crowded night bus. According to chef Angela Hartnett, *“When I started out I lived with my aunt in south London and never had to worry about washing clothes or buying food. Now, with the average rent at £200 a week, you have to live in zone six. If I’m giving someone a hard time because they’re late, I have to remember that maybe they’re finishing [work] at one in the morning, then have a two-hour journey to Deptford”*.
- 3.9 Getting a taxi home at the end of work is unlikely to be an option for lower earners. The opening of the Night Tube could bring major benefits to night shift workers in London. The first and most obvious would be a reduction in commuting journey time for workers starting or ending their shift between the hours of 01:00 and 05:00, on a Saturday or Sunday, to the extent that travel is required at these times. Russell Norman, of Polpo restaurants says: *“An Underground system that runs through the night would dramatically improve quality of life for so many Londoners but in particular would be welcomed by restaurant workers. If my staff finish work after midnight, they have to endure slow services on hotchpotch night buses after long shifts. To be able to get home quickly and safely on the existing Tube network would make them, and me, very happy indeed. I’ve always been baffled as to why we haven’t done it before”*.



## 4 The Wider Case for the Night Tube

### *Introduction*

- 4.1 Whilst it is important to assess the standard business case for the Night Tube, the benefits of the scheme go far beyond the time savings that it will bring about. As outlined in this chapter, a Night Tube service will benefit a range of groups and bring about wider benefits to the economy.
- 4.2 There does not appear to be a fixed definition of what constitutes the ‘night-time’ for the purposes of an economic study. A study by TBR<sup>iv</sup> on the UK’s night-time economy is based on defining the night-time as being 6pm-6am, therefore it is a relatively broad definition covering all activity after the standard hours of an office job, continuing through to the next morning.
- 4.3 For the purposes of their transport planning, TfL have been using 10pm as the beginning of the night-time, continuing through to the beginning of operations the following morning (5/6am). In this study we largely follow TfL’s convention for analysis where specific times are required. Thus the report focuses on employment after 10pm and so the size of the night-time economy in the baseline may appear to be lower than other studies that also include the evening (6-10pm) economy.

### *Employment - baseline*

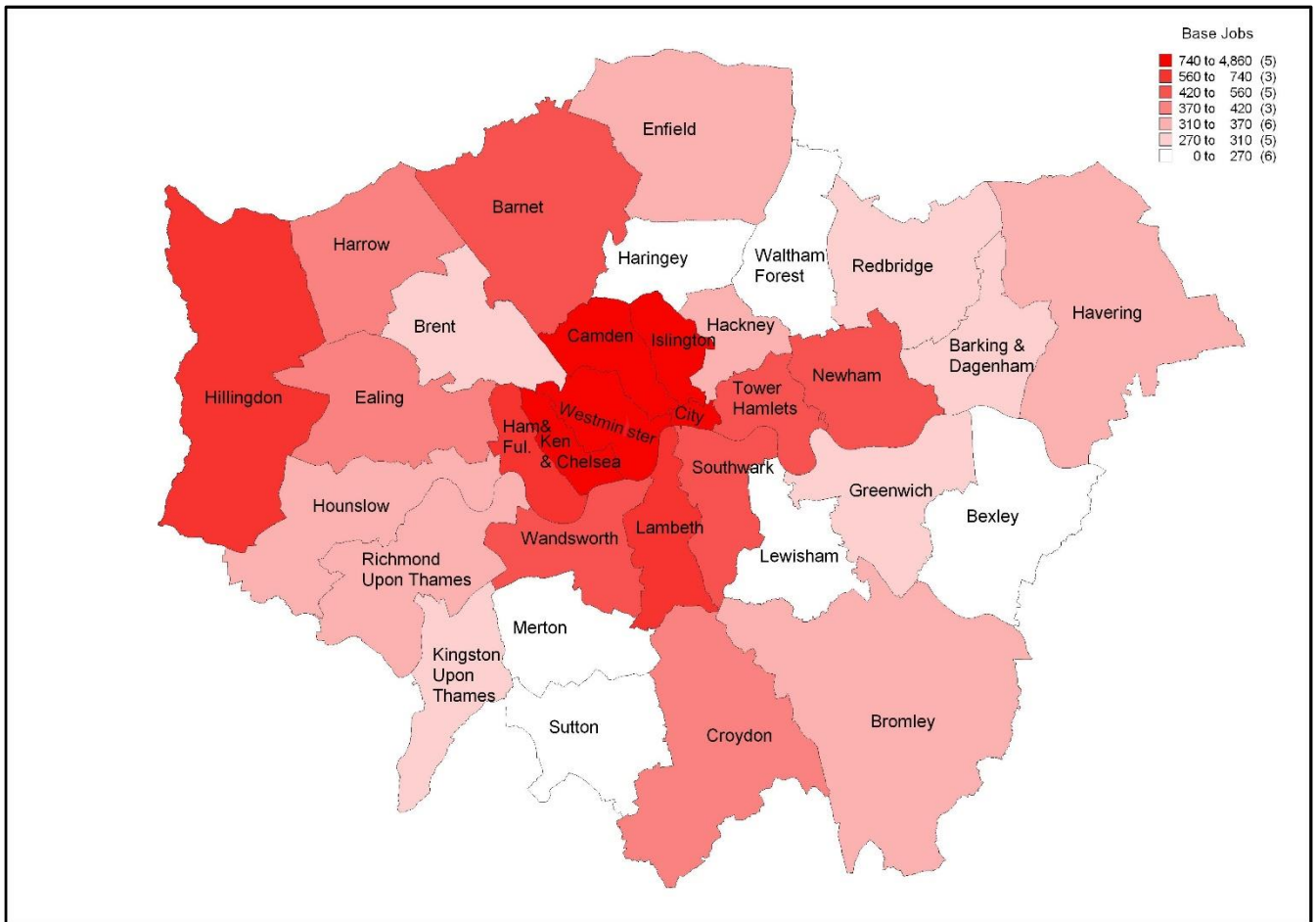
- 4.4 The total level of Friday and Saturday night-time employment has been estimated as 22,580 jobs, based on a set of assumptions outlined in Appendix 3. The figure below shows how this is split by borough. Employment in the night-time economy is most prominent within central London; although there are areas of night-time economy employment in outer London boroughs there are not many that reach the levels of central London. Of the 22,580 jobs Westminster accounts for the highest share of the total, with 26%. The twelve boroughs<sup>v</sup> within inner London account for 62% of the overall total.

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<sup>iv</sup> MAKE Associates and TBR, 2011, *The NightMix Index*

<sup>v</sup> Camden, City of London, Greenwich, Hackney, Islington, Kensington & Chelsea, Lambeth, Lewisham, Southwark, Tower Hamlets, Wandsworth and Westminster.

Figure 4.1: Friday and Saturday night-time employment by borough



Source: BRES, Volterra assumptions

4.5 The amount of output produced by these jobs can also be estimated. The Department for Transport’s wider economic impacts data set (which forms part of its WebTAG transport appraisal guidance<sup>vi</sup>) provides productivity by borough for four broad industrial sectors. Applying the value of output per worker for consumer services to the level of employment in each borough, we arrive at the total level of output associated with these jobs. This is estimated to be worth £1.3bn. The distribution of output per borough is similar to the distribution of employment.

<sup>vi</sup> Department for Transport, 2012, *Wider Impacts Economic Dataset*

## Economic impact of the Night Tube

### *Estimating wider impacts*

- 4.6 The increase in London Underground operations as a result of the Night Tube will lead to a requirement for additional staff. It is estimated by TfL that an additional full-time equivalent of 85 drivers and 180 station staff will be required, and this will increase as services are expanded in the future. Thus the direct employment impact of the Night Tube is estimated to be 265 permanent jobs.
- 4.7 In order to examine the indirect economic impacts of the Night Tube, a model has been developed which links the night-time economy with the transport network. Using the baseline economic and transport data, as well as TfL's estimates of Night Tube demand, the model has been developed such that it can provide an estimate of the increase in employment that results from an increase in night-time trip numbers.
- 4.8 The model uses the increase in entries by station with the Night Tube, relative to the base scenario without the Night Tube, to estimate the resulting increase in night-time employment. This takes into account the change to bus and taxi/private hire vehicle (PHV) trips during the night in addition to new London Underground trips.
- 4.9 The table below shows the impact on night-time employment as a result of the Night Tube.

**Table 4.3: Change in night-time jobs on Friday and Saturday with Night Tube**

	Number of jobs		
	Base	With Night Tube	Difference
Total	22,580	24,280	1,700

- 4.10 Table 4.3 shows that the Night Tube could support 1,700 indirect jobs within the night-time economy, based on our assumptions. This is an increase of over 8% compared to the base number of jobs supported by the weekend night-time economy.
- 4.11 The value of output produced by the 1,700 jobs can also be quantified. This is shown in the table below.

**Table 4.4: Change in output of night-time jobs on Friday and Saturday with Night Tube**

	Output per year (£m)		
	Base	With Night Tube	Difference
Total	1,340	1,420	80

- 4.12 The analysis above suggests that the Night Tube could support 1,700 indirect jobs in the night-time economy, producing output of £80m a year.
- 4.13 In total, the number of permanent direct and indirect jobs supported by the Night Tube is therefore estimated to be 1,965.
- 4.14 There are a number of reasons why this could be an underestimate:



## Economic impact of the Night Tube

- The estimate of night-time employment is based on economic activity after 10pm. Some studies consider the ‘night-time’ to be from 6pm-6am;
- The scaling down that has been applied in order to obtain Friday and Saturday night employment may be too large. It could be argued that in some sectors, night-time activity helps to support jobs during the rest of the day;
- A wider set of sectors could potentially be considered within the night-time economy. For instance, when the Night Tube was announced there was a positive reaction<sup>vii</sup> from the New West End Company, with a suggestion that shops in central London would be keen to open later at night; and
- The level of trip generation applied for the Night Tube may be conservative – the proportion of night-time relative to day-time demand is higher on the New York subway than has been assumed for the Night Tube in London (7% and 5% respectively).

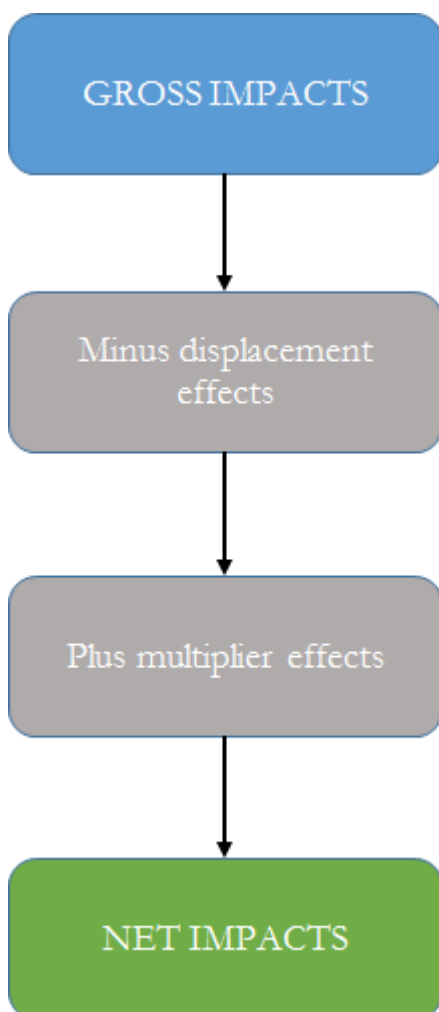
### *Net impacts*

- 4.15 Whilst having more choice of how to spend one’s time and money is in itself a benefit, in reality the Night Tube will not put more money in the average Londoner’s pocket – money will move around the economy, transferring from daytime to night-time, from place to place and from one expenditure type to another.
- 4.16 Some of this expenditure may well be additional, but not all of it. In order to estimate the net impact, a set of assumptions needs to be applied about what might be additional.
- 4.17 Although there is guidance available to estimate displacement effects, the literature does not appear to cover the displacement effects of night-time activity relative to day-time. It is therefore difficult to be certain about the level of displacement that may occur.
- 4.18 For the purpose of this study, the level of displacement for the indirect jobs has been set between the high (75%) and complete (100%) displacement levels suggested in English Partnerships guidance<sup>viii</sup> on additionality, thus an 87.5% level of displacement is used. This suggests that a high proportion of the gross impacts would be a result of displacement from the day-time economy, or geographical displacement. This is a conservative assumption, although a relatively high level of displacement is likely to be appropriate as most of the increased spend at night-time will be a transfer from other times of day or places.
- 4.19 For the multiplier effect, a multiplier of 1.21 has been used, based on the suggested value in the English Partnerships guidance for local area retail impacts. A multiplier of 1.21 means that an additional 21% is added to the estimated impact once displacement effects have been adjusted for.
- 4.20 Gross impacts are therefore converted into net by using the process outlined in the figure below.

<sup>vii</sup> <http://www.ft.com/cms/s/0/01998a38-52d9-11e3-a73e-00144feabdc0.html?siteedition=uk#axzz39oJr86Bl>

<sup>viii</sup> English Partnerships (2008), *Additionality Guide: A standard approach to assessing the additional impact of interventions*

Figure 4.2: Converting from gross to net impacts



4.21 The table below summarises the net additional jobs.

**Table 4.5: Net additional jobs due to Night Tube**

	Additional jobs due to Night Tube			
	Gross impact (A)	Displacement effect (B)	Multiplier effect (C)	Net impact (A + B + C)
Total	1,965	-1,490	45	520

4.22 The results summarised in Table 4.5 suggest that the net impact of the Night Tube may be an additional 520 permanent jobs. This includes 265 additional London Underground staff as well as 255 additional indirect jobs generated in the night-time economy.

4.23 This would equate to net additional output of £15m. As a Present Value over the 30-year appraisal period used in the business case, this leads to a benefit of £355m. This would increase the BCR from 2.7:1 to 3.9:1 – an extra £1.20 of benefits from every £1 spent over and above the standard business case.

## Economic impact of the Night Tube

### *Sensitivity tests*

- 4.24 In addition to the 'base case' which looks at the impact of a Night Tube consisting of five lines operating through the night on Friday and Saturday nights, two sensitivity tests have been examined:
- i. In addition to the five lines in the base case, the Night Tube is also assumed to operate on the following lines:
    - Metropolitan line: Aldgate to Harrow-on-the-Hill
    - Hammersmith and City line: Hammersmith to Tower Hill
    - District line: Barking to Wimbledon
  - ii. The five lines in the base case operate the same Night Tube service throughout Thursday nights, in addition to Friday and Saturday nights.
- 4.25 The same approach as used for the base case has been applied for the sensitivity tests. The results are as shown below. The results are shown as an impact for each scenario relative to not having a Night Tube service. Extending the Night Tube service to further lines would increase the level of job creation by around 5% relative to the base case, whereas extending the Night Tube to Thursday nights would increase the net additional jobs by almost 20%.

**Table 4.6: Results of sensitivity tests**

	Relative to having no Night Tube		
	Net additional jobs	Net additional output per year (£m)	Net additional output over 30 years (£m, PV)
Base case	520	15	360
Additional lines Fri & Sat	545	17	390
Add Thursday service on 5 lines	615	21	500

### *Importance of the Night Tube*

- 4.26 The Night Tube will open up London to a whole host of new opportunities, altering the way that people behave and the way that businesses choose to operate.
- 4.27 For example, subject to local borough licensing regulations theatres could start their shows later so that audiences can have a more leisurely pre-theatre dinner; retailers might start to open at night-time; museums and attractions may have more evening openings and events; restaurants may add an extra sitting; bands and entertainment events at venues such as the O2 might stay open longer, which could reduce the congestion caused by large numbers of people leaving at the same time. The Night Tube will be beneficial not only to customers, but also to members of staff who need to stay at the venue for a period of time after the end of the event.

## Economic impact of the Night Tube

- 4.28 Sporting events such as running clubs and organised races frequently start early in the morning, meaning that people have to drive to them, the Night Tube would offer an alternative to this. For the 'RideLondon' cycling event in August 2014, two special overground services were operated early in the morning to help participants reach the start point in Stratford in time, indicating an appetite for this kind of service. These examples all serve to support London's place as a vibrant and exciting place to live, work and visit. Thus by improving the night-time offer, this makes London more attractive.
- 4.29 The way that the Night Tube can really add to the scale of economic activity and money circulating in the economy is by making it a more attractive place to live, work and visit – so that more people and businesses locate and invest here, and more tourists visit and spend money. This is examined further in the next chapter.

## 5 Retaining London's attractiveness

- 5.1 London has never had an overnight underground service. In providing one, London will join New York, Chicago, Stockholm, Copenhagen, Berlin and Sydney, which all offer night time metro services to differing extents – some 7 days a week and other on Fridays and Saturdays, as proposed in London. Both Tokyo and Paris are looking to introduce an equivalent service to that being proposed in London.
- 5.2 London regularly ranks first on global city rankings – most recently ranking top in PwC's 2014 Cities of Opportunity index<sup>ix</sup>, which scores 30 major cities on categories such as transport and infrastructure, economic clout, liveability and innovation. It is a place where people love to come to do business, to see the sights, experience the culture and heritage, to socialise and have fun. In order to remain globally competitive and attractive to investors and visitors it needs to continue to innovate and stay at the forefront. Introducing the Night Tube service can play a vital part in this.

### *Tourism*

- 5.3 The tourism industry is valued as being the 3<sup>rd</sup> highest export in the UK, behind financial services and motor cars<sup>x</sup>. Last year a record breaking number of tourists visited the UK, 1.3 million more visitors than in 2012 and the highest recorded number of visitors since 2006<sup>xi</sup>. The amount of money spent by tourists in the UK has doubled since 2003. The value of London's tourism industry is estimated to be about £15.9 billion supporting 304,000 jobs<sup>xii</sup>.
- 5.4 London has consistently been one of the most visited cities in the world and has the highest number of international visitors in 2014. The table below shows a comparison of visitor numbers.

**Table 5.1: Number of international overnight visitors by city, 2014**

Rank	City	International overnight visitors, 2014 (millions)
1	London	18.69
2	Bangkok	16.42
3	Paris	15.57
4	Singapore	12.47
5	Dubai	11.95
6	New York	11.81
7	Istanbul	11.60
8	Kuala Lumpur	10.81
9	Hong Kong	8.84
10	Seoul	8.63

<sup>ix</sup> PwC (2014), *Cities of Opportunity 6*

<sup>x</sup> Visit Britain Corporate site, <http://www.visitbritain.org/britaintourismindustry/>

<sup>xi</sup> GLA Economics Tourism in London

<sup>xii</sup> ONS travel trends, 2013

## Economic impact of the Night Tube

Source: Mastercard 2014 Global Destination Cities Index

- 5.5 A breakdown of the volume of tourism is shown in the table below. This shows that the large majority of tourist visits to both England and the UK overall are domestic trips. However whilst London only accounts for 10% of domestic visitors, 50% of UK visits from overseas tourists chose to visit London. Similarly, in terms of volume of spending, overseas visitors spent around £10 billion in London in 2012, whilst domestic visitors spent £2.8 billion. For every £1 spent by a tourist in London, 78p is from an overseas tourist, highlighting that the tourism industry in London relies more on overseas visitors than the UK overall<sup>xiii</sup>.

**Table 5.2: Total number of visits, 2012**

Type of Visits (millions)	UK	England	London
Overseas	31.08	26.8	15.46
Domestic	126.02	104.46	12.15
Tourism day Trips	1,712	1,467	297

Source: ONS

- 5.6 Based on ONS data the average spend per visit to London per person was £466 in 2012, with an average spend per day of £105. When analysed through the two sub categories, domestic and overseas, on average significantly more is spent by a visitors from overseas than a domestic visit, in part because of the average length of stay<sup>xiv</sup>.

**Table 5.3: Average spend / visit length of visitors to London, 2012**

	Average Spend per visit (£)	Average Spend per Day (£)	Average Length of Stay (days)
Domestic	229	101	2.3
Overseas	652	107	6.1
Total	466	105	4.4

Source: ONS

- 5.7 This reinforces the fact that overseas tourism is extremely valuable to London. Introducing a Night Tube service can help to retain London's strong appeal to overseas visitors and support further economic growth.

<sup>xiii</sup> London Tourism Report 2012/13, London & Partners.

<sup>xiv</sup> London Tourism Report 2012/13, London & Partners.

***Case study: tourist***

- 5.8 Advice on the Heathrow website advises long-haul passengers to arrive three hours, and European passengers to arrive two hours, before scheduled departure<sup>xv</sup>. The first Heathrow Express train in the morning arrives at the airport at approximately 5:25am<sup>xvi</sup>. Even arriving 90 minutes before scheduled departure gives a safe buffer for flights only after 7am. On average there are around 60 flights departing Heathrow before 7am<sup>xvii</sup>, with the majority being to European destinations. The Night Tube would therefore allow passengers flying before 7am to arrive by train, with ease from central London, with an appropriate time buffer before their scheduled flight.
- 5.9 Arrival by taxi or bus is not so frequent for tourists using Heathrow. On average it takes up to 90 minutes by bus, and 30 to 60 minutes by taxi, from central London to Heathrow. For early morning flights this is far from suitable, and so many tourists choose to stay in one of the hotels surrounding Heathrow. The likely knock-on effect of this is lost revenue for the night-time economy of central London, where a tourist visiting London would otherwise have spent their time with an associated spend on services and goods. The Night Tube would therefore give the option for a tourist to spend a further night in central London if departing over the weekend, rather than being forced to stay in a Heathrow airport hotel.

***Foreign Direct Investment***

- 5.10 Recently the UK has performed extremely well relative to virtually every other developing country in attracting Foreign Direct Investment (FDI). Last year's annual report from UK Trade & Investment stated that UK FDI increased by 22% in 2012/13 despite global FDI falling by 18% - including a decline of 18% for the US and 42% for the EU. As other countries overcame the after effects of the economic downturn, 2013/14 figures showed positive growth for all the top ten highest countries in terms of FDI stock, including the UK, with global FDI inflows increasing by 9% between 2012 and 2013<sup>xviii</sup>. It is estimated that FDI supported 66,390 jobs in the UK as of 2013.
- 5.11 Measurements of FDI are broken down into two categories: inflows of FDI within the year, i.e. the value of new investments each calendar year, and secondly the value of FDI stock, which is a cumulative value. FDI stock is thought of as a more suitable measure for long term investment, whilst FDI inflows often reflect how attractive a city or country is in the short term and is a good guide to how investors believe an economy will perform. In 2013, UK FDI stock increased by 8.3% from \$867 billion in 2012, to \$975 billion. Currently the UK has the highest share of total European FDI stock, 19%. The table below shows the breakdown of total UK FDI<sup>xix</sup>.

<sup>xv</sup> <http://www.heathrowairport.com/heathrow-airport-guide/checking-in>

<sup>xvi</sup> <https://www.heathrowexpress.com/faqs/timetable-faqs>

<sup>xvii</sup> <http://www.heathrowinformation.co.uk/heathrow-airport-QLS-live-flight-information-arrivals-departures.php>

<sup>xviii</sup> The World Investment Report 2014, published by UNCTAD

<sup>xix</sup> 2013/14 UK Trade and Investment Report, published by UKTI

**Table 5.4: Breakdown of UK FDI stock, 2013**

	Value (\$bn)
<b>TOTAL UK FDI STOCK</b>	975
<i>Of which:</i>	
Europe	566
The Americas	325
Asia	72
Australasia and Oceania	10
Africa	2

*Source: UKTI report 2013/14*

- 5.12 London was the most attractive destination for European FDI in 2013, with more than double the number of projects in Paris, which was in second place. FDI accounts for a quarter of the economy in London, and represents 13% of all jobs in the capital<sup>xx</sup>. FDI over the last 10 years has become one of the key components in the capital's economic growth but it is also an extremely attractive place in terms access to Asian and American markets, the European single market and the benefit of a central time zone.
- 5.13 London is able to attract a large proportion of FDI because of its specialisation in financial services; it offers international financial institutions access to certain global markets which they would otherwise not have access to. For example in 2013 the UKTI Financial Services Organisation (FSO) was set up to attract further foreign investment into the city. Last year the fund established ties with China giving firms access to the Chinese stock market. Around 22% of the total number of FDI projects in the UK are within the financial services sector.<sup>xxi</sup>
- 5.14 The table below shows that London had the greatest share of all inward investment projects in 2012.

<sup>xx</sup> The value of foreign direct investment to London. 2006. Think London.

<sup>xxi</sup> 2013/14 inward investment report



**Table 5.5: Share of FDI projects in the UK by region**

Region	Number of projects, 2012	Share of FDI projects
London	313	45%
Scotland	76	11%
South East	55	8%
West Midlands	50	7%
North West	44	6%
Wales	31	4%
Northern Ireland	29	4%
North East	26	4%
Yorkshire	21	3%
East England	20	3%
East Midlands	17	2%
South West	15	2%

- 5.15 FDI is clearly of great importance to London's economy, centred around its position as a world city. Strengthening that position is of great importance in order for London to continue to thrive. The Night Tube can play a role in supporting this and giving confidence that London is a place to invest in.

## Appendix 1 - London's Night-Time Transport Network

### *Introduction*

With regards to the night-time and drivers of economic activity, three main modes need to be taken into consideration:

- London Underground (which currently has its last services at around midnight – 1am);
- Night bus; and
- Taxi / private hire vehicles.

### *London Underground*

The table below shows data from TfL's Rolling Origin and Destination Survey (RODS) on the number of entries to London Underground stations after 10pm each night. It is evident that the number of late-night journeys on London Underground is much higher on Fridays and Saturdays than other days of the week. Friday is the only weekday with a total that is above the overall weekday average.

**Table A1: London Underground entries after 10pm**

Day	Average entries after 22:00	Index (average weekday = 1.00)
Average weekday	231,700	1.00
Monday	166,300	0.72
Tuesday	186,650	0.81
Wednesday	207,700	0.90
Thursday	230,150	0.99
Friday	293,850	1.27
Saturday	266,400	1.15
Sunday	102,250	0.44

*Source: TfL (RODS 2011 factored to 2012)*

RODS data can also be split by station. Using the station splits, the number of total London Underground station entries by borough after 10pm can be estimated. This is shown in the table below.

**Table A2: London Underground entries after 10pm, 2012**

Borough	Total LU entries after 10pm			Percentage of total
	Friday	Saturday	Total	
Barking and Dagenham	1,150	1,100	2,200	0.4%
Barnet	2,200	3,150	5,350	1.0%
Brent	3,700	5,650	9,350	1.7%
Camden	33,400	28,950	62,350	11.1%
City of London	20,650	10,900	31,550	5.6%
City of Westminster	98,950	104,850	203,800	36.4%
Ealing	2,650	3,250	5,900	1.1%
Enfield	400	650	1,050	0.2%
Greenwich	9,250	10,050	19,300	3.4%
Hackney	550	750	1,300	0.2%
Hammersmith and Fulham	13,050	14,050	27,100	4.8%
Haringey	2,250	4,150	6,350	1.1%
Harrow	1,050	1,250	2,300	0.4%
Havering	250	300	600	0.1%
Hillingdon	2,550	2,750	5,350	1.0%
Hounslow	1,100	1,400	2,500	0.4%
Islington	15,850	16,650	32,500	5.8%
Kensington and Chelsea	16,050	15,300	31,350	5.6%
Lambeth	13,300	18,700	32,000	5.7%
Merton	1,150	1,950	3,100	0.6%
Newham	5,800	7,600	13,400	2.4%
Redbridge	800	1,350	2,200	0.4%
Richmond	500	900	1,400	0.2%
Southwark	11,550	12,100	23,650	4.2%
Tower Hamlets	11,600	10,600	22,200	4.0%
Waltham Forest	1,650	2,350	4,000	0.7%
Wandsworth	2,400	4,150	6,500	1.2%
Chiltern*	100	100	200	0.0%
Epping Forest**	300	450	800	0.1%
Three Rivers*	150	200	300	0.1%
Watford*	50	50	100	0.0%
Total	274,400	285,650	560,050	100.0%

Source: TfL. NB totals differ from Table 4.1 as Table 4.1 is based on 2011 data with an uplift to 2012; this table is based on actual 2012 data.

\*Not in London, but served by London Underground via the Metropolitan line

\*\*Not in London, but served by London Underground via the Central line

## Economic impact of the Night Tube

From Table A2, it is striking that Westminster stations have an extremely high proportion of night-time tube entries – more than one third. The borough with the second highest number of station entries is Camden with 11%. Overall, the boroughs within inner London have 83% of the post-10pm station entries, reflecting the relative importance of the night-time economy in central areas of London.

Table A3 shows the twenty stations with the highest post-10pm entries.

**Table A3: Top twenty London Underground stations by post-10pm entries, 2012**

Station	Borough	Total LU entries after 10pm		
		Friday	Saturday	Total
Leicester Square	City of Westminster	16,550	20,800	37,400
Piccadilly Circus	City of Westminster	11,100	16,900	28,000
Oxford Circus	City of Westminster	10,100	9,900	20,050
North Greenwich	Greenwich	9,250	10,050	19,300
Tottenham Court Road	City of Westminster	7,600	8,400	15,950
Victoria	City of Westminster	6,700	7,900	14,600
King's Cross St. Pancras	Camden	7,750	6,350	14,100
Covent Garden	City of Westminster	6,750	7,100	13,850
London Bridge	Southwark	6,650	6,750	13,400
Waterloo	Lambeth	5,800	7,450	13,250
Liverpool Street	City of London	6,850	5,150	12,000
Embankment	City of Westminster	5,850	5,300	11,150
Holborn	Camden	6,200	4,600	10,800
Green Park	City of Westminster	6,550	3,950	10,500
Stratford	Newham	4,100	5,300	9,400
Camden Town	Camden	4,350	4,900	9,250
Bond Street	City of Westminster	5,400	3,250	8,700
Angel	Islington	4,000	4,500	8,500
Hammersmith (District & Piccadilly line)	Hammersmith and Fulham	4,550	3,900	8,450
South Kensington	Kensington and Chelsea	4,050	3,600	7,650

*Source: TfL*

Unsurprisingly, stations in Westminster and Camden feature heavily within the top twenty stations. However, North Greenwich is the fourth highest, largely due to being located next to the O2 Arena, and Stratford is also in the top twenty. This highlights the fact that there are also focal points for London's night-time economy beyond the traditional West End and central areas.

Tables A4 and A5 replicate the tables above, using data for station exits instead of entries.

**Table A4: London Underground exits after 10pm, 2012**

Borough	Total LU exits after 10pm			Percentage of total
	Friday	Saturday	Total	
Barking and Dagenham	4,050	3,100	7,150	1.2%
Barnet	9,900	8,300	18,200	2.9%
Brent	12,450	11,600	24,050	3.9%
Camden	28,850	32,650	61,500	9.9%
City of London	10,800	11,550	22,350	3.6%
City of Westminster	43,050	56,800	99,850	16.1%
Ealing	10,450	9,500	19,950	3.2%
Enfield	2,550	2,450	5,000	0.8%
Greenwich	2,250	2,600	4,850	0.8%
Hackney	2,850	2,200	5,050	0.8%
Hammersmith and Fulham	14,150	12,700	26,850	4.3%
Haringey	10,400	9,600	20,000	3.2%
Harrow	4,500	4,050	8,550	1.4%
Havering	1,500	750	2,250	0.4%
Hillingdon	4,100	4,550	8,650	1.4%
Hounslow	4,250	3,700	7,950	1.3%
Islington	17,900	18,800	36,700	5.9%
Kensington and Chelsea	13,600	14,200	27,800	4.5%
Lambeth	26,400	27,200	53,600	8.6%
Merton	4,750	4,550	9,300	1.5%
Newham	12,150	11,650	23,800	3.8%
Redbridge	5,150	4,850	10,000	1.6%
Richmond	1,450	1,400	2,850	0.5%
Southwark	18,600	19,150	37,750	6.1%
Tower Hamlets	15,800	15,950	31,750	5.1%
Waltham Forest	9,600	8,100	17,700	2.9%
Wandsworth	10,800	8,700	19,500	3.1%
Chiltern*	950	600	1,550	0.3%
Epping Forest**	2,100	1,700	3,800	0.6%
Three Rivers*	750	550	1,300	0.2%
Watford*	200	200	400	0.1%
Total	306,300	313,700	620,000	100.0%

Source: TfL

\*Not in London, but served by London Underground via the Metropolitan line

\*\*Not in London, but served by London Underground via the Central line

## Economic impact of the Night Tube

Table A4 shows that central London boroughs account for a relatively high proportion of not just station entries, but also exits. However, outer boroughs do account for a higher share of exits than they do entries, reflecting the fact that a high proportion of tube passengers after 10pm are likely to be returning home.

**Table A5: Top twenty London Underground stations by post-10pm exits, 2012**

Station	Borough	Total LU exits after 10pm		
		Friday	Saturday	Total
King's Cross St. Pancras	Camden	10,500	11,550	22,000
Waterloo	Lambeth	9,750	10,450	20,200
Victoria	City of Westminster	8,700	9,750	18,450
London Bridge	Southwark	8,400	8,500	16,950
Liverpool Street	City of London	7,150	6,650	13,800
Brixton	Lambeth	6,100	5,200	11,300
Paddington	City of Westminster	4,150	5,600	9,750
Stratford	Newham	4,150	4,850	9,050
Leicester Square	City of Westminster	2,950	5,600	8,550
Piccadilly Circus	City of Westminster	2,350	5,800	8,100
Finsbury Park	Islington	4,300	3,600	7,950
Earl's Court	Kensington and Chelsea	3,850	3,900	7,750
Euston	Camden	3,700	4,000	7,750
Canary Wharf	Tower Hamlets	3,600	3,600	7,200
Elephant & Castle	Southwark	3,250	3,850	7,100
Hammersmith (Dis)	Hammersmith and Fulham	3,600	3,400	6,950
Vauxhall	Lambeth	2,950	3,900	6,900
Camden Town	Camden	2,550	4,250	6,800
Old Street	Islington	2,050	4,100	6,150
Bethnal Green	Tower Hamlets	3,100	2,600	5,750

Source: TfL

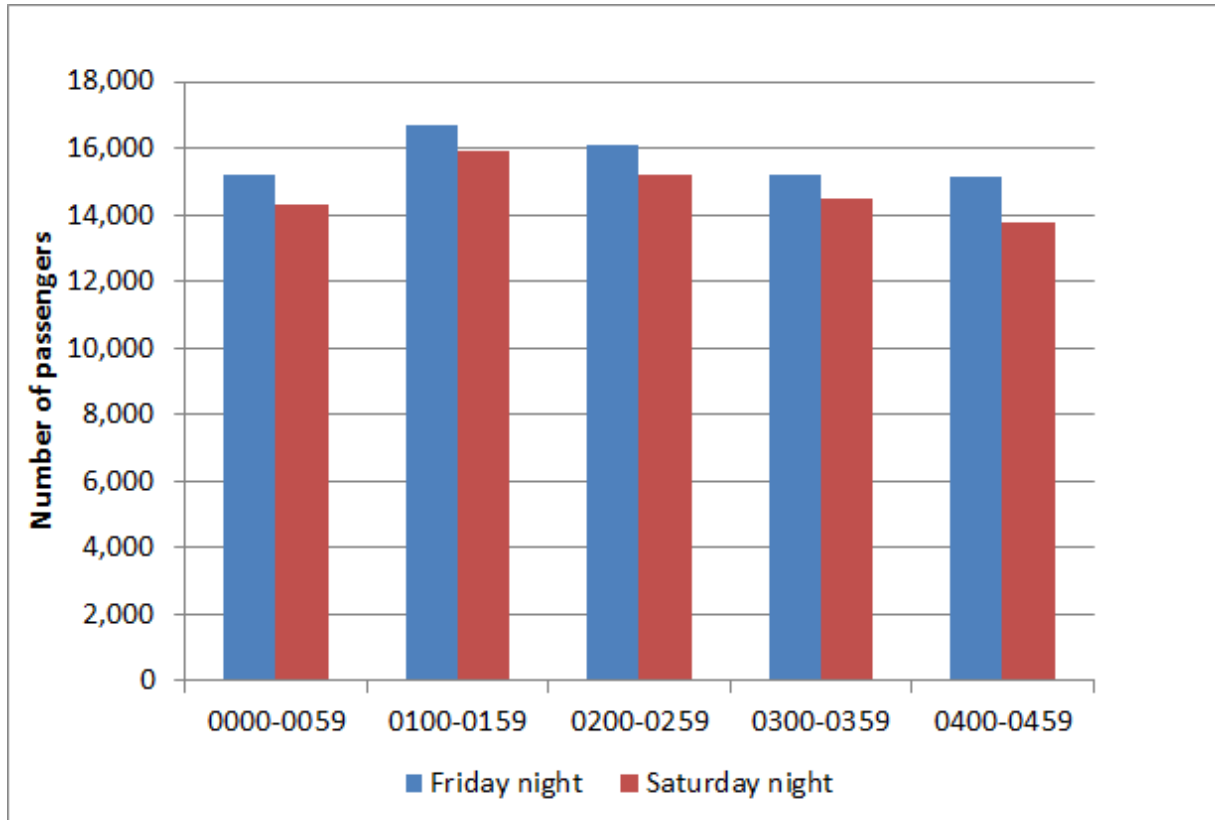
Table A5 shows that many of the London Underground stations with the highest number of exits are also National Rail stations. This is likely to represent trips by people who are travelling home by rail after being in London during the day either for work or leisure purposes.

### **Bus**

TfL has undertaken analysis of night bus routes that are within close proximity of the proposed Night Tube. The level of overnight ridership on these routes is as shown in the figure below. The data suggests that night bus trips are relatively constant throughout the night, averaging at around 14,000 to 16,000 trips per hour.

As a comparison, at present there are approximately 226,000 station entries between 10pm and 1am on the five London Underground lines that will operate a Night Tube – this equates to around 75,000 passengers an hour on the five lines after 10pm.

Figure A1: Night Bus demand for routes that parallel Night Tube lines

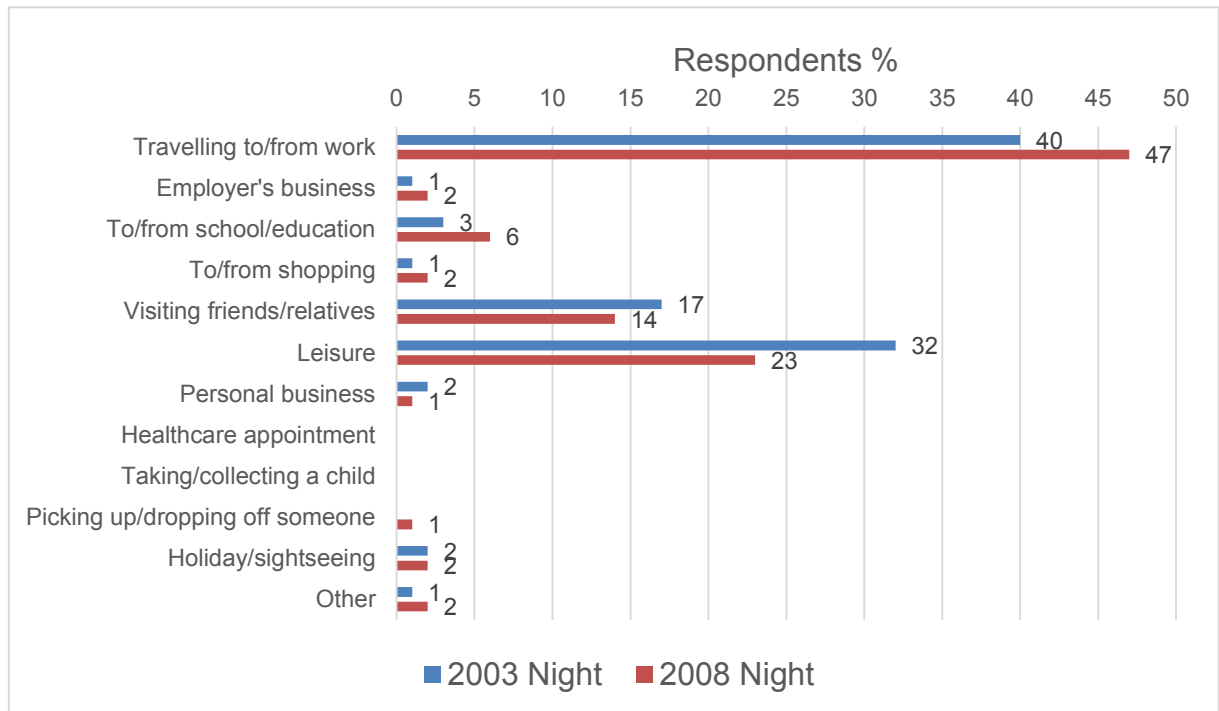


Source: TfL. Includes routes Routes 24, 25, 72, 83, 88, 93, 94, 139, 188, 205, 220, 295, 297, C2, N2, N5, N7, N8,, N9, N10, N11, N13, N15, N16, N18, N20, N22, N29, N47, N55, N73, N91, N98, N113, N149, N155, N207, N253, N279, N381, N550 and N551.

NB 0000-0059 likely to be understated due to changeover from 'day' routes to 'night' routes.

It is also worth noting that a sizeable proportion of night bus passengers are either travelling to or from work, or on employer’s business – 49% in total. This is based on data from the 2008 Bus Survey Analytical report produced for TfL, and is shown in the figure below. Thus night bus usage goes far beyond the perception of people making leisure trips after a night out to a bar or nightclub, albeit the data in Figure A2 is based on data for the whole week.

**Figure A2: Night Bus Passengers – main journey purpose**



Source: TfL

**Taxi and private hire**

Data on usage of taxi and private hire vehicles (PHV) is not as widely available as data on public transport. Nonetheless, TfL has produced data on the estimated number of taxi and PHV trips during Friday and Saturday night after 10pm. This is summarised in the table below.

**Table A6: Taxi and PHV night-time trips**

	Number of trips between 10pm and 6am
<i>Friday</i>	
Taxi	2,780
PHV	11,400
Total	14,180
<i>Saturday</i>	
Taxi	1,390
PHV	9,120
Total	10,510

Source: TfL

Table A6 shows that the total number of taxi and PHV trips at night is relatively low, equivalent to less than one hour of night bus trips. Nonetheless, it is clearly a potential source of mode shift to London Underground once the Night Tube is operational.



## Appendix 2 - Transport Impact of the Night Tube

The Night Tube will be a step change to London's night-time transport offer. Operating six trains an hour on several of the main London Underground lines will see a huge increase in transport capacity and reliability, and a reduction in journey times. The night-time transport network is therefore likely to see a large increase in trips at weekends.

TfL have undertaken analysis to estimate the likely impact of the Night Tube. This is based on assessing the expected level of time savings and applying standard transport appraisal guidance to forecast the level of trip generation. TfL have also addressed the potential for mode shift from night bus and taxi/PHV.

The table below shows the forecast number of Night Tube trips generated on an average Friday and Saturday night (after 00:30), and the split of where this demand comes from (trip generation vs. mode shift).

**Table A7: Demand for Night Tube**

	Friday	Saturday	Total
Total trips on LU, 00:30 – 06:00	83,500	93,650	177,150
Of which:			
Trip generation	45%	45%	
Mode shift from bus	51%	51%	
Mode shift from taxi/PHV	4%	4%	

*Source: TfL*

Using the TfL analysis, we can show the number of Night Tube station entries by borough. This is shown in the table below.

## Economic impact of the Night Tube

Table A8: Night Tube demand

Borough	Total LU entries after 00:30			Percentage of total
	Friday	Saturday	Total	
Barking and Dagenham	0	0	0	0%
Barnet	1,250	1,400	2,650	1%
Brent	900	1,050	1,950	1%
Camden	9,400	10,550	19,950	11%
City of London	2,950	3,300	6,250	4%
City of Westminster	33,250	37,300	70,550	40%
Ealing	750	850	1,600	1%
Enfield	200	250	450	0%
Greenwich	3,200	3,550	6,750	4%
Hackney	300	300	600	0%
Hammersmith and Fulham	3,150	3,550	6,700	4%
Haringey	1,550	1,750	3,300	2%
Harrow	50	50	100	0%
Havering	0	0	0	0%
Hillingdon	650	750	1,400	1%
Hounslow	400	450	850	0%
Islington	3,200	3,550	6,750	4%
Kensington and Chelsea	4,050	4,500	8,550	5%
Lambeth	7,550	8,500	16,050	9%
Merton	300	300	600	0%
Newham	3,050	3,400	6,450	4%
Redbridge	150	150	300	0%
Richmond	0	0	0	0%
Southwark	3,150	3,500	6,650	4%
Tower Hamlets	1,700	1,900	3,600	2%
Waltham Forest	950	1,050	2,000	1%
Wandsworth	1,550	1,700	3,250	2%
Chiltern*	0	0	0	0%
Epping Forest**	50	50	100	0%
Three Rivers*	0	0	0	0%
Watford*	0	0	0	0%
Total	83,700	93,700	177,400	100%

Source: TfL

\*Not in London, but served by London Underground via the Metropolitan line

\*\*Not in London, but served by London Underground via the Central line

Some boroughs have no Night Tube trips because their stations are not served by any of the five lines on the Night Tube. Apart from this, the pattern of Night Tube entries is broadly consistent

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with the pattern of existing entries after 10pm, with Westminster having a far higher share of trips than any other borough – almost 40%.

Again, the stations with the highest number of entries can be shown, as presented in the table below.

**Table A9: Top twenty Night Tube stations by number of entries**

Station	Borough	Total LU entries after 00:30		
		Friday	Saturday	Total
Leicester Square	City of Westminster	8,500	9,500	18,000
Piccadilly Circus	City of Westminster	5,500	6,200	11,700
North Greenwich	Greenwich	3,200	3,550	6,750
Waterloo	Lambeth	3,150	3,500	6,650
Victoria	City of Westminster	3,000	3,400	6,400
Covent Garden	City of Westminster	2,600	2,950	5,550
Oxford Circus	City of Westminster	2,600	2,900	5,500
Tottenham Court Road	City of Westminster	2,550	2,850	5,400
King's Cross St. Pancras	Camden	2,500	2,800	5,300
Stratford	Newham	2,200	2,500	4,700
Brixton	Lambeth	1,650	1,850	3,500
London Bridge	Southwark	1,600	1,800	3,400
Liverpool Street	City of London	1,600	1,800	3,400
Embankment	City of Westminster	1,600	1,800	3,400
Camden Town	Camden	1,500	1,700	3,200
Holborn	Camden	1,400	1,600	3,000
Shepherd's Bush	Hammersmith and Fulham	1,400	1,550	2,950
Green Park	City of Westminster	1,350	1,500	2,850
Hammersmith (District and Piccadilly Line)	Hammersmith and Fulham	1,300	1,450	2,750
Highbury & Islington	Islington	1,200	1,350	2,550

Source: TfL

The stations that gain the most Night Tube passengers are all in inner London, with eight of the top twenty located in Westminster.

Overall demand projections for the Night Tube suggest that usage between the hours of midnight and six am will make up approximately 5% of total London Underground usage on Saturdays and Sundays. This can be benchmarked against equivalent usage of the New York Metro during the night to give a reference point. Over 7% of total Saturday and Sunday usage of the New York Metro is between the hours of midnight and six am, which suggests that the demand estimates for the London Night Tube may be conservative.

The data presented above provides a basis upon which to estimate the economic impacts of the Night Tube, as summarised in the main report. However, it should be noted that the impacts may

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go beyond this. For instance, it is effectively assumed that trips are only affected from midnight onwards, whereas in reality there may be a larger impact than this. As well as people staying out later in a particular area and therefore making a later return journey than they otherwise would have done, a higher number of people may travel to a particular area earlier in the evening, and therefore the pattern of trips before midnight could be affected. This has not currently been addressed in the analysis.

## Appendix 3 - Supporting Material for Wider Case

Employment can be split to a relatively fine level using the Business Register and Employment Survey (BRES). This can be split by ‘5-digit subclass’ which means that employment within various headings can then be split by sub-sector.

The table below shows the sectors that are considered to contain night time economy activities for the purpose of this study.

**Table A10: Sectors included within night-time economy**

Sector	Reason for inclusion
Motion picture projection activities	Some cinemas have late showings (albeit low proportion of total showings)
Gambling and betting activities	Casinos operate late at night; some bookmakers located centrally remain open beyond 10pm
Licensed restaurants	Many will be open beyond 10pm
Unlicensed restaurants and cafes	
Take away food shops and mobile food stands	Night-time is a key time of business for some
Other food service activities	As above
Licensed clubs	Mainly operate at night
Public houses and bars	Most will be open beyond 10pm, and many late into the night  Accommodation has a link with the night-time economy, albeit not as clear-cut a relationship as it is for pubs and nightclubs
Hotels and similar accommodation	
Holiday centres and villages	
Youth hostels	
Other holiday and other short-stay accommodation (not including holiday centres and villages or youth hostels) nec	
Camping grounds, recreational vehicle parks and trailer parks	
Other accommodation	

Having determined the sectors to be included, we then need to define two further things in order to be able to establish an economic baseline:

- The proportion of the total that is accounted for by Fridays and Saturdays, since these are the only two days of the week when the Night Tube will operate and hence economic activity will only be affected then; and
- The proportion of employment in each sector on Fridays and Saturdays that is actually part of the night-time economy. For instance, cafes and restaurants operate throughout most of the day, and so it would be overstating employment in the night-time economy if all employment in these sectors were included. We therefore separate night-time from day-time employment where necessary.

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The proportion of the total week accounted for by Friday and Saturday is based on the number of trips on London Underground on Friday and Saturday relative to the rest of the week. This has been used as a proxy for the relative amount of economic activity on these days, and thus the proportion of employment accounted for by Friday and Saturday.

In order to establish the proportion of Friday and Saturday employment in each sector that contributes towards the night-time economy, a set of assumptions has been made to reflect the relative importance of the night-time to each sector. Where possible this is based on available evidence; for instance, our own research indicates that around 11% of cinema showings are after 10pm at weekends, and hence we use 11% as the proportion for ‘motion picture projection activities’.

The table below shows the proportions that have been applied in order to convert total employment in each sector into night-time employment on Fridays and Saturdays.

**Table A11: Converting total employment by sector to Friday / Saturday nights**

Sector	Friday and Saturday as % of full week	Night time as % of full day on Friday & Saturday	Factor to convert full week employment to Fri/Sat night time employment
	(A)	(B)	(A x B)
Motion picture projection activities	39%	11%	4.2%
Gambling and betting activities	39%	40%	15.4%
Licensed restaurants	39%	10%	3.9%
Unlicensed restaurants and cafes	39%	10%	3.9%
Take away food shops and mobile food stands	39%	20%	7.7%
Other food service activities	39%	10%	3.9%
Licensed clubs	39%	100%	38.6%
Public houses and bars	39%	20%	7.7%
Hotels and similar accommodation	39%	20%	7.7%
Holiday centres and villages	39%	20%	7.7%
Youth hostels	39%	20%	7.7%
Other holiday and other short-stay accommodation (not including holiday centres and villages or youth hostels)	39%	20%	7.7%
Camping grounds, recreational vehicle parks and trailer parks	39%	20%	7.7%
Other accommodation	39%	20%	7.7%

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***Baseline employment***

Using the BRES data, combined with the proportions above, we can estimate the total level of Friday and Saturday night-time employment. This is shown in the table below, split by borough.

**Table A12: Estimated night-time employment, Friday / Saturday nights, by borough**

Borough	Employment in night-time economy, Friday and Saturday	Proportion of total Friday and Saturday night-time employment
Barking and Dagenham	330	2%
Barnet	510	2%
Bexley	280	1%
Brent	350	2%
Bromley	390	2%
Camden	1,520	7%
City of London	910	4%
Croydon	480	2%
Ealing	440	2%
Enfield	380	2%
Greenwich	340	2%
Hackney	400	2%
Hammersmith and Fulham	800	4%
Haringey	310	1%
Harrow	470	2%
Havering	350	2%
Hillingdon	830	4%
Hounslow	420	2%
Islington	860	4%
Kensington and Chelsea	1,290	6%
Kingston upon Thames	320	1%
Lambeth	730	3%
Lewisham	230	1%
Merton	260	1%
Newham	500	2%
Redbridge	320	1%
Richmond upon Thames	370	2%
Southwark	630	3%
Sutton	200	1%
Tower Hamlets	660	3%
Waltham Forest	220	1%
Wandsworth	530	2%
Westminster	5,950	26%
Total	22,580	100%

*Source: BRES, Volterra assumptions*



## Economic impact of the Night Tube

The next table shows the output associated with those jobs, also split by borough.

**Table A13: Estimated output associated with night-time employment, Friday / Saturday nights, by borough**

Borough	Gross Value Added per worker, consumer services (£, 2014)	Total output of Friday/Saturday night-time workers (£m)	Proportion of total
Barking and Dagenham	52,700	20	1%
Barnet	44,700	25	2%
Bexley	47,100	15	1%
Brent	50,100	20	1%
Bromley	45,500	20	1%
Camden	64,100	100	7%
City of London	71,000	65	5%
Croydon	46,600	20	1%
Ealing	50,700	25	2%
Enfield	49,700	20	1%
Greenwich	64,900	20	1%
Hackney	76,100	30	2%
Hammersmith and Fulham	64,200	50	4%
Haringey	47,500	15	1%
Harrow	45,300	20	1%
Havering	45,800	15	1%
Hillingdon	50,500	40	3%
Hounslow	56,600	25	2%
Islington	90,700	80	6%
Kensington and Chelsea	52,500	70	5%
Kingston upon Thames	46,000	15	1%
Lambeth	62,500	45	3%
Lewisham	64,000	15	1%
Merton	47,400	10	1%
Newham	69,900	35	3%
Redbridge	45,200	15	1%
Richmond upon Thames	42,000	15	1%
Southwark	73,600	45	3%
Sutton	46,200	10	1%
Tower Hamlets	73,000	50	4%
Waltham Forest	46,900	10	1%
Wandsworth	68,100	35	3%
Westminster	57,600	345	26%
Total		1,340	100%

Source: DfT, Volterra assumptions

NB Numbers may not add due to rounding