

Pros and cons of alcohol consumption in the night-time economy: Summary and methodology

Background and introduction

GLA Economics have been asked to produce a report to inform the work of the (shadow) London Health Improvement Board on ensuring alcohol is supplied responsibly within the night-time economy (NTE). The report consists of two parts: the first is a tool which helps local authorities estimate the pros/benefits and cons/costs of alcohol consumption in their NTE and the second part looks at interventions which have been shown to reduce the costs associated with alcohol in the NTE. This document supports the first part of the work by outlining the methodology behind the estimates in the tool. The paper begins by explaining what is meant by 'alcohol –consumption in the NTE'. It then highlights some of the limitations of the work and how the findings should be interpreted. The pros and cons of alcohol-consumption in the NTE are then explained before a summary of the findings are presented. Finally, the paper sets out the methodology used to value the estimates in the tool, highlighting the implicit/required assumptions.

What is alcohol-consumption in the night-time economy (NTE)?

For the purposes of this work alcohol consumption in the NTE has been classified as alcohol consumed at on-licensed premises (premises licensed to sell alcohol for consumption on the premises e.g. bars/pubs) between the hours of 6pm and 6am. It therefore excludes alcohol purchased from off-licensed premises (e.g. supermarkets) even if it is consumed in the evening/night time as well as all alcohol consumed (at both on and off-licensed premises) outside the hours of 6pm to 6am.

What are the limitations of this work and how should the findings be interpreted?

This work is essentially a stock-take or snapshot of the pros and cons of alcohol-consumption in the NTE. It is not a cost-benefit analysis in the traditional economic sense i.e. it does not allow for a full understanding of the net benefit of the industry against an alternative e.g. where there was less/no alcohol-consumption in the NTE. This means that some of the pros (or benefits) that are considered in this work may not be lost if alcohol-consumption in the NTE was reduced or eliminated. For example, in this work the value of the industry (alcohol consumption in the NTE) is estimated, however, if the industry was eliminated (i.e. there was no alcohol-consumption in the NTE) this value would not necessarily be lost completely. It is likely that, over time at least, the inputs (raw materials, land, staff etc) would be re-diverted to produce another valuable good/service in the economy (and so produce value).

Another point to note is that, due to data limitations, not every potential pro/benefit and con/cost has been estimated (Table 1 provides information on which ones have been estimated and which ones have not). On the cost side this may be particularly important as, for example, chronic alcohol illnesses have not been included (due to the difficulty in attributing these to the night-time economy specifically). Further, those benefits and costs that are estimated rely on a number of crucial assumptions and so where estimates are provided they should be treated with caution and used as indicative only. It is advisable to read the methodology before drawing conclusions from the estimates. Finally, but no less important, the net position of the pros and cons will depend on whose point of view is being considered (e.g. local authority finances, resident, patrons etc). In this work, the focus has largely been from the perspective of local/central government finances and NTE patrons. However, some other elements (that local authorities have expressed interest in understanding) have also been

included e.g. the value of the industry's output (which is a benefit to businesses in the industry). Table 1 provides more detail on how the pros and cons fall across different groups.

In summary the estimates of the benefits and costs do **not**:

- Allow for an understanding of what would happen in the absence or reduction of alcohol-consumption in the NTE (and, thus, what the truly additional benefits/costs of the industry are, if any),
- Cover all potential pros and cons (due to data limitations),
- Come without caveats. Indeed, the estimates rely on some critical assumptions and should be treated with caution,
- Represent the London/economy-wide position, instead focussing predominantly on local/central government finances, NTE patrons and some aspects of other groups where local authorities may have an interest. *As such, what is referred to in this work as a pro/benefit or con/cost does not refer to pros and cons from the point of view of London as a whole but instead represent pros and cons from the views/interests of local authorities (which itself may not be the same as local authority finances).*

What are the benefits and costs associated with alcohol-consumption in the NTE?

Table 1 sets out the benefits and costs that are associated with alcohol consumption in the NTE. The table separates these based on the groups to which they accrue. Those highlighted in blue have been included in the tool, for those highlighted in purple a methodology has been provided for local authorities to estimate themselves. Due to data limitations it has not been possible to estimate the pros and cons in the cells that are not highlighted.

Table 1: Benefits and costs associated with alcohol-consumption in the NTE

Pros and Cons		Local and central government finances	Local residents	NTE patrons	Third-parties/wider society	Businesses engaged in NTE alcohol sale	Other businesses	London-wide
Gross domestic product	Gross value added (GVA)			- GVA is, in part, generated by the price that people pay for the goods/services.		+ The sale of alcohol in the NTE generates GVA from companies directly supplying it.	+ GVA will also be created in businesses whose goods/services are complementary to alcohol sale in the NTE e.g. restaurants or fast-food takeaways.	+
	Non-alcohol specific taxes less subsidies	+ Government receives taxes (corporation tax, national insurance etc) from business directly engaged in alcohol sales in the NTE as well as those operating in complimentary goods/services.				- Business must pay corporation taxes, national insurance, alcohol duty etc. Some of these costs may be shared with consumers/patrons.	- Business must pay corporation taxes, national insurance, etc. Some of these costs may be shared with consumers.	0
	Alcohol specific taxes: Alcohol duty	+ The Government receives alcohol duty revenue from the sale of alcohol.				- Business must pay alcohol duty. The cost of this may be shared with/passed on to consumers/patrons.		0
	Alcohol specific taxes: Licensing revenue	+ Local authorities receive revenue from business alcohol license (although they also incur a cost in the form of enforcement and monitoring of these licenses).				- Business must pay for a license to sell alcohol in the NTE. The cost of this may be shared with/passed on to consumers/patrons.		0
Consumer surplus				+ When people drink alcohol in the NTE the value that they often place on it is higher than the price that they actual pay for the drink.				+
Residents' option value			-/+ Local residents may place a value in having (or indeed not having) a local NTE which sells alcohol even if they do not use it themselves.					+
Social capital					+ Drinking alcohol in the NTE can help create and maintain social networks and relationships (including family) which can create wider economic benefits (e.g. by facilitating health and employment opportunities).			+
Tourism						-/+ An areas NTE drinking reputation can discourage or encourage more people to participate in the NTE drinking.	-/+ An areas NTE drinking reputation can also discourage or encourage more people to participate in the areas' wider NTE or day-time economy offerings.	-/+
Crime and fear of crime	- Crime that occurs as a result of drinking in the NTE imposes a cost e.g. to health services, criminal justice system, policing etc.	- Local residents who are victims of crime (both actual and potential) incur costs both in anticipation (e.g. alarm systems) and as a consequence (e.g. property damaged/stolen) of crime.	- Visitors to the NTE who are victims of crime incur costs as a consequence of crime (e.g. property damaged/stolen, physical & emotional impacts) of crime.	- The consequences of crime can also impose costs to the economy more widely e.g. lost output.	- Businesses who are victims of crime (both actual and potential) incur costs both in anticipation (e.g. alarm systems) and as a consequence (e.g. property damaged/stolen) of crime.	- Businesses who are victims of crime (both actual and potential) incur costs both in anticipation (e.g. alarm systems) and as a consequence (e.g. health services) of crime receive revenue.	-	
		- Fear of crime can reduce peoples quality of life and enjoyment.	- Fear of crime can reduce peoples quality of life and enjoyment.	- Where the fear of crime overestimates the true probability of a crime occurring then there can be an inefficient allocation of resources (e.g. too much spending on security).	+ Businesses engaged in providing services in anticipation of crime (e.g. insurance companies), in response (e.g. policing, lawyers) and as a consequence (e.g. health services) of crime receive revenue.			
Acute alcohol illness	- Acute illness from alcohol consumption in the NTE costs government in terms of resources used to treat people (e.g. ambulance, hospital admission etc).		- Those who are admitted to hospital incur losses in terms of time (this is also true for many who are not admitted but still treated for an acute alcohol illness. However, it has not been possible to value this).				+ Businesses engaged in supplying goods/services used in the treatment of acute alcohol illnesses receive a revenue.	-
			- Patrons who fall ill from drinking incur costs from suffering ill-health (where this is factored into their demand curve it will be included in consumer surplus).					
Work absenteeism/lost productivity	- Lower business profits will reduce business tax receipts.			- If patrons are not in a position to earn their usual daily wage (e.g. self employed or paid on outputs) then they will incur a loss of income.			- Lower output from employees either being off sick following alcohol consumption in the NTE can reduce business profits (assuming that the work is not made-up for when they return/by their colleagues).	-
						- Lower output from employees not being able to work at full capacity as a result of drinking the night before can also reduce business profits (assuming that the work is not made-up for at a later date/by their colleagues).		
Chronic alcohol illness	- Chronic alcohol illnesses due to drinking in the NTE impose costs on public services e.g. health services, social services (if people are unable to work).		- Chronic alcohol illness places a cost on sufferers from the ill health and time lost being treated (that could have been spent doing other, more enjoyable, activities).	- Chronic alcohol illness (from continued alcohol consumption) may reduce the size of the labour market as these people are unable to work or work for fewer years (due to early mortality). This in turn reduces the productive capacity of the economy.			- Lower output from employees with lower productivity due to impairment.	-
						+ Businesses engaged in supplying goods/services used in the treatment of acute alcohol illnesses receive a revenue.		
Street cleaning	- As a public service, street cleaning required after drinking in the NTE imposes a cost to government finance.	- Often streets can not be cleaned immediately so there is a period where local residents are subject to dirty streets and refuse which can reduce their quality of life.					+ On the other hand, the companies/people employed to carry out the cleaning gain in terms of additional business.	-
Noise pollution & correction	- Monitoring and enforcing noise levels costs government.	- Noise can disturb local residents and reduce their quality of life.					+ Companies engaged in goods/services that reduce noise levels benefit from the regulations and enforcement of noise levels.	-
Sale to underage persons			+ Underage people who consume the alcohol gain enjoyment from the consumption of the alcohol (valued by the price they pay for it plus their consumer surplus).	- There can be wider social consequences (and costs) from underage people drinking (e.g. lower school attainment etc).	+ Business gain revenue from the alcohol sale.			-
Transport-related costs	- The presence of people under the influence of alcohol in the night-time can impose costs to transport e.g. by the requirement for additional cleaning.						+ The requirement for additional goods/services on the transport network represents revenue/wages to business/people employed to tackle the problems.	0
Impact on relationships and family	- Negative relationships in the household as a result of one or more members drinking can impose a cost on public services e.g. social services from alcohol-related domestic abuse.		- There could be a loss of happiness for those whose drinking results in a breakdown of their close relationships.	- Negative relationships can reduce the happiness of the friends/family of NTE patrons who suffer as a result of the persons drinking. The loss of relationships may also reduce social capital and its associated benefits.			+ Breakdowns in relationships and families create demands on certain goods/services such as counselling.	-

Summary of findings

For London as a whole, the summary findings are presented in Table 2. Of the benefits (from the perspective of London local authorities) that have been calculated, alcohol-consumption in London's night-time economy is estimated to be between £1.6 billion and £1.9 billion a year. This compares to estimated costs (for those which can be calculated) of between £214 million and £285 million a year. The net benefit is, therefore around £1.3-£1.7 billion per annum and for each £1 cost incurred there is a benefit of £5.50-£8.80. However, as noted earlier (and as illustrated in Table 2), not all of the pros/benefits and cons/costs have been considered/valued in this estimate.

Table 2: Summary findings for London

Benefits (£000s)			Costs (£000s)		
	Minimum	Maximum		Minimum	Maximum
GVA			Crime (excluding drink driving)	165,684	
Accommodation	111,361		Drink driving		
Food & beverage service activity	982,297		Fatal	8,476	27,547
Total	1,093,658		Serious	3,608	11,725
Non-alcohol specific taxes less subsidies	Not valued		Slight	1,861	6,049
Alcohol specific taxes - alcohol duty	98,407		Total	13,945	45,321
Alcohol specific taxes: licensing	Not valued		Fear of crime	Not valued	
Consumer surplus	386,462	689,729	Acute alcohol illness		
Option value	Not valued		Ambulance	1,976	4,223
Social capital	Not valued		A&E	2,395	2,846
Positive tourism	Not valued		Hospital	5,109	
			Personal costs from hospital admission	743	840
			Lost economic output	24,230	60,574
			Chronic alcohol illness	Not valued	
			Street cleaning	Not valued	
			Noise pollution & correction	Not valued	
			Sale to underage persons	Not valued	
			Transport-related costs	Not valued	
			Impact on family & relationships	Not valued	
			Negative tourism	Not valued	
Total (£000s)	1,578,527	1,881,795	Total (£000s)	214,081	284,597

	Minimum	Maximum
Total estimated benefit net of estimated costs (£ millions)	1,294	1,668
Benefit to cost ratio	5.5	8.8

Note: Benefits and costs refer to benefits and costs from the point of view/areas of interest for all London local authorities and not for the economy/society as a whole. Not all pros/benefits and cons/costs have been valued in this estimate.

By far the largest single cost to London from alcohol-consumption in the night-time economy is from crime, but this is significantly outweighed by the GVA generated (indeed, GVA is higher than the sum of the maximum estimated costs). In fact, this is true for all London boroughs. In all but nine boroughs¹, the minimum estimated consumer surplus also outweighs the total (maximum estimated) costs.

The estimated net benefit a year from alcohol consumption in the NTE for individual boroughs ranges from £6.0 million in Barking and Dagenham to a potential £399.1 million in Westminster (Table 3). There are also wide variation in benefit-cost ratios across boroughs (Table 3), ranging from 2.2 in Newham to a possible 26.5 in City of London. (Note, however, that although the tool can estimate alcohol licensing revenue and noise and street cleaning costs these require data input from boroughs and so have not been included in Table 3 estimates).

¹ The nine boroughs are: Barking & Dagenham, Hackney, Haringey, Havering, Kingston upon Thames, Lewisham, Newham, Sutton and Waltham Forest.

Table 3: Estimated net annual benefits and benefit to cost ratios (BCRs) by borough from alcohol-consumption in the NTE

	Minimum		Maximum	
	Net benefit (£000s)	BCR	Net benefit (£000s)	BCR
Barking and Dagenham	5,958	2.8	9,041	5.6
Barnet	40,045	10.9	49,038	15.1
Bexley	14,183	4.9	18,610	8.0
Brent	28,783	6.3	35,866	8.3
Bromley	25,489	5.7	31,895	7.3
Camden	105,631	7.8	131,699	11.5
City of London	75,870	10.3	96,452	26.5
Croydon	25,511	5.9	32,416	8.7
Ealing	31,519	4.6	40,523	6.4
Enfield	19,593	5.0	26,028	9.2
Greenwich	21,232	4.8	26,810	6.3
Hackney	17,829	2.9	24,642	4.2
Hammersmith and Fulham	37,116	4.8	48,585	7.6
Haringey	11,664	3.1	16,282	4.9
Harrow	15,099	8.1	18,730	11.9
Havering	13,017	2.5	18,209	3.3
Hillingdon	62,759	12.8	76,475	17.4
Hounslow	29,501	5.1	37,834	7.3
Islington	47,107	5.3	58,742	6.5
Kensington and Chelsea	81,806	14.7	100,596	26.0
Kingston upon Thames	48,821	7.4	53,899	8.8
Lambeth	41,263	6.0	52,589	9.2
Lewisham	8,306	2.4	12,714	3.9
Merton	22,647	5.6	28,478	7.6
Newham	12,966	2.2	19,411	3.3
Redbridge	16,991	9.1	20,854	12.1
Richmond upon Thames	26,951	5.1	35,173	8.2
Southwark	43,639	5.0	56,705	7.9
Sutton	9,768	3.1	13,130	4.3
Tower Hamlets	53,172	10.9	65,398	15.7
Waltham Forest	7,946	2.7	10,974	3.8
Wandsworth	36,611	6.3	47,201	11.0
Westminster	327,733	10.9	399,124	13.8
Maximum value	327,733	14.7	399,124	26.5
Minimum value	5,958	2.2	9,041	3.3

Note: Benefits cover GVA, additional revenue from alcohol duty and consumer surplus. Costs cover crime, drink driving, health costs, and work absenteeism.

Methodology for valuing the pros and cons associated with alcohol consumption in the NTE

The methodology for valuing costs/benefits of alcohol-consumption in the NTE is set out below diagrammatically. Please note that some values have been rounded and so may not sum up.

1. Gross Domestic Product (GDP)

GDP is comprised of two parts: Gross Value Added (GVA) and net taxes (taxes on products less subsidies on products). The net taxes section has been split into three groups for the purposes of this work. The first covers taxes common to all businesses such as National Insurance, corporation tax etc (i.e. non-alcohol specific taxes less subsidies). These have not been estimated within the tool for two reasons: firstly, only data on corporation tax receipts is available by industry and this is only available at the UK level so estimating it would be difficult and require assumptions that are not necessarily accurate (e.g. profitability of industries engaged in alcohol sales in the NTE would have to be assumed to be the same in London as elsewhere in the UK). Secondly, it is likely that in the absence of alcohol-consumption in the NTE these taxes would still be generated. The other two tax groups cover alcohol-specific revenues, namely alcohol duty and licensing income. In the absence of alcohol-consumption in the NTE these alcohol-specific taxes would probably not be received.

		Local and central government finances	Local residents	NTE patrons	Third-parties/wider society	Businesses engaged in NTE alcohol sale	Other businesses	London-wide
Pros and Cons								
Gross domestic product	Gross value added (GVA)			- GVA is, in part, generated by the price that people pay for the goods/services.		+ The sale of alcohol in the NTE generates GVA from companies directly supplying it.	+ GVA will also be created in businesses whose goods/services are complementary to alcohol sale in the NTE e.g. restaurants or fast-food takeaways.	+
	Non-alcohol specific taxes less subsidies	+ Government receives taxes (corporation tax, national insurance etc) from business directly engaged in alcohol sales in the NTE as well as those operating in complimentary goods/services.				- Business must pay corporation taxes, national insurance, alcohol duty etc. Some of these costs may be shared with consumers/patrons.	- Business must pay corporation taxes, national insurance, etc. Some of these costs may be shared with consumers.	0
	Alcohol specific taxes: Alcohol duty	+ The Government receives alcohol duty revenue from the sale of alcohol.				- Business must pay alcohol duty. The cost of this may be shared with/passed on to consumers/patrons.		0
	Alcohol specific taxes: Licensing revenue	+ Local authorities receive revenue from business alcohol license (although they also incur a cost in the form of enforcement and monitoring of these licenses).				- Business must pay for a license to sell alcohol in the NTE. The cost of this may be shared with/passed on to consumers/patrons.		0

a. Gross value added (GVA) from the sale of alcohol in the NTE

The sale of alcohol in the evening/night-time can be a very valuable economic activity to businesses. However, it should be noted that in the absence of alcohol sales in the NTE many (if not all) the resources used (e.g. staff and land) would likely be employed in some other manner/industry and so output/economic activity would not be lost (the same is true of non-alcohol-related taxes and revenues). Further, some of the GVA represents a transfer of money from one group (in this case NTE patrons) to another (in this case businesses) through the price paid for the goods/services. This cost of purchasing alcohol has not been included in the estimates below because when looking at the local authorities point of view it is the value that the NTE alcohol industry brings in to the area that is of interest.

BOX 1

UK employment (rounded to nearest 100) in 2009:
 Note: Each part-time employee is calculated as half a full-time employee.

	Employment
Accommodation	
Great Britain	288,818
Source: Business Register and Employment Survey (BRES), Office for National Statistics (ONS)	
Northern Ireland	7,253
Source: Northern Ireland Census of Employment (NI CoE)	
Food & beverage activity	
Great Britain	975,069
Source: BRES, ONS	
Northern Ireland	22,783
Source: NI CoE	

BOX 4

London employment (rounded to nearest 100) in 2009:
 Note: Each part-time employee is calculated as half a full-time employee.

Accommodation	46,000
Food & beverage activity	182,400

Using estimates in Box 3 implied GVA for London in 2009:

Accommodation	£1,178mn
Food & beverage activity	£5,055mn
Total	£6,233mn

However, actual GVA for London in the accommodation and food and beverage activity industry (combined) in 2009 was £7,412mn.
 Note: Regional GVA is not available for the industries separately
 Source: Regional accounts, ONS

This suggests that GVA per person is 1.2 times higher in London than the UK as a whole in these industries combined.

BOX 6

For UK, intermediate input of alcohol beverages in accommodation industry in 2009 was £4,264mn out of a total £10,880mn of intermediate inputs (i.e. inputs of alcoholic beverages was 39.2% of total inputs).

For UK, intermediate input of alcohol beverages in Food & beverage service industry in 2009 was £11,034mn out of a total £28,874mn of intermediate inputs (i.e. inputs of alcoholic beverages was 38.2% of total inputs).

Source: Input output supply use tables, ONS

BOX 8

It has been estimated the share of total hours worked in London, in the accommodation and food & beverage service activity industries, during the evening and night time is (detail of how these figures were derived is provided in Annex 1):

Accommodation	23%
Food & beverage activity	38%
Combined	36%

Source: Labour Force Survey April-June (2008, 2009, 2010, 2011) ONS, GLA Economics and ONS London Region Team calculations

BOX 10

Borough- level employment in accommodation and food & beverage service industries in 2010 is available for all boroughs except Bexley and Enfield, where the data is disclosive. For these two boroughs the total for the two industries is used (rather than each estimated separately).

Source: BRES, ONS

BOX 2

UK GVA from accommodation in 2009 (£7,575mn)
 UK GVA from food & beverage service activities in 2009 (£27,653mn).
 Source: Input output supply use tables, ONS

BOX 3

Average GVA per employee in 2009 (using Box 1 & 2):

Accommodation	£25,585
Food & beverage activity	£27,226
Accommodation & food services combined	£27,226

BOX 5

Average London GVA per employee in 2009 (using Box 3 & 4):

Accommodation	£30,424
Food & beverage activity	£32,954
Accommodation & food services combined	£32,375

Assuming the 1.2 multiplier is equally applicable to the two industries.

Note that in England 52% of spend on eating out is on alcohol (& 57% for London) so the input-output estimates appear conservative.
 Source: Food Survey, 2010, Department for Environment (DEFRA)

BOX 7

Average alcohol-related London GVA per employee in 2009 (using Box 5 & 6):

Accommodation	£11,923
Food & beverage activity	£12,593
Accommodation & food services combined	£12,458

Assuming all alcohol input is sold as a beverage (i.e. not consumed, for example, in cooking of food), and that the alcohol share of total inputs is the same in London as that for the UK as a whole.

BOX 9

Average night-time economy alcohol-related London GVA per employee in 2009 (using Box 7 & 8):

Accommodation	£2,715
Food & beverage activity	£4,822
Accommodation & food services combined	£4,487

Using the ONS GDP deflator, the average NTE alcohol-related London GVA per employee in 2011 prices is:

Accommodation	£2,863
Food & beverage activity	£5,084
Accommodation & food services combined	£4,731

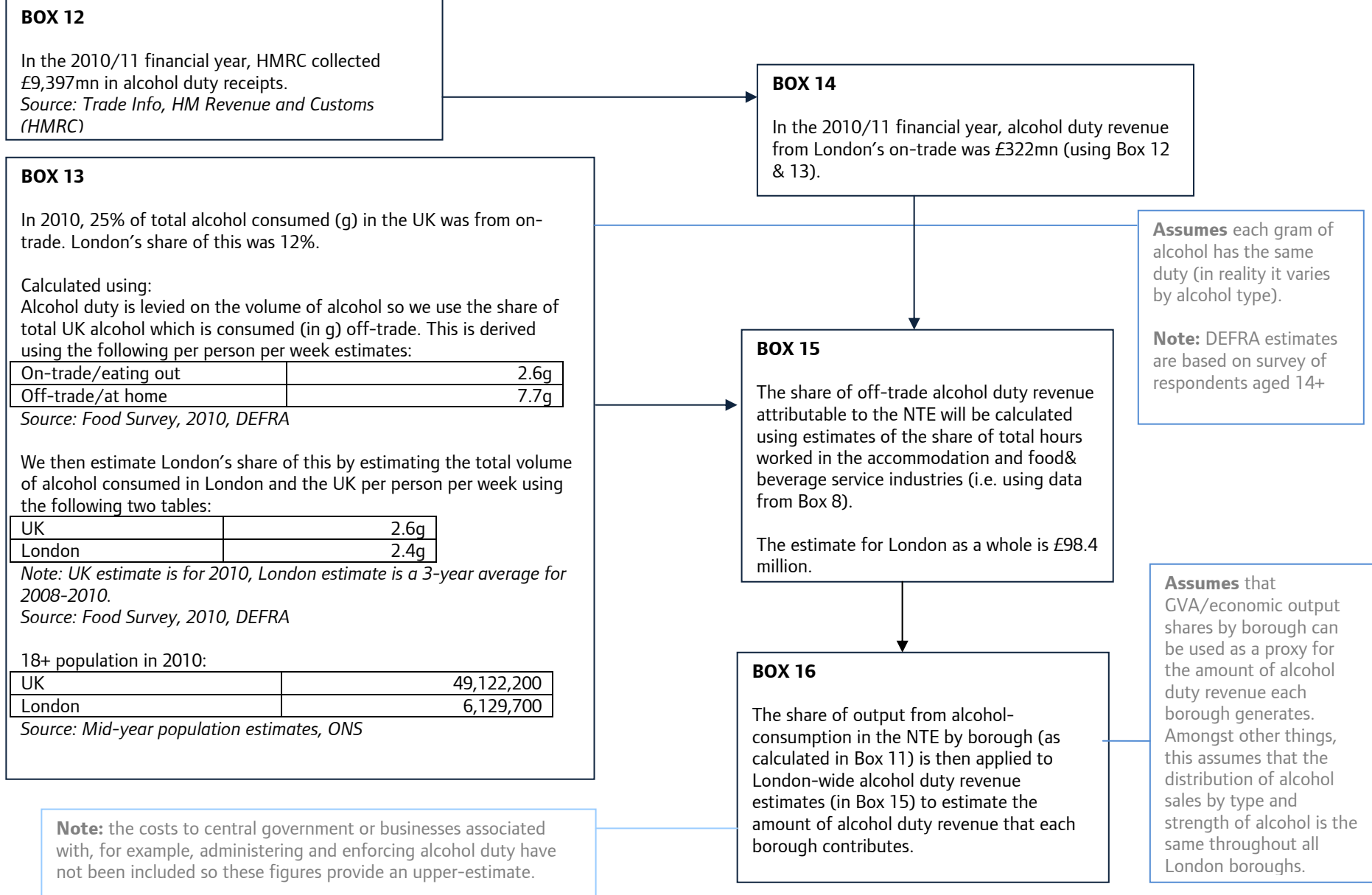
BOX 11

GVA by borough attributable to alcohol consumption in the night-time economy for 2010 employment in 2011 prices (using Boxes 9 & 10).

For London as a whole the GVA (or output) is equal to £1.1 billion.

b. Alcohol specific taxes: Alcohol duty

Alcohol duty revenue has been calculated as follows:



c. Alcohol specific taxes: Alcohol licensing

Additional revenue from licensing (less the costs of processing and monitoring) has not been estimated as the data needed is not readily available. However, a methodology has been provided below to help boroughs (who should have the relevant information) estimate it themselves:

BOX 17

Number of hours for which on-trade premises in the borough are licensed to serve alcohol.

For example, assume a borough has three licensed premises: A, B, C and their licenses are as follows:

Premise name	Licensing times (column 1)	Hours the license covers (column 2)
A	12:00 to 24:00	12
B	17:00 to 5:00	12
C	24 hours	24

BOX 18

Percentage of these hours that fall between 6pm and 6am.

Continuing the example in Box 17:

Premise name	Hours the licence covers that falls within the hours of 18:00 to 6:00 (column3)	Share of total hours (column 3 divided by column 2) (column 4)
A	6	50%
B	11	92%
C	12	50%

BOX 19

Average annual value of the licence.

Again, continuing the example in Boxes 17 & 18, assume:

Premise name	License fee to business (column 5)	Number of years the license covers (column 6)	Annual average cost (column 5 divided by column 6) (column 7)
A	£5,000	5	£1,000
B	£18,000	10	£1,800
C	£12,500	5	£2,500

BOX 20

Revenue from alcohol licensing between 6pm and 6am (applying column 4 in Box 18 to column 7 in Box 19):

Premise name	Annual revenue from alcohol licensing between 6pm and 6am
A	£500
B	£1,650
C	£1,250
Total	£3,400

BOX 21

Cost of staff to process/grant on-trade alcohol licenses and cost of staff to ensure on-trade premises operate within the rules of their alcohol license e.g. cost of inspections etc.

BOX 22

Proportion of the staff costs in Box 21 that can be attributed to the part of the licence that covers trading between 6pm and 6am. For ease the share of hours for all licenses that fall between 6pm and 6am could be used.

In the example above, across all three premises a total of 48 hours are covered by licenses and 29 of these hours are between 6pm and 6am, so it may be assumed that (29/48) or 60% of costs in Box 21 are due to the NTE.

BOX 23

Net value of alcohol licenses to boroughs can then be estimated by subtracting the costs (in Box 22) from the revenue (in Box 20).

2. Consumer surplus from alcohol consumption in the NTE

Consumer surplus is the difference between the prices that people are willing to pay minus the price that they actually pay. It measures the additional value (above the price) that drinkers get when they drink alcohol (e.g. pleasure from the taste or happiness from the associated socialising with friends and family). As with many of the other elements of the pros and cons of alcohol consumption in the NTE, if the amount of alcohol consumed fell the consumer surplus is unlikely to be lost. Instead it would merely transfer to other parties e.g. other people buying the goods/surpluses that would be produced in the place of alcohol in the NTE.

There is a large degree of uncertainty in the estimates for consumer surplus, however, they have been included to give some indication of the magnitude.

BOX 24

For London as a whole consumer surplus is estimated to range between £1.1 and £1.9 billion.

Calculated using the following:

London 16+ population	6,295,200
Per person per week spend on alcohol on-trade (£)	3.31
Per person per week volume consumed on-trade (ml)	360
Total spend (£)	20,837,112
Total consumed (litres)	2,266,272

Source: Mid-year population estimates 2010, ONS. Food Survey 2010, DEFRA.

	Lower estimate (using elasticity for all drinkers for high-price beer)	Upper estimate (using elasticity for all drinkers and low priced wine)
Total alcohol expenditure eating out per week	20,837,112	20,837,112
Total volume of alcohol consumed 'eating out' (litres)	2,266,272	2,266,272
Price per litres	9.19	9.19
Elasticity of demand	-0.505	-0.283
Estimated slope of demand curve	-8.0E-06	-1.4E-05
Value of 'a' in diagram/intercept of demand curve wt price axis	27.40	41.70
Consumer surplus (£ per week)	20,634,890	36,827,699
Annual consumer surplus (£ million)	1,073	1,915

The calculations in the second table of Box 23 **assume** a linear demand curve:

Where the slope of demand curve = $(1/\text{elasticity of demand}) * (\text{price}/\text{quantity})$.

'a' is then calculated by solving for:
 $P^* = a - \text{slope} * (Q^*)$

Elasticity of demand estimates come from 'Independent review of the effects of alcohol pricing and promotion: Part B', University of Sheffield, 2008, which uses 5 years of Expenditure and Food Survey (DEFRA) data:

		All drinkers
Beer	Low	-0.4794
	High	-0.5049
Wine	Low	-0.2829
	High	-0.328
Spirits	Low	-2.9386
	High	-0.235
Ready-to-drink	Low	-0.3672
	High	-0.3638

Note: Low price/higher price refers to the starting price of the drink; low price is less than 80p/unit and higher price is greater than or equal to 80p/unit.

Note that although the lower and upper estimates of consumer surplus calculated in Box 24 should in theory use the highest and lowest elasticities respectively (in this case the elasticity for low-priced spirits) this was considered an outlier and with spirits only accounting for 4 per cent of on-trade alcohol consumed in London (DEFRA 2010 Food Survey, 2008-10 3-year average) it seemed more sensible to use the second highest elasticity.

BOX 25

Consumer surplus from alcohol consumption in the *evening/night time* on-trade is then calculated for London by applying the share of total hours worked in the evening and night (Box 8). This produces an estimate ranging from £386 million to £690 million.

BOX 26

The share of output from alcohol-consumption in the NTE by borough (as calculated in Box 11) is then applied to London-wide consumer surplus (in Box 25) to estimate consumer surplus at borough level.

Assumes that GVA/economic output shares can be used as a proxy for consumer surplus shares by borough.

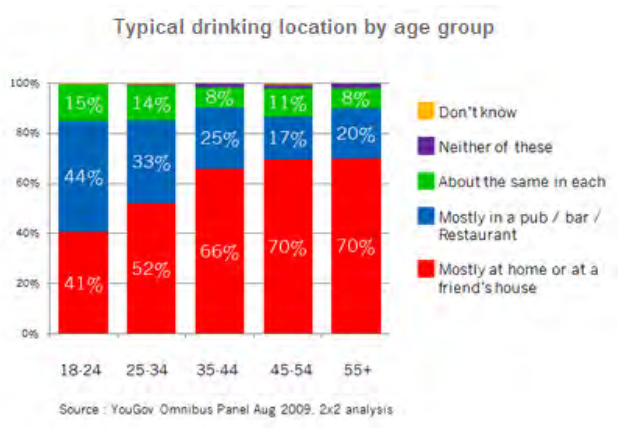
Assumes that the demand curve is linear. In reality the demand curve may have a different shape causing it to cross the 'Price' axis at a lower point. If this were so then the true consumer surplus would be lower than the estimates provided here.

Using the share of total hours worked in the evening & night to apportion total consumer surplus from the on-trade throughout the day **assumes** that the per worker per hour sale of alcohol on-trade is constant throughout the day. In this case, the share of hours worked in the evening/night is a proxy for the consumption of alcohol during the evening/night.

3. Residents' option value

An option value relates to the value that a person places for maintaining or preserving a service (the value could also be negative, indicating that people would pay for the good/service to be removed or reduced). In this context, it is the value that residents place in having (or not having) a local NTE which serves alcohol, even if there is little or no likelihood of them using it e.g. a resident may want to have a local pub *in case* there was a time when they would want to go or to take their visitors/guests to even though the likelihood of this happening is small. Often this will feed into higher (or lower) residential values when everything else (such as, for example, proximity to transport and good schools) is accounted for. Its value can also be attained by asking residents how much they are willing to pay for the local NTE to remain (or be removed). The value of this is likely to be greatest amongst younger populations (see Chart 1). Given the difficulties in valuing residents option value the tool does not estimate it.

Chart 1:



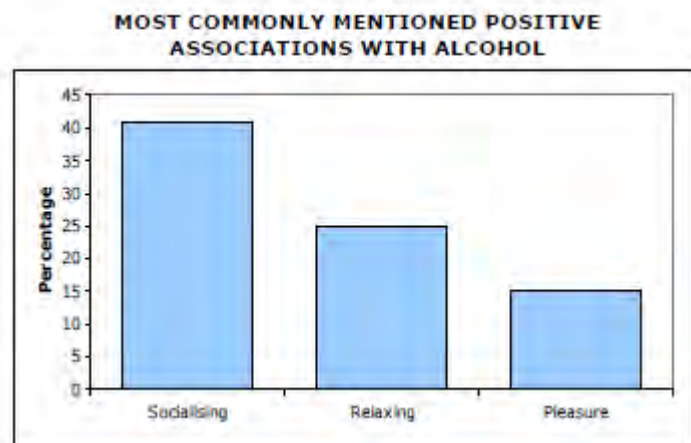
Source: Customer segmentation – typical location, The Wilson Drinks Report.

4. Social capital benefits

Whilst the definition of social capital varies, here it is taken loosely to be the value (e.g. health, employment opportunities or social cohesion) of creating and maintaining social networks and relationships (including family) which can be facilitated by alcohol consumption. For example, drinking is widely associated with socialising (see Chart 2) and socialising can have many economic benefits both to the individual but also to wider society. The value to the individual of the socialising will already be included in their consumer surplus. However, the wider impacts to society will not be. For example, assume someone (person A) values laughing for half an hour at £10 – they may pay this to go to a comedy club or have a friend/family member (person B) that can meet up with and would make them laugh for half an hour/ Assume also, that person A enjoys drinking. In fact, person A would willingly pay £8 for a pint of beer (and £18 for a pint of beer if they are in the company of person B - £8 for the beer and £10 for the entertainment that person B provides). Consider person A now goes to a pub with person B and pays £4 for a pint of beer. Person A gets an additional £4 from the enjoyment they get from the beer (the difference between what they would pay (£8) and what they actually pay (£4)) but also £10 worth of laughter given that person B is with them. Their total consumer surplus is £14. However, laughing can have positive physical and mental health benefits, This in turn can have positive impacts for the economy more widely e.g. less likely to draw down on health services, more likely to be productive at work and so on. These wider positive impacts are social capital benefits.

Clearly these ‘external’ benefits are very hard to calculate; they will vary significantly by individual person and situation. As such, they are not estimated in the tool.

Chart 2:



Source: Alcohol Misuse: Interim Analytical Report, September 2003, Prime Minister’s Strategy Unit

5. Tourism to other NTE activities as well as the day-time economy

Alcohol consumption in the NTE may be complementary to other NTE activities in the area e.g. people going to a pub for a drink in an area may choose to then go on to a nearby cinema where they would not have done so in the absence of the pub nearby, This can generate additional economic activity which can be directly attributed to the availability of alcohol in the NTE. Equally, people who visit an area for an alcoholic drink in the NTE may return during the day due to the positive reputation associated with the areas’ NTE.

On the other hand, alcohol-consumption in the NTE may have the opposite effect by deterring people from coming to the area. For example, if an areas’ NTE and associated alcohol consumption is viewed negatively, people may avoid using other goods/services in the area (both during the night-time and the day-time).

In the absence of data, the tool does not include any estimate of the direction, size or value of these potential tourism knock-on effects.

6. Crime and fear of crime

Crime, and fear of crime, imposes costs on almost every group within the London economy. Some of this is offset by the business generated by crime and fear of crime. For example, fear of crime generates demand for certain goods/services such as alarm systems which benefits businesses within those industries. Several points should be noted with regard to the estimates for crime and fear of crime. Firstly, the costs associated with crime are not estimated separately for different groups. Instead, crime costs are split into (a) those excluding drink driving and (b) drink driving costs. Secondly, the costs associated with fear of crime are not fully estimated² but information from the MPS Public Attitudes Survey is provided to give an indication of the scale of the problem. Some of the costs of fear of crime will be covered by the estimates of the actual crime costs (in part (a)). This is because actual crime costs include costs in anticipation of crime (such as spending on security and insurance). However, this does not cover all costs from the fear of crime, namely the costs incurred directly by individuals.

	Local and central government finances	Local residents	NTE patrons	Third-parties/wider society	Businesses engaged in NTE alcohol sale	Other businesses	London-wide
Crime and fear of crime	- Crime that occurs as a result of drinking in the NTE imposes a cost e.g. to health services, criminal justice system, policing etc.	- Local residents who are victims of crime (both actual and potential) incur costs both in anticipation (e.g. alarm systems) and as a consequence (e.g. property damaged/stolen) of crime.	- Visitors to the NTE who are victims of crime incur costs as a consequence of crime (e.g. property damaged/stolen, physical & emotional impacts) of crime.	- The consequences of crime can also impose costs to the economy more widely e.g. lost output.	- Businesses who are victims of crime (both actual and potential) incur costs both in anticipation (e.g. alarm systems) and as a consequence (e.g. property damaged/stolen) of crime.	- Businesses who are victims of crime (both actual and potential) incur costs both in anticipation (e.g. alarm systems) and as a consequence (e.g. property damaged/stolen) of crime.	-
		- Fear of crime can reduce peoples quality of life and enjoyment.	- Fear of crime can reduce peoples quality of life and enjoyment.	- Where the fear of crime overestimates the true probability of a crime occurring then there can be an inefficient allocation of resources (e.g. too much spending on security).	+ Businesses engaged in providing services in anticipation of crime (e.g. insurance companies), in response (e.g. policing, lawyers) and as a consequence (e.g. health services) of crime receive revenue.		

a. Alcohol-related crime (excluding drink driving) in the NTE

Alcohol-related crime costs (excluding drink driving) have been estimated using police recorded data. However this data often excludes some low-level anti-social behaviour (largely where an offender(s) are unlikely to be arrested). As such, whilst some antisocial behaviour costs are likely to be included in the estimates (e.g. criminal damage and drug trafficking) others are less likely (e.g. intimidation or nuisance behaviour). Further, noise (which is also classified as a form of anti-social behaviour) is unlikely to be included in the alcohol-related crime estimates below but a methodology for boroughs to estimate it is provided later. As such, the true cost of alcohol-related crime in the NTE will be higher than those estimated. As a lower estimate (covering only the cost of

² Some of the costs of fear of crime will be covered by the estimates of the actual crime costs (in part (a)). This is because actual crime costs include costs in anticipation of crime (such as spending on security and insurance). However, this does not cover all costs from the fear of crime, namely the costs incurred directly by individuals

public sector agencies responding to reports and therefore not including the indirect or emotional costs incurred by residents or third parties) the average cost of an anti-social behaviour offence is around £255³.

BOX 27

Data on the number (and type) of alcohol-related crime incidences between 6pm and 6am by borough in & around the following locations:

- Betting Shop
- Hotel/Guesthouse
- Licensed Club
- Off Licence
- Public House
- Take Away Premises
- Wine Bar/Bistro
- Transport hubs (bus stops, tube etc).

Source: Requested from the Metropolitan Police Service (MPS), extracted from MetMis on 16/3/2012 and from the City of London Police

Note: It is likely that this underestimates the actual crime that takes place as not all crime occurring between 6pm and 6am will necessarily be reported to police within that time. For example, criminal damage that occurs to a property by someone who is drinking within the NTE may not even be noticed by the property owner (and consequently reported to police) until the following morning. Furthermore, since the data focuses on crime that occurs in and around main NTE hubs (such as licensed clubs and bus stops it will not pick up crimes that spill out from the NTE to further a field. Nonetheless, this seemed like the best available way of estimating crime that occurs within the NTE due to alcohol-consumption.

Assumes that people involved in these crimes in a certain borough have also been drinking in that borough. It is possible that someone consumes alcohol in borough X before committing a crime in borough Y. In this case the crime cost should be attributed to borough X but will instead be attributed to borough Y where the crime occurred.

BOX 28

Box 27 relates to *reported* crime incidences. These are scaled up to allow for crimes that occur but are not reported/recorded using the following multipliers:

	Multiplier ¹	Multiplier ²
Homicide	1	
Serious wounding	1.5	
Other wounding	1.5	
Sexual offences	13.6	
Common assault	7.9	
Robbery - personal	4.8	
Burglary in a dwelling	2.8	
Theft from person		4.6
Theft of a pedal cycle		3.6
Theft of vehicle	1.3	
Theft from vehicle	3.5	
Attempted vehicle theft	2.3	
Other theft and handling		2.7
Criminal damage - personal	5.9	
Robbery - commercial	4.8	
Burglary not in a dwelling	1.9	
commercial - theft of vehicle	1.3	
Commercial - theft from vehicle	3.5	
Commercial - attempted vehicle theft	2.3	
Shoplifting	16.1	
Criminal damage - commercial	5.9	

¹ Data from 'Revisions made to the multipliers and unit costs of crime used in the integrated offender management value for money toolkit', September 2011, Home Office

² Data from 'The Economic & Social Costs of Crime against Individuals & Households 2003/4', Home Office Report 30/5

BOX 30

Combining box 20 and 21 we will have a total cost of alcohol-related NTE crime by borough.

The London total will be equal to the sum of borough costs.

BOX 29

The cost of crime is estimated using Home Office reports from 1999 and 2005. As such, the estimates have been inflated to 2011 prices. The Gross Domestic Product (GDP) deflator has been used to inflate physical and emotional impact costs and Consumer Prices Index (CPI) has been used to inflate all other costs. The results are (Annex 3 provides the original costs from the Home Office reports):

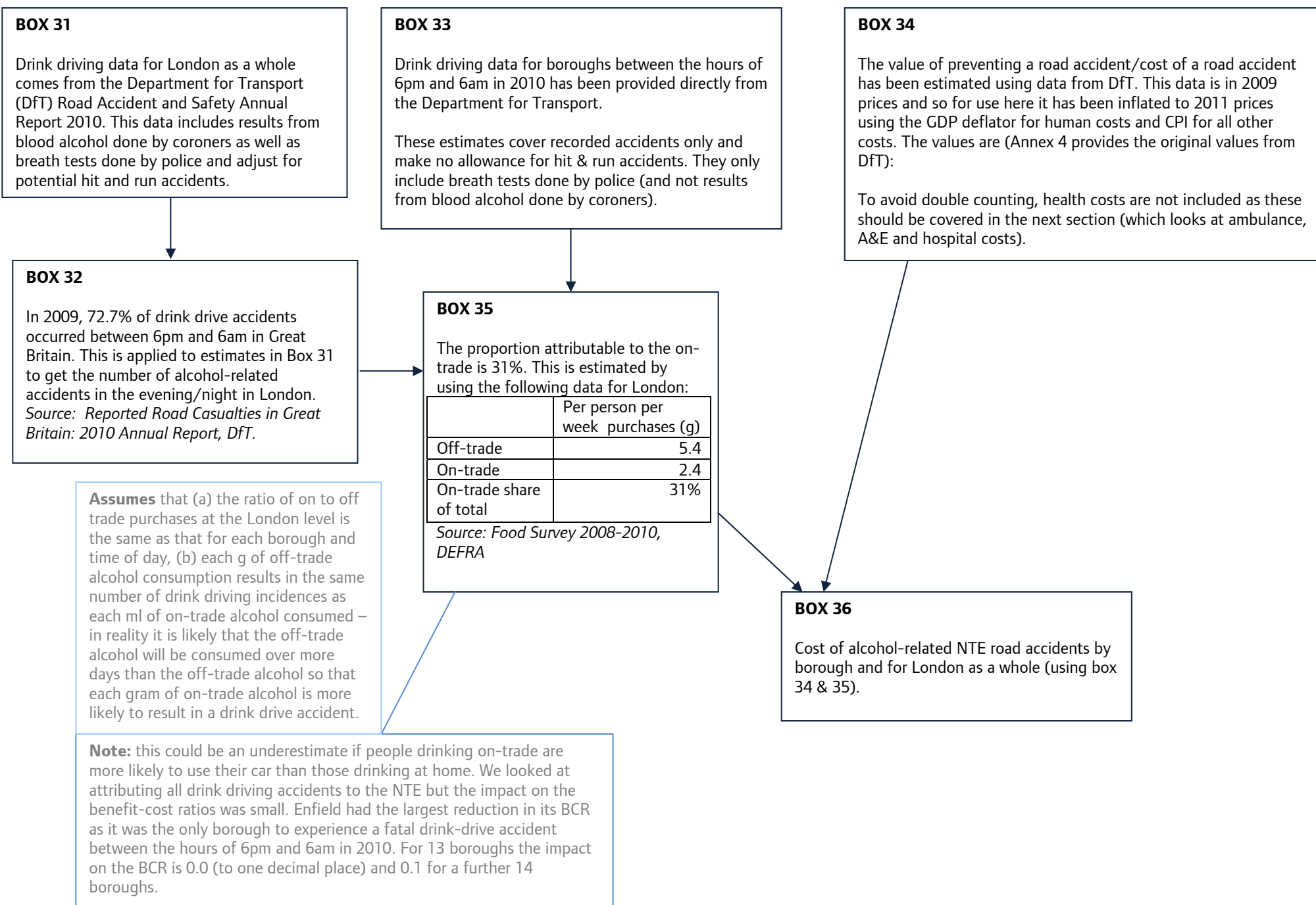
	Defensive expenditure (e.g. security)	Insurance administration	Physical and Emotional Impact on Direct Victims	Value of property stolen	Property Damaged/Destroyed	Property Recovered	Victim Services	Lost Output	Criminal Justice System, Prison, Police etc	Total cost (excluding health costs)
Homicide	179	283	1,049,787	-	-	-	2,600	557,940	178,397	1,789,186
Serious wounding	1	1	5,557	-	-	-	9	1,442	17,742	24,752
Other wounding	1	1	5,557	-	-	-	9	1,442	1,210	8,219
Sexual offences	4	6	27,763	-	-	-	40	5,479	4,079	37,371
Common assault	-	-	961	-	-	-	7	333	315	1,617
Robbery - personal	-	26	3,719	135	15	23	20	1,250	3,217	8,358
Burglary in a dwelling	273	219	788	1,046	231	27	14	79	1,406	4,030
Theft - not vehicle	-	41	144	216	21	16	1	4	372	783
Theft of vehicle	675	458	976	2,928	432	670	1	58	246	5,103
Theft from vehicle	143	62	325	297	156	14	1	25	62	1,057
Attempted vehicle theft	80	26	237	-	190	-	1	14	80	629
Criminal damage - personal	16	45	576	-	262	-	2	7	156	1,064
Robbery - commercial	1,555	130	771	1,944	-	-	-	155	1,814	6,369
Burglary not in a dwelling	1,166	65	-	1,555	-	-	-	52	635	3,473
commercial - theft of vehicle	4,406	1,944	-	5,961	-	-	-	78	91	12,478
Commercial - theft from vehicle	311	143	-	415	-	-	-	13	39	920
Commercial - attempted vehicle theft	80	26	237	-	190	-	1	14	80	629
Shoplifting	39	-	-	65	-	-	-	-	26	130
Criminal damage - commercial	441	26	-	570	-	-	-	39	78	1,153

Note:

1. The health service costs associated with crime are not included as these will be covered/picked-up in the acute alcohol illness costs below.
2. The crimes that are not recorded (i.e. the additional ones calculated by using the multipliers in Box 28) will be adjusted to exclude the cost in response of crime e.g. police costs as well as savings made from property recovered.

³ Using findings from 'One day count of antisocial behaviour, September 10th 2003', Home Office. The report suggests a total of 16.5 million reports of anti-social behaviour a year at a cost of £13.4 billion. This per offence cost of £206 has then been inflated to 2011 prices using the CPI deflator.

b. Alcohol-related drink driving in the NTE



c. Fear of crime

Dolan et al, 2007 ('Estimating the economic and social cost of the fear of crime') calculated that the psychological health loss from the fear of crime was £19.50-£52.65 per person/year in England & Wales⁴. Nonetheless, the direction of causality between health and fear of crime is not very clear so this estimate needs to be treated with caution. In other words it is not clear whether being in fear of crime causes poor mental health or whether poor mental health causes a higher fear of crime. The tool, therefore, does not include estimates regarding costs associated with the fear of crime (although a small proportion will be covered in the costs in part (a) above).

Nonetheless the tool provides borough level data from the Public Attitudes Survey (MPS, 2010/11) for the following questions:

1. People being drunk or rowdy in public places
 - a. Very big problem
 - b. Fairly big problem
 - c. Not a very big problem
 - d. Not a problem at all
 - e. Don't know
2. How important do you think it is that the Metropolitan Police deal with people being drunk or rowdy? (scale of 1 to 7)
3. To what extent are you worried about anti-social behaviour in this area (eg graffiti, vandalism, drunk and disorderly people)?
 - a. Very
 - b. Fairly
 - c. Not very
 - d. Not at all
 - e. Don't know

For presentational ease the results from these questions have been weighted to provide a single score ranging from 0 (not a problem/important/worried) to 100 (very big problem/important/worried).

Whilst these questions do not directly answer the question of the extent of residents' fear of crime from alcohol consumption in the NTE they do provide some more general insights regarding the extent to which residents care/are concerned about alcohol-related negative behaviour.

7. Acute alcohol illness

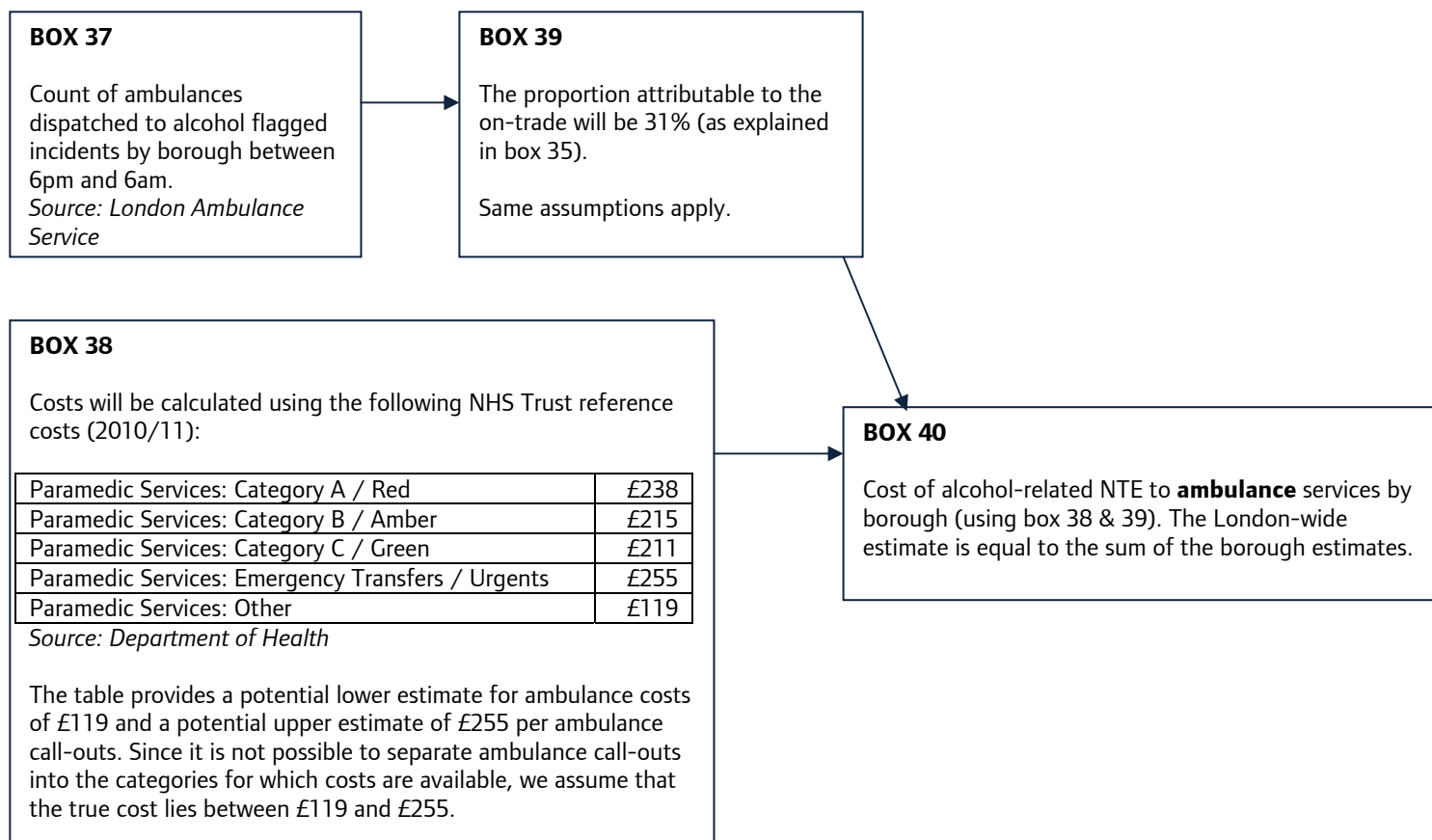
Drinking alcohol in the NTE can cause acute alcohol illnesses (Annex 5 provides a full list of what these are). These impose costs on health services and to the individuals who suffer from them (although most of the costs to the health service are transferred to business/employees in the form of supplies or contracts and wages). The costs to different sections of the health service (ambulance, A&E and hospital) are all estimated separately.

⁴ Note that these estimates still do not include the following costs from fear of crime: costs from changes in behaviour (e.g. where people use their own cars or take taxis rather than walk or use public transport because of their fear of crime), physical health costs, and costs from a changed view of society.

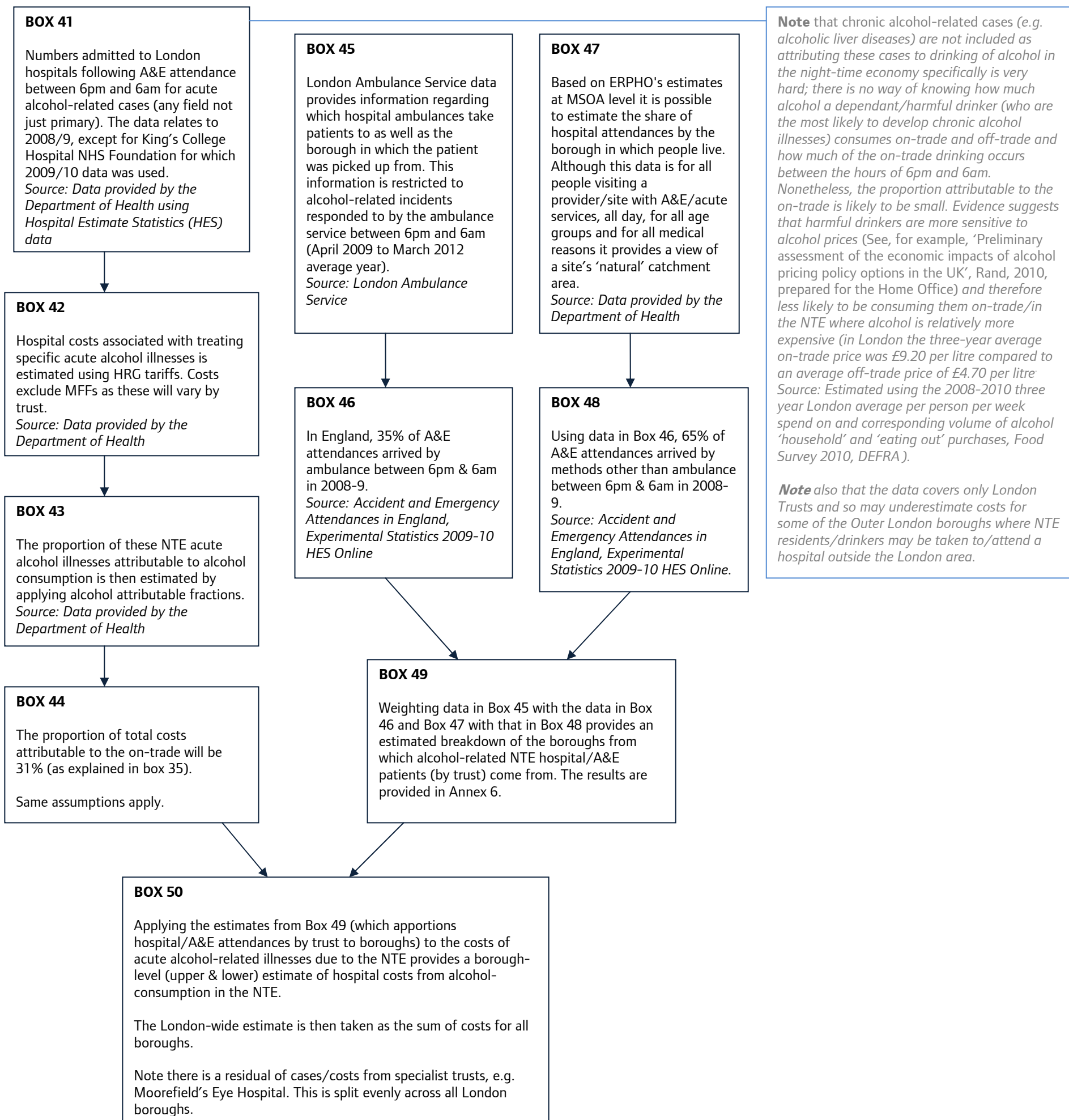
There is a further cost from acute alcohol illness or excessive alcohol consumption in a short space of time: the cost to business (as well as the self-employed and those paid on output rather than time input) from employees being off sick or unable to work at full capacity. This however if estimated in the following section.

	Local and central government finances	Local residents	NTE patrons	Third-parties/wider society	Businesses engaged in NTE alcohol sale	Other businesses	London-wide
Acute alcohol illness	- Acute illness from alcohol consumption in the NTE costs government in terms of resources used to treat people (e.g. ambulance, hospital admission etc).		- Those who are admitted to hospital incur losses in terms of time (this is also true for many who are not admitted but still treated for an acute alcohol illness. However, it has not been possible to value this). - Patrons who fall ill from drinking incur costs from suffering ill-health (where this is factored into their demand curve it will be included in consumer surplus).			+ Businesses engaged in supplying goods/services used in the treatment of acute alcohol illnesses receive a revenue.	-

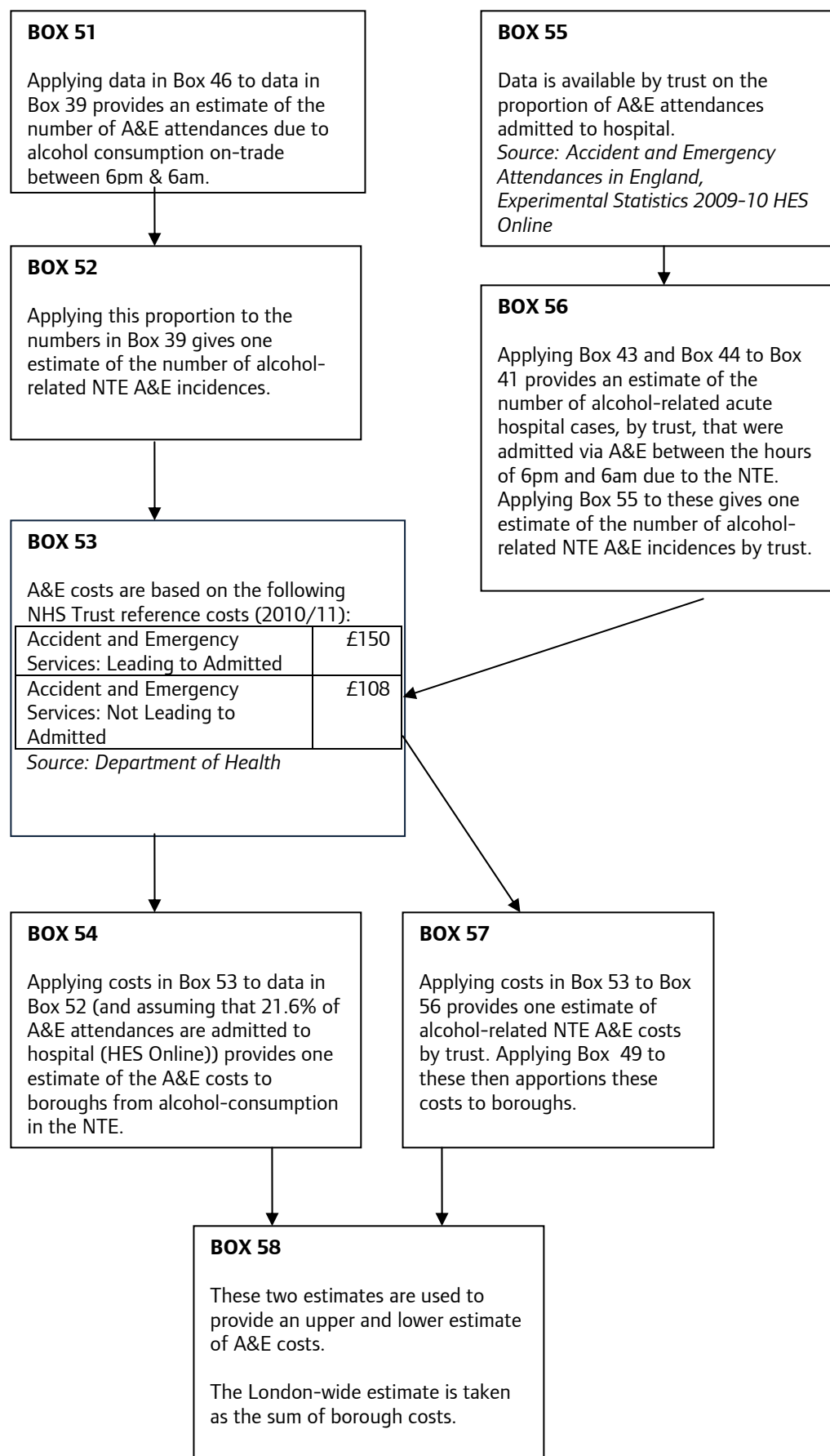
a. Ambulance costs



b. Hospital costs



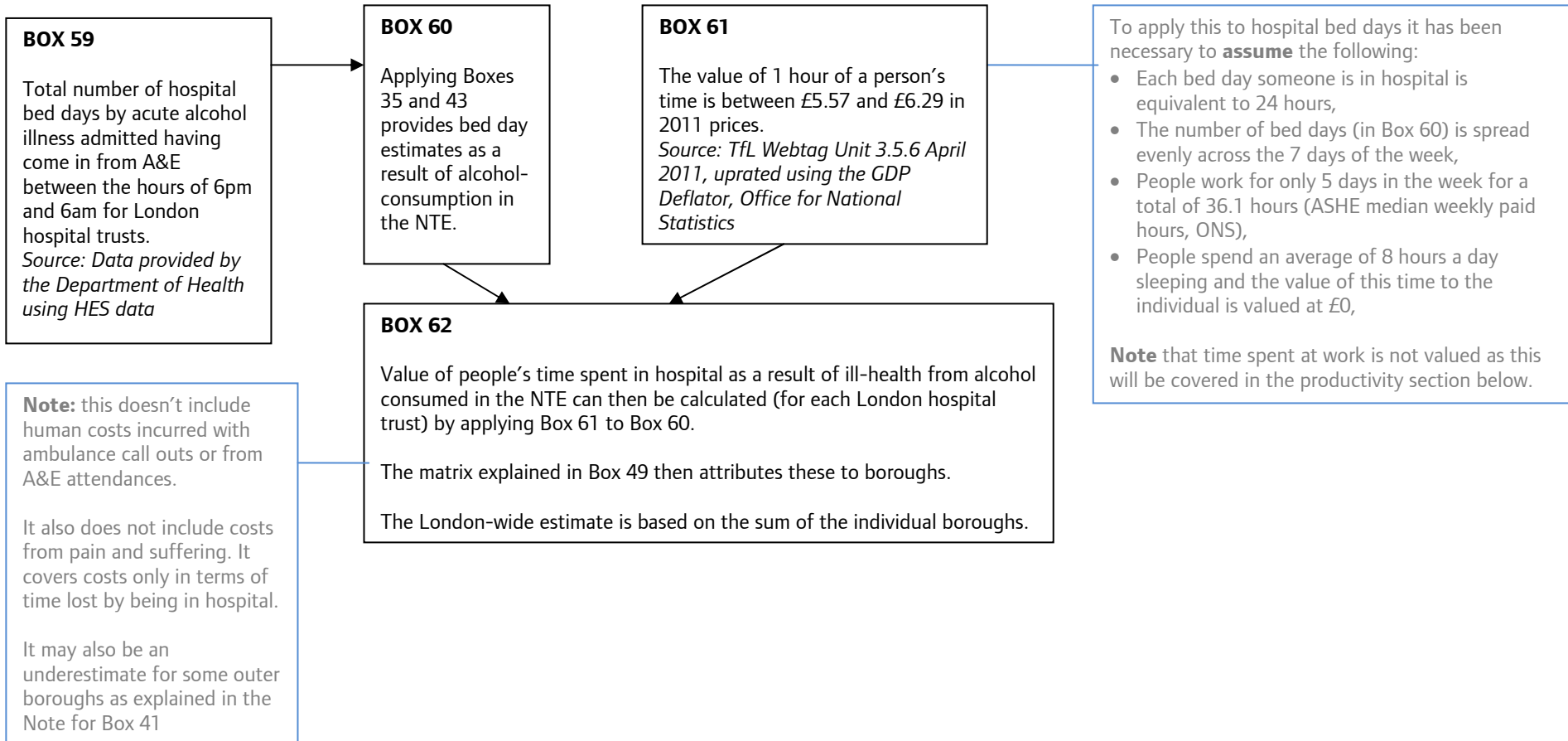
c. Accident and Emergency (A&E) costs



d. Personal costs from ill health

There are two costs to individuals who fall ill as a result of heavy alcohol consumption in the NTE. Firstly, there is the cost of their time e.g. time spent being treated by A&E and, secondly, there is the cost from suffering as a result of unexpected ill-health⁵. Unfortunately, it has only been possible to estimate the value of time lost due to hospital admission (i.e. excluding time spent with ambulance and in A&E). This has been estimated as follows:

⁵ It is important to note that costs from suffering ill-health should only be considered where people are not fully aware of the potential acute alcohol illness that they could incur. In the situation where they know the risks we would assume that this is reflected in the price that they are willing to pay and, therefore, their consumer surplus.

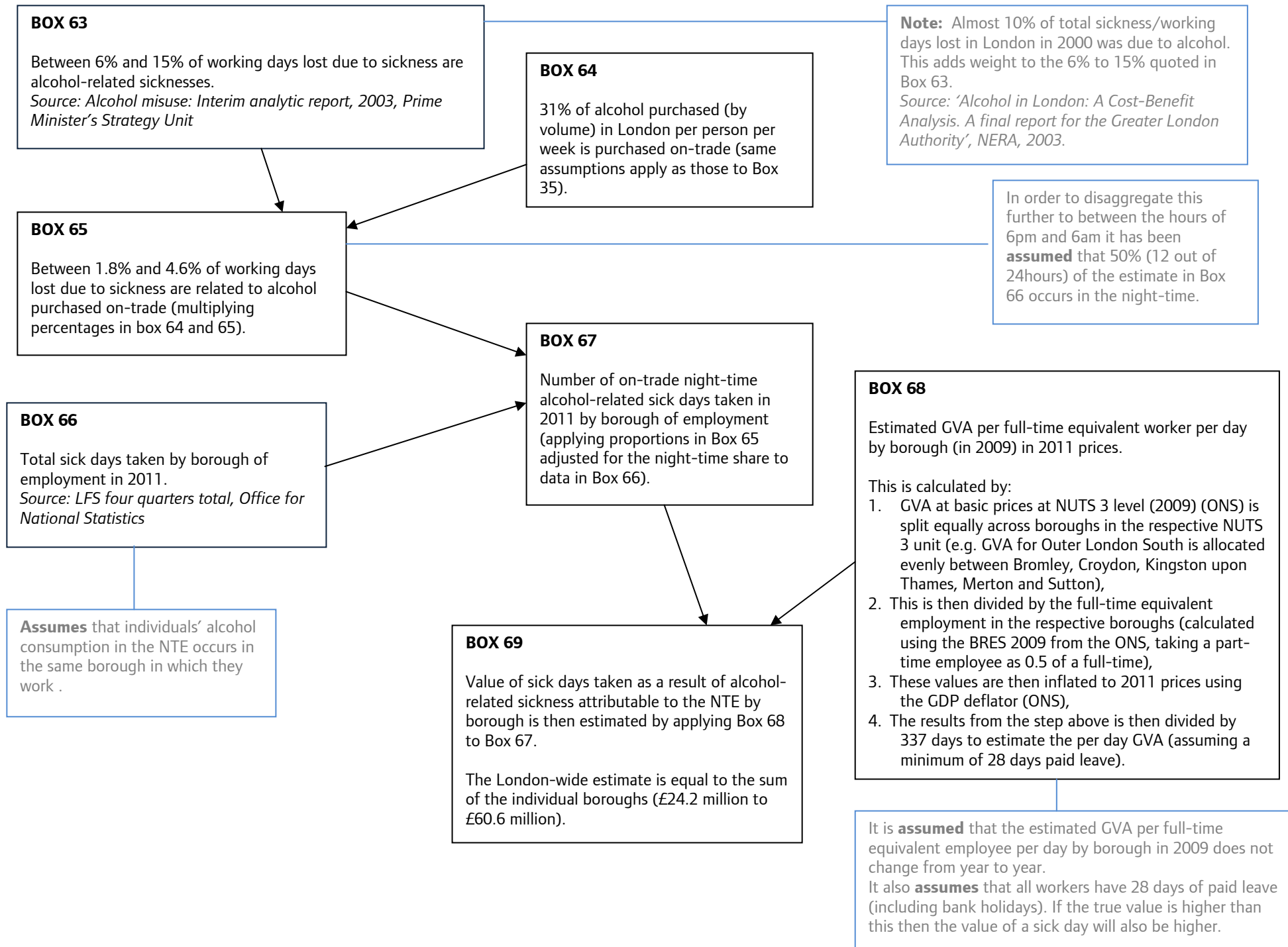


8. Work absenteeism/lost productivity

As suggested in the Note to Box 41 above, it is hard to attribute continued excess alcohol consumption/addiction to the night-time economy. The estimates in the report will, therefore, not cover:

- higher unemployment due to continued alcohol consumption,
- reduced employment due to premature mortality from excess alcohol consumption, or
- lower productivity as a result of impairment, e.g. due to poor sleep, having consumed alcohol, which may affect workers ability to perform their work

Ideally, we would also be able to distinguish between sick days taken off from work due to chronic alcohol-related illnesses and those due to more acute alcohol-related illnesses. However, this is not possible. The cost of sick-days as a result of alcohol-consumption in the NTE has been estimated as follows:



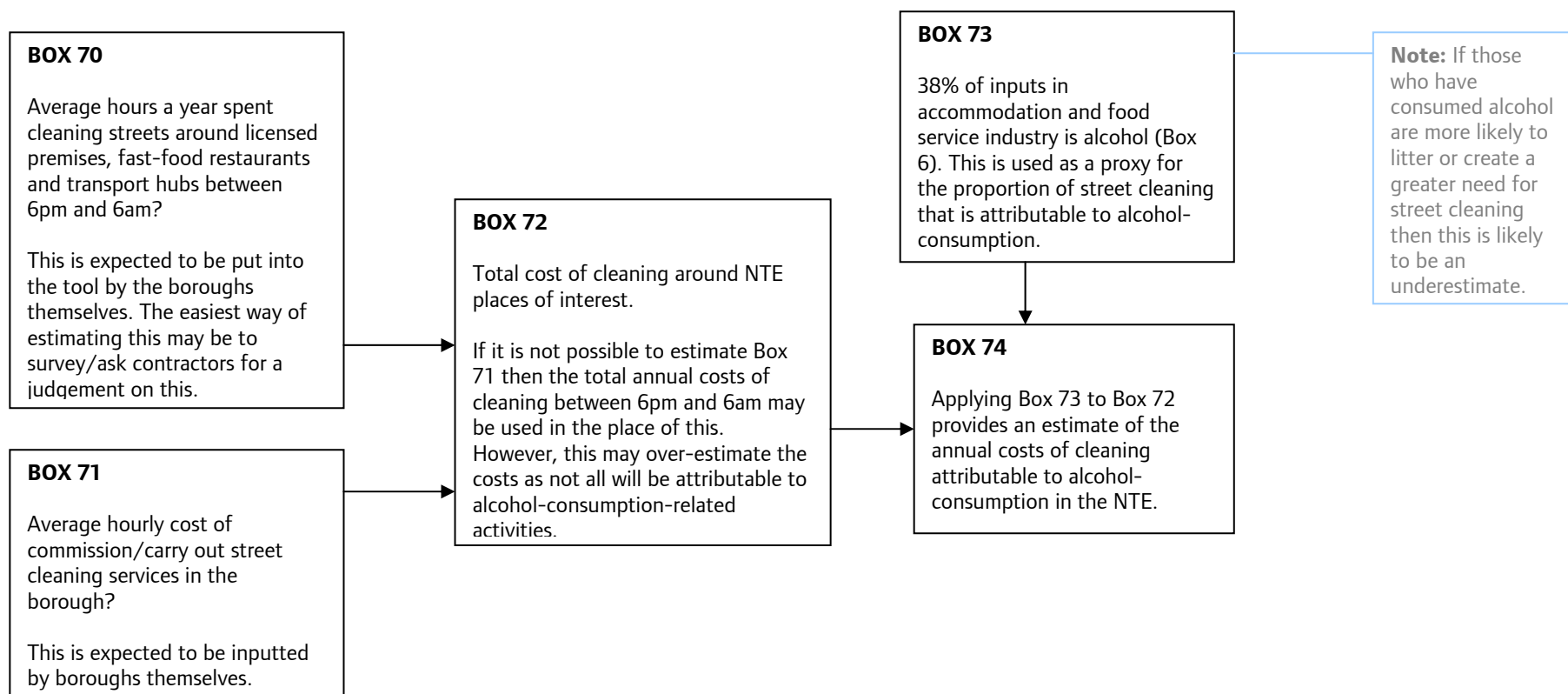
9. Chronic alcohol illness

Continued alcohol consumption can result in chronic alcohol illnesses such as liver disease. This in turn can have costs to government health services (although much of this is transferred to business/employees providing the supplies/labour), to the individual sufferers, to business and to the wider economy. Unfortunately, as mentioned in the 'note' to Box 41, attributing chronic alcohol illnesses to the night-time economy is very difficult. As such, this has not been estimated.

	Local and central government finances	Local residents	NTE patrons	Third-parties/wider society	Businesses engaged in NTE alcohol sale	Other businesses	London-wide
Chronic alcohol illness	- Chronic alcohol illnesses due to drinking in the NTE impose costs on public services e.g. health services, social services (if people are unable to work).		- Chronic alcohol illness places a cost on sufferers from the ill health and time lost being treated (that could have been spent doing other, more enjoyable, activities).	- Chronic alcohol illness (from continued alcohol consumption) may reduce the size of the labour market as these people are unable to work or work for fewer years (due to early mortality). This in turn reduces the productive capacity of the economy.		- Lower output from employees with lower productivity due to impairment. + Businesses engaged in supplying goods/services used in the treatment of acute alcohol illnesses receive a revenue.	-

10. Street cleaning around licensed premises and fast food restaurants in the evening and night time

Estimates of the costs of street cleaning due to alcohol consumption in the NTE require input from the boroughs themselves. The way in which it is then estimated is as follows:



It should be noted that this cost is essentially transferred (as a benefit) to business/people engaged to carry it out, and does not cover the costs to local residents who are subject to dirty streets and refuse.

11. Noise pollution

Loud noise from NTE premises which sell alcohol or from its visitors can be a nuisance to local residents and to local authority finances who have to monitor and follow up on complaints. Whilst it has not been possible to estimate the costs associated with residents' suffering from noise, the costs to government agencies can be estimated as follows (note that there is also a benefit from noise pollution for businesses trading in goods/services that reduce noise levels):

BOX 75

Average cost of a noise reported to public agencies was around £185 in 2003. This is equal to £229 in 2011 (uprated using CPI, ONS).

Calculated using the 'noise' row in the following table:

DAY COUNT RESULTS

	REPORTS	ESTIMATED COST TO AGENCIES PER DAY (000s)	ESTIMATED COST TO AGENCIES PER YEAR
LITTER/RUBBISH	10686	£1,866	£466m
CRIMINAL DAMAGE/VANDALISM	7855	£2,667	£667m
VEHICLE RELATED NUISANCE	7782	£1,361	£340m
NUISANCE BEHAVIOUR	7660	£1,420	£355m
INTIMIDATION/HARASSMENT	5415	£1,983	£496m
NOISE	5374	£994	£249m
ROWDY BEHAVIOUR	5339	£995	£249m
ABANDONED VEHICLES	4994	£360	£90m
STREET DRINKING AND BEGGING	3239	£504	£126m
DRUG/SUBSTANCE MISUSE AND DRUG DEALING	2920	£527	£132m
ANIMAL RELATED PROBLEMS	2546	£458	£114m
HOAX CALLS	1286	£198	£49m
PROSTITUTION, KERB-CRAWLING, SEXUAL ACTS	1011	£167	£42m
TOTAL	66107	£13,500	£3.375bn

Source: 'One day count of antisocial behaviour, September 10th 2003', Home Office

Note: The cost does not include indirect or emotional costs caused by noise.

BOX 76

38% of inputs in accommodation and food service industry is alcohol (Box 6). This is used as a proxy for the proportion of noise that is attributable to alcohol-consumption.

BOX 77

Number of noise complaints/disturbances coming from the public realm or licensed premises a year?

This is expected to be put into the tool by the boroughs themselves.

BOX 78

Annual cost of noise from alcohol consumed in the NTE (applying Box 77 to Box 76).

Note: this is likely to underestimate the true costs as (a) it does not include indirect or emotional costs caused by noise, (b) it only covers cases of noise that have been recorded i.e. it does not include the cases that people do not report but are nonetheless disturbed by and (c) it does not include the costs of enforcing or monitoring noise levels.

12. Sale of alcohol at on-licensed premises to underage persons

According to the NHS Information Centre, 82% of young people surveyed had been successful in purchasing alcohol from a pub or club. This compares to 73% for those purchasing from a shop. However, there is no available data to place a monetary value or attribute this to the night-time specifically so the tool does not include an estimate of these.

13. Transport costs

Transport costs relate to any additional costs Transport for London (TfL) may incur as a result of alcohol consumption in the NTE e.g. additional cleaners required as a result of people vomiting. TfL have informed us that such additional costs are likely to be small and they have no estimates for (or method of estimating) these. As such, the tool does not include estimates of additional costs to TfL from alcohol consumed in the NTE.

Again, it should be noted that any costs incurred by TfL would be matched by benefits to business/employees engaged in providing the goods/services.

14. Alcohol impact on relationships and family

Alcohol misuse can contribute to the breakdown of relationships and, amongst parents, can also have adverse consequences for their children (see, for example, 'Alcohol Misuse: Interim Analytical Report', Prime Minister's Strategy Unit). Nonetheless, attributing the role of the NTE to continued and excessive alcohol consumption is very difficult. As such, the tool does not include an estimate the alcohol-related NTE costs to relationships and families/children (and, consequently, the costs on social services).

Annex 1: Estimating the share of hours worked in the accommodation and food services industries in the evening/night-time.

GLA Economics along with the support of the Office for National Statistics (ONS) London Region Team have calculated an estimate for the share of hours worked in the evening/night-time in the Accommodation and Food and Beverage Service industries for London and the UK. The estimates use data from the ONS Labour Force Survey (LFS) April-June quarters for several years.

A number of approximations and assumptions have had to be made in order to produce the final estimates. This is because the existing source questions on the LFS do not enable an accurate calculation of the share of hours worked in the evening or night to be made. As such, the estimate provided here should be treated with caution.

The estimates have been derived through two stages, explained below in greater detail.

1) Producing the total number of hours worked

To produce the total number of hours worked, two LFS variables have been used. These variables are:

Total actual hours in main job (SUMHRS). This shows the number of hours worked into detailed groupings (e.g. 1 hour, 1.5 hours, up to 97 hours in the reference week).

Usual work pattern (USURPWORK). This is a recoded version of USUWRK. Basically, this recode variable groups the USUWRK variable into the following categories:

- 1 'Usual to work night only'
- 2 'Usual to work evening only'
- 3 'Usual to work night + evening'
- 4 'Usual to work day+night'
- 5 'Usual to work day+evening'
- 6 'Usual to work day+evening+night'
- 7 'Usual to work day only'

These two variables have then been cross tabulated to produce the detailed number of people working during the day, evening, night, day+ night, etc, by the number of hours they have worked. These data have then been converted from number of people into number of hours by summing the number of people working by the hours worked. E.g. Number of people in the UK working only during the day for two hours a week ($49,000 * 2.0 = 98,000$ hours).

2) Working out the share of total hours attributed to evening and night time work (using LFS April-June 2011)

For the Accommodation and Food Services (A&FS) industry in London, 43 per cent of total hours worked in the April to June quarter of 2011, were worked by people who only worked during the day. Nine per cent were worked by people who only worked either during the evening and/or at night (see Table A1). These data, for hours usually worked only during the day, or only during the evening and/or at night are straightforward as they do not include people who work in both the day and the evening/ night.

However, the other 49 per cent of total hours worked in London's A&FS industry apply to hours worked by people who worked both during the day and in the evening and/or at night (see Table A1). It is this category that presents a problem in terms of the methodology as it is not possible to allocate these hours to either day or evening/night in a robust manner. Instead, some significant assumptions have to be made to enable an approximate apportionment to be carried out.

Thus, to calculate the approximate proportion of these hours worked during the evening and/or night, ratios based on a number of crude assumptions (further discussed below) are applied to those variables that feature both day and evening and/or night hours, to produce the approximate proportion within these variables working in the evening and/or at night.

The assumption uses Accommodation and Food Services data (at 1 and 2 digit SIC07 level) at UK and London level. The approximations have been derived by examining the two LFS variables for evening and night work (EVENG, NIGHT) for all cases where USURPWORK = 4,5 or 6,. However, the EVENG and NIGHT variables are limited in the information they provide. For example, for a person who worked both day and evening, the EVENG variable will only tell us whether the person worked more than half their hours in the evening or less than half. It is from this limited information that the above ratios had to be estimated. As such, these ratios must be regarded as highly tentative, and users should not place too much emphasis on their accuracy or on results that follow from their application.

Table A1 presents the results from this apportionment method.

Table A1: Estimating the share of hours worked in the evening/night time in accommodation and food service industries

Share of total hours worked by people who work:-	Total UK	UK 55 Accomodat ion	UK 56 Food Services	UK 55+56	Total London	London 55 Accomodat ion	London 56 Food Services	London 55+56
only during the day	68%	42%	34%	36%	67%	57%	38%	42%
only during the evening &/or night	3%	8%	13%	12%	2%	10%	11%	11%
both during the day and the night &/or evening	28%	50%	52%	52%	30%	33%	51%	47%
of which:-								
day + evening	18%	35%	32%	33%	19%	21%	28%	27%
day + night	1%	0%	0%	0%	0%	1%	0%	1%
day + evening + night	10%	15%	20%	19%	10%	11%	22%	20%
Assumption 3 (A3) (apportioning based on a crude approximation of UK & London 2 digit SIC 55 & 56 proportions)								
day: evening UK = 60:40 (55) & 50:50 (56); London = 60:40 (55 & 56)								
day: night UK = 80:20 (55) & 70:30 (56); London = 80:20 (55) & 50:50 (56)								
day: evening or night UK = 40:60 (55 & 56); London = 60:40 (55) & 30:70 (56)								
Final night + evening estimate for Accom & Food Services								
(using A3 ratios)		31%	42%	40%		23%	38%	36%

Notes

Labour Force Survey data:

Labour Force Survey data relate to April-June 2011 quarter and are for 16+ workplace based population. Data are not seasonally adjusted. Questions on working patterns are only asked in this quarter each year, hence the reason the data are only for one quarter of 2011.

Data include main jobs only. After examining second jobs data, it was deemed statistically insignificant to add second jobs for the Accommodation & Food Services industry. Adding second jobs data would have little to no impact on final proportions.

Variables used to approximate evening/night share of total hours worked (Labour Force Survey data):

GORWKR – Region of workplace

USUWK1 – Usual to work during day

*Usual to work during day
Not usual to work during day*

USUWK2 - Usual to work during evening

*Usual to work during evening
Not usual to work during evening*

USUWK3 - Usual to work at night

*Usual to work at night
Not usual to work at night*

EVENG and NIGHT variables include the following categories:

*Half or more of total work time during the evening [for EVENG] / at night [for NIGHT]
or less than half
no time worked in evening in past 4 weeks
Total*

Limitations of analysis:

The assumption ratios are very crude estimates based on the nature of the data available. They should be treated with caution. This applies also to the calculations applied to GVA data to give a proxy for the evening/night time economy. The reliability of these estimates is questionable, given the crude nature of approximating the ratios of hours worked for day:evening; day:night; day:evening+night.

Annex 2: Matching crime categories.

The crimes which police records covers do not correspond perfectly to those for which costs and multiplies are available. It has therefore been necessary to try to match the two groups up. Table A2 shows how the two have been matched up.

Table A2: Matching of crime types

Offence Category for Recorded Incidents	Multiplier	Cost (if same for all cost categories)	Insurance administration	Defensive expenditure (e.g. security)	Physical and Emotional Impact on Direct Victims	Property damaged/D destroyed	Property Recovered	Victim Services	Lost Output	Criminal Justice System, Prison, Police etc
Violence Against The Person	Wounding/CBH	Serious wounding								
	Assault With Injury	Serious wounding								
	Common Assault	Common assault								
	Harassment	Common assault								
	Offensive Weapon	Serious wounding								Serious wounding
	Other Violence	Common assault								
	Rape	Sexual offences								
Sexual Offences	Other Sexual	Sexual offences								
		Sexual offences								
Robbery	Business property	Robbery - commercial								
	Personal Property	Robbery - personal								
Theft & Handling	Theft From Motor Vehicle	Theft from vehicle								
	Theft/Taking Of Motor Vehicle	Theft of vehicle								
	Theft/Taking Of Pedal Cycle	Theft of a pedal cycle								
	Theft From Shops	Shoplifting								
	Theft Person	Theft from the person								
	Other Theft	Other theft and handling								
	Handling Stolen Goods	Other theft and handling								Theft - not vehicle
Burglary	Burglary in a dwelling	Burglary in a dwelling								
	Burglary in other buildings	Burglary not in a dwelling								
Fraud & Forgery	Counted Per Victim	Other theft and handling								
	Other Fraud & Forgery	Other theft and handling								
		Other theft and handling								
Criminal Damage	Criminal Damage To Dwelling	Criminal damage - personal								
	Criminal Damage To Motor Vehicle	Criminal damage - personal								
	Criminal Damage To Other Building	Criminal damage - commercial								
	Other Criminal Damage	Criminal damage - personal								
	Possession Of Drugs	Other theft and handling								Theft - not vehicle
Drugs	Drug Trafficking	Other theft and handling								Theft - not vehicle
	Other drugs	Other theft and handling								Theft - not vehicle
	Going Equipped	Burglary in a dwelling	Burglary in a dwelling	Burglary in a dwelling						Burglary in a dwelling
Other Notifiable Offences	Other Notifiable	Other theft and handling								Theft - not vehicle
	Other Accepted Crime	Other theft and handling								Theft - not vehicle

Annex 3: Original costs of crime from Home Office reports

Table A3 shows the original costs of crime from two Home Office reports. These have been inflated to 2011 prices to produce the costs of crime used in this work.

Table A3: Original unit costs of crime in 2003 and 1999 prices

	Defensive expenditure (e.g. security)	Insurance administration	Physical and Emotional Impact on Direct Victims	Value of property stolen	Property Damaged/Destroyed	Property Recovered	Victim Services	Lost Output	Criminal Justice System, Prison, Police etc	Average cost
Homicide ¹	145	229	860,380				2,102	451,110	144,239	1,458,975
Serious wounding ¹	1	1	4,554				7	1,166	14,345	21,422
Other wounding ¹	1	1	4,554				7	1,166	978	8,056
Sexual offences ¹	3	5	22,754				32	4,430	3,298	31,438
Common assault ¹	-	-	788				6	269	255	1,440
Robbery - personal ¹	-	21	3,048	109	12	19	16	1,011	2,601	7,282
Burglary in a dwelling ¹	221	177	646	846	187	22	11	64	1,137	3,268
Theft - not vehicle ¹		33	118	175	17	13	1	3	301	634
Theft of vehicle (personal & commercial) ¹	546	370	800	2,367	349	542	1	47	199	4,138
Theft from vehicle ¹	116	50	266	240	126	11	1	20	50	858
Attempted vehicle theft ¹	65	21	194		154		1	11	65	510
Criminal damage - personal ¹	13	36	472		212		2	6	126	866
Robbery (commercial) or till snatch ²	1,200	100	590	1,500			-	120	1,400	5,000
Burglary not in a dwelling ²	900	50	-	1,200			-	40	490	2,700
Theft of commercial vehicle ²	3,400	1,500	-	4,600			-	60	70	9,700
Theft from commercial vehicle ²	240	110	-	320			-	10	30	700
Shoplifting ²	30	-	-	50			-	-	20	100
Criminal damage ²	340	20	-	440			-	30	60	890

¹ Data from 'Estimates of the economic and social costs of crime in England and Wales: Costs of crime against individuals and households, 2003/4', Home Office Report 30/5

² Data from 'The economic and social cost of crime', Sam Brand & Richard Price 1999, Home Office Report 217

Annex 4: Original costs of crime from Department for Transport (DfT)

Table A4 shows the original values of preventing a road accident in the UK from DfT. These have been inflated to 2011 prices to produce the costs of crime used in this work.

Table A4: Original values of preventing a road accident in 2009 prices

Accident severity	Cost Element						TOTAL
	Casualty related costs			Accident related costs			
	Lost output	Medical and ambulance	Human costs	Police cost	Insurance and admin	Damage to property	
Fatal	596,674	5,615	1,175,101	1,848	291	10,674	1,790,203
Serious	23,767	14,244	161,713	245	181	4,907	205,056
Slight	2,959	1,253	14,090	57	110	2,903	21,372
All injury	13,225	3,055	48,546	105	122	3,270	68,323
Damage only	-	-	-	3	52	1,828	1,883

Source: The Accidents Sub-Objective: TAG Unit 3.4.1, April 2011, DfT

Annex 5: Acute alcohol illnesses.

The list of acute alcohol illnesses has been taken from 'Independent review of the effects of alcohol pricing and promotion: Part B' University of Sheffield 2008 (Table 18, p.71) and includes:

- Road traffic accidents (non-pedestrian),
- Pedestrian traffic accidents,
- Water transport accidents,
- Air/space transport accidents,
- Fall injuries,
- Work/machine injuries,
- Firearm injuries,
- Drowning,
- Inhalation of gastric contents,
- Fire injuries,
- Accidental excessive cold,
- Intentional self-harm,
- Assault,
- Mental and behavioural disorders due to use of alcohol,
- Ethanol poisoning,
- Methanol poisoning,
- Toxic effects of alcohol, unspecified,
- Accidental poisoning by exposure to alcohol.

Annex 6: Allocating NHS Trust data to boroughs.

Health costs as a result of alcohol-consumption in the NTE need to be attributed to the boroughs in which the drinking takes place. However, when someone presents themselves to A&E (and, perhaps, subsequently become admitted to hospital) from acute alcohol illnesses as a result of drinking alcohol in the NTE only the hospital/A&E that they go to is recorded. There is no direct way of knowing which boroughs' NTE was responsible. It has therefore been necessary

to make some assumptions in order to allocate hospital and A&E costs from acute alcohol illnesses between 6pm and 6am to boroughs. This has been done using two sets of data. The first (shown in table A5) uses data from the London Ambulance Service which tracks where an ambulance picks someone up due to an alcohol-flagged incident and the hospital that they are taken to. The second (shown in table A6) uses Hospital Episode Statistics (HES) data on where patients attending an acute trust live. This provides a picture on the natural catchment areas of hospital and it seems reasonable to assume that if someone living in borough A visits hospital A then someone drinking in borough A would visit the same hospital were they to seek medical attention.

Table A5: Percentage of patients taken to hospital via ambulance responding to alcohol-flagged incidents between 6pm and 6am by borough of pick-up, April 2009 to March 2012 (average year)

	Barking, Havering and Redbridge University Hospitals NHS Trust	Barnet and Chase Hospitals NHS Trust	Barts and The London NHS Foundation Trust	Chelsea and Westminster Hospital NHS Foundation Trust	Croydon Health Services NHS Trust	Ealing Hospital NHS Trust	Epsom and St Helier University Hospitals NHS Foundation Trust	Guy's and St Thomas' NHS Foundation Trust	Homerton University Hospital NHS Foundation Trust	Imperial College Healthcare NHS Trust	King's College Hospital NHS Foundation Trust	Kingston Hospital NHS Trust	Newham University Hospital NHS Trust	North Middlesex Hospital NHS Trust	North West London Healthcare NHS Trust	Royal Free London NHS Trust	South London Healthcare NHS Trust	St George's Healthcare NHS Trust	The Hillingdon Hospital NHS Trust	The Lewisham Hospital NHS Trust	The Whittington Hospital NHS Trust	University College London Hospitals NHS Foundation Trust	West Middlesex University Hospital NHS Trust	Whips Cross University Hospital NHS Trust	
Barking and Dagenham	26%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Barnet	0%	54%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	6%	19%	0%	0%	0%	0%	5%	0%	0%	0%	0%
Bexley	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%	0%	0%	0%	0%	0%	0%	0%	0%
Brent	0%	1%	0%	0%	0%	0%	0%	0%	0%	7%	0%	0%	0%	0%	44%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bromley	0%	0%	0%	0%	6%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	29%	0%	0%	10%	0%	0%	0%	0%	0%
Camden	0%	0%	1%	0%	0%	0%	0%	5%	0%	3%	0%	0%	0%	0%	1%	62%	0%	0%	0%	0%	8%	36%	0%	0%	0%
City of London	0%	0%	17%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%
Croydon	0%	0%	0%	0%	82%	0%	3%	0%	0%	0%	1%	0%	0%	0%	0%	0%	3%	1%	0%	0%	0%	0%	0%	0%	0%
Ealing	0%	0%	0%	0%	0%	89%	0%	0%	0%	5%	0%	0%	0%	0%	14%	0%	0%	0%	6%	0%	0%	4%	0%	0%	0%
Enfield	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Greenwich	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	43%	0%	0%	0%	0%	0%	0%	0%	0%
Hackney	0%	0%	12%	0%	0%	0%	0%	0%	76%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	5%	3%	0%	0%	1%
Hammersmith and Fulham	0%	0%	0%	21%	0%	1%	0%	0%	0%	34%	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Haringey	0%	2%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	57%	0%	2%	0%	0%	0%	0%	25%	0%	0%	0%	1%
Harrow	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Havering	39%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Hillingdon	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	91%	0%	0%	0%	0%	2%	0%
Hounslow	0%	0%	0%	0%	0%	5%	0%	0%	0%	3%	0%	1%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	66%	0%
Islington	0%	0%	6%	0%	0%	0%	0%	1%	8%	0%	0%	0%	0%	1%	0%	2%	0%	0%	0%	0%	53%	17%	0%	0%	0%
Kensington and Chelsea	0%	0%	0%	45%	0%	0%	0%	1%	0%	13%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Kingston upon Thames	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lambeth	0%	0%	0%	2%	5%	0%	1%	18%	0%	0%	0%	61%	0%	0%	0%	0%	0%	16%	0%	1%	0%	0%	0%	0%	0%
Lewisham	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	3%	0%	0%	73%	0%	0%	0%	0%	0%
Merton	0%	0%	0%	0%	3%	0%	22%	0%	0%	0%	0%	6%	0%	0%	0%	0%	0%	31%	0%	0%	0%	0%	0%	0%	0%
Newham	1%	0%	4%	0%	0%	0%	0%	0%	3%	0%	0%	0%	81%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%
Redbridge	32%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%
Richmond upon Thames	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	27%	0%	0%
Southwark	0%	0%	1%	0%	0%	0%	0%	21%	0%	0%	48%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%	0%	0%
Sutton	0%	0%	0%	0%	3%	0%	71%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Tower Hamlets	0%	0%	57%	0%	0%	0%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
Waltham Forest	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	1%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	70%
Wandsworth	0%	0%	0%	19%	0%	0%	1%	2%	0%	3%	1%	12%	0%	0%	0%	0%	0%	48%	0%	0%	0%	0%	0%	0%	0%
Westminster	0%	0%	1%	11%	0%	0%	0%	49%	0%	30%	1%	0%	0%	0%	1%	4%	0%	1%	0%	0%	1%	38%	0%	0%	0%
Grand Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: London Ambulance Service

Table A6: Hospital catchment populations (percentage by borough)

	Barking, Havering and Redbridge Chase NHS Trust	Barnet and Chase Hospitals NHS Trust	Chelsea and Westminster NHS Foundation Trust	Ealing Hospital NHS Trust	Epsom and St Heller University Hospitals NHS Foundation Trust	Guy's and St Thomas NHS Foundation Trust	Homerton University Hospital NHS Foundation Trust	Imperial College Healthcare NHS Trust	King's College Hospital NHS Foundation Trust	Newham University Hospital NHS Trust	North Middlesex Hospital NHS Trust	North West London Hospitals NHS Trust	Royal Free London Healthcare NHS Trust	South London Healthcare NHS Trust	St George's Healthcare NHS Trust	The Hillingdon Hospital NHS Trust	The Lewisham Hospital NHS Trust	The Whittington Hospital NHS Trust	University College London Hospitals NHS Foundation Trust	Whipps Cross University Hospital NHS Trust
Barking and Dagenham	26%	0%	3%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Barnet	0%	38%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	4%	32%	0%	0%	0%	8%	0%	0%
Bexley	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%
Brent	0%	1%	0%	0%	1%	0%	0%	10%	0%	0%	0%	38%	5%	0%	0%	0%	0%	0%	2%	0%
Bromley	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	40%	0%	0%	8%	0%	0%	0%
Camden	0%	0%	0%	0%	0%	0%	1%	3%	0%	0%	0%	0%	29%	0%	0%	0%	0%	5%	29%	0%
City of London	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Croydon	0%	0%	0%	0%	0%	3%	1%	0%	4%	0%	0%	0%	0%	0%	7%	0%	0%	0%	0%	0%
Ealing	0%	0%	4%	0%	0%	0%	0%	14%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	1%	2%
Enfield	0%	36%	1%	0%	0%	0%	0%	0%	0%	0%	0%	52%	5%	0%	0%	0%	0%	3%	5%	0%
Greenwich	0%	0%	0%	0%	0%	0%	4%	0%	3%	0%	0%	0%	0%	28%	0%	0%	11%	0%	0%	0%
Hackney	0%	0%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	4%	4%	0%
Hammersmith and Fulham	0%	0%	0%	0%	0%	0%	0%	16%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Haringey	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	43%	0%	7%	0%	0%	0%	30%	6%	0%
Harrow	0%	3%	0%	0%	1%	0%	0%	2%	0%	0%	0%	39%	3%	0%	0%	3%	0%	2%	0%	0%
Havering	36%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Hillingdon	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	88%	0%	0%	0%	0%
Hounslow	0%	0%	0%	5%	0%	6%	0%	7%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%	0%	68%
Islington	0%	0%	2%	0%	0%	0%	1%	4%	0%	0%	0%	0%	5%	0%	0%	0%	0%	42%	22%	0%
Kensington and Chelsea	0%	0%	0%	0%	0%	0%	1%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Kingston upon Thames	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%
Lambeth	0%	0%	0%	0%	0%	24%	0%	0%	27%	0%	0%	0%	0%	0%	8%	0%	0%	0%	1%	0%
Lewisham	0%	0%	0%	0%	0%	8%	0%	0%	12%	0%	0%	0%	0%	0%	0%	0%	75%	0%	0%	0%
Merton	0%	0%	1%	2%	0%	15%	1%	0%	0%	0%	0%	0%	0%	0%	24%	0%	0%	0%	0%	0%
Newham	1%	0%	10%	0%	0%	0%	0%	4%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	6%
Redbridge	27%	0%	5%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	1%	0%	24%
Richmond upon Thames	0%	0%	0%	4%	0%	1%	0%	0%	3%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	28%
Southwark	0%	0%	0%	0%	0%	27%	0%	0%	34%	0%	0%	0%	0%	0%	0%	0%	2%	0%	1%	0%
Sutton	0%	0%	0%	0%	0%	37%	0%	0%	0%	1%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%
Tower Hamlets	0%	0%	51%	0%	0%	0%	1%	4%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Waltham Forest	0%	0%	4%	0%	0%	0%	0%	4%	0%	1%	2%	0%	0%	0%	0%	0%	0%	0%	2%	0%
Wandsworth	0%	0%	0%	0%	0%	1%	5%	0%	1%	0%	0%	0%	0%	0%	35%	0%	0%	0%	0%	60%
Westminster	0%	0%	0%	0%	0%	0%	4%	0%	22%	0%	0%	0%	3%	0%	0%	0%	0%	8%	0%	0%
All London	90%	79%	91%	100%	98%	100%	87%	90%	95%	100%	98%	98%	92%	0%	87%	100%	100%	93%	99%	91%
Other (beyond London)	10%	21%	9%	0%	2%	0%	13%	5%	10%	16%	2%	2%	8%	0%	13%	4%	0%	7%	1%	9%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: Department for Health

35 per cent of A&E patients are brought in via ambulance between the hours of 6pm and 6am, and this is used to weight the borough shares in Table A4. The shares in table A6 are then weighted by the remaining 65 per cent. The results are presented in Table A7.

Table A7: Percentage shares of hospital specific costs to boroughs.

	Barking, Havering and Redbridge University Hospitals NHS Trust	Barnet and Chase Hospitals NHS Trust	Barnet and Chase Hospitals NHS Trust	Chelsea and Westminster NHS Foundation Trust	Croydon Health Services NHS Trust	Ealing Health Services NHS Trust	Epsom and St Helier University Hospitals NHS Foundation Trust	Guy's and St Thomas' NHS Foundation Trust	Homerton University Hospital NHS Trust	Imperial College Healthcare NHS Foundation Trust	King's College Hospital NHS Foundation Trust	Kingston Hospital NHS Trust	Kingston Hospital NHS Trust	Newham University Hospital NHS Trust	Newham University Hospital NHS Trust	North Middlesex Hospital NHS Trust	North West London NHS Trust	Royal Free London NHS Trust	Royal Free London NHS Trust	South London Healthcare NHS Trust	St George's Healthcare NHS Trust	The Hillingdon Hospital NHS Trust	The Hillingdon Hospital NHS Trust	The Lewisham Hospital NHS Trust	The Whittington Hospital NHS Trust	University College London Hospitals NHS Foundation Trust	University College London Hospitals NHS Foundation Trust	Whipps Cross University Hospital NHS Trust	
Barking and Dagenham	26%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Barnet	0%	43%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	5%	27%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bexley	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%
Brent	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%	0%
Bromley	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	36%	0%	0%	0%	0%	0%	0%	0%	0%
Camden	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
City of London	0%	0%	7%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Croydon	0%	0%	0%	0%	87%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%
Ealing	0%	0%	0%	3%	0%	88%	0%	0%	0%	0%	11%	0%	0%	0%	0%	0%	0%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Enfield	0%	37%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Greenwich	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%
Hackney	0%	0%	10%	0%	0%	0%	0%	0%	0%	78%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Hammersmith and Fulham	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	22%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Haringey	0%	2%	1%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Harrow	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Havering	37%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Hillingdon	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Hounslow	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Islington	0%	0%	3%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Kensington and Chelsea	0%	0%	0%	35%	0%	0%	0%	0%	0%	0%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Kingston upon Thames	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lambeth	0%	0%	0%	2%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lewisham	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Merton	0%	0%	0%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Newham	1%	0%	8%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Redbridge	29%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Richmond upon Thames	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Southwark	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sutton	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tower Hamlets	0%	0%	53%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Waltham Forest	0%	0%	3%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Wandsworth	0%	0%	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Westminster	0%	0%	0%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Source: GLA Economics calculations