

# **Freight transport in London: a summary of current data and sources**

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## 1. INTRODUCTION

Freight transport has a major impact on the economy, quality of life, and attractiveness of urban areas, but it receives relatively little attention in comparison with passenger transport. Achieving an efficient and sustainable distribution system for goods and services is one of the greatest challenges facing London, especially given the expected growth in population and employment.

TfL has to monitor the movement of goods vehicle traffic in and around London, monitor the movement of commodities and to carry out detailed analyses of freight activity. One important aspect of this monitoring and evaluation work is the freight transport data needed for such tasks. Therefore, TfL commissioned the University of Westminster to carry out a project to investigate freight data for London. The purpose of the project was to consider the available freight data for London and identify other currently unused data sources.

This report presents the freight data acquired during the project. Section 2 presents a comparison of freight lifted by different modes in London. Section 3 presents data about road freight transport. This includes goods lifted by road as well as goods vehicle activity. Section 4 presents data about freight transport lifted by non-road modes. Section 5 presents data about employment in freight transport in London.

The research was carried out during the first quarter of 2004.

## 2. FREIGHT LIFTED IN LONDON

Figure 1 shows the total volume of freight, in terms of tonnes lifted in London by road, water and rail between 1990 and 2002. This illustrates that road is the dominant mode for goods transport in London. It should be noted that Figure 1 only includes rail freight data up to 1994 (as discussed below).

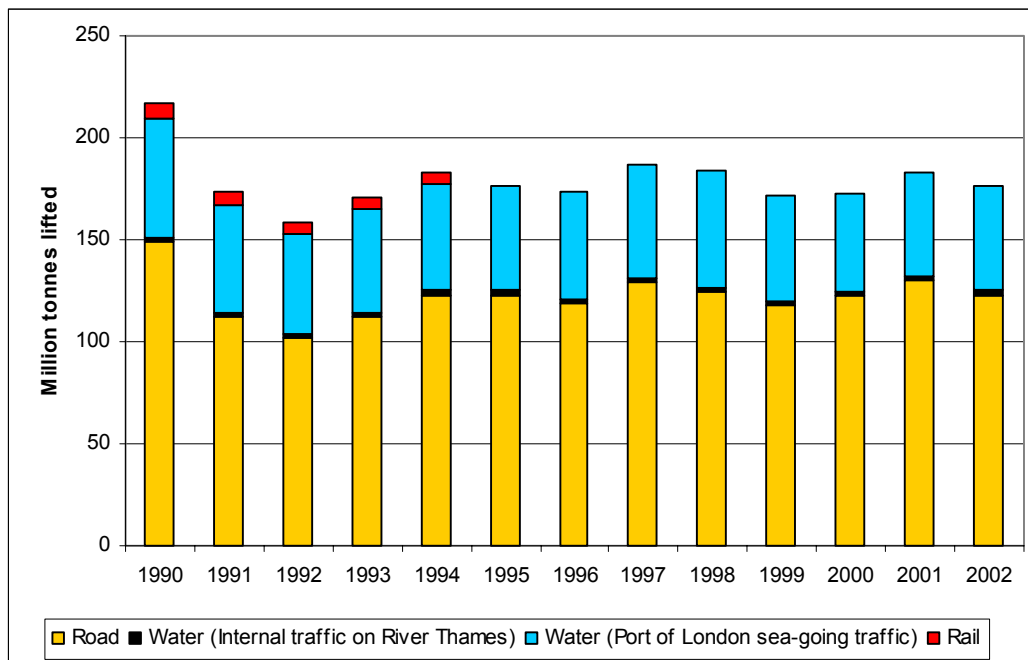


Figure 1: Freight lifted in London by mode

In 2002, 123 million tonnes of road freight, lifted by vehicles with gross weight of over 3.5 tonnes, had its origin or destination in Greater London. For 51 million tonnes, both the origin and destination was in London. The freight lifted in London by road in 2002 is approximately 17% below the 1990 level, reflecting changes in the nature of London's economy. The freight lifted in London by road represented approximately 8% of the total freight lifted in Britain by road. London is a net importer of freight from the rest of Britain by road, with 10 million more tonnes entering than leaving London in 2002 (DfT, 2003a).

The Port of London is the second largest port in the UK, handling 9.2 percent of all the foreign and domestic sea-going freight tonnage handled at UK ports in 2002. Sea-going freight traffic through the Port of London declined between 1990 and 1992, then increased to 57.3 million tonnes in 1998 before falling to 47.9 million tonnes in 2000, and rising to 51.2 million in 2002 (DfT, 2003c). Internal freight traffic on the Thames has fluctuated over the last decade. In 2002 it was 5 per cent above the 1990 level (2.1 million tonnes compared with 2.0 million tonnes), although the quantities are relatively small (DfT, 2003d).

Annual rail freight data has not been available since 1994 due to privatisation. However, it was calculated that in 2000 approximately 8 million tonnes of rail freight had either an origin and/or destination in London (Ove Arup, 2003). This was approximately 6% of total freight lifted by road in London in 2000.

Seventy seven per cent of the UK's air freight passed through the London area airports of Heathrow, Gatwick, Stansted, Southend and Luton in 2002. The total quantity of freight handled by these airports was 1.7 million tonnes in 2002. Heathrow alone handled 56 per cent of all UK air cargo tonnage in 2002 (CAA, 2003).

### **3. ROAD FREIGHT TRANSPORT**

This section contains data about the following aspects of goods vehicles and their activity in Greater London:

- Goods lifted by origin and destination
- Goods lifted by vehicle type and weight
- Types of commodities lifted
- Mode of appearance
- Length of haul
- Vehicle kilometres performed on journeys to, from and within London
- Empty running
- Lading factors
- Goods vehicle traffic and vehicle kilometres in London
- Goods vehicles licensed in London
- Goods vehicle accidents
- Goods vehicle spot and fleet checks
- Lorry load crime

Sections 3.1 to 3.9 contain estimates of the road freight transport work performed by British-registered goods vehicles with gross weights of more than 3.5 tonnes. These estimates are based on special tabulations of the Continuing Survey of Road Goods Transport and the International Road Haulage Survey provided by the Department for Transport's Freight Statistics Team for this project. Section 3.9 discusses the work carried out by foreign-registered goods vehicles in London. The activity of light goods vehicles (i.e. up to and including 3.5 tonnes gross weight) is addressed in section 3.11; this data has also been provided by the Department for Transport from a special

tabulation of the Survey of Privately-Registered Vans. In the case of these special tabulations it is important to be aware that the sample size can affect the robustness of the results. Sections 3.12 to 3.17 refer to goods vehicle up to and over 3.5 tonnes gross weight.

### 3.1 Goods entering, leaving and moving within London

The Continuing Survey of Road Goods Transport estimates that, in 2002, approximately 123 million tonnes of road freight lifted by British-registered vehicles with gross weights of over 3.5 tonnes had its origin and/or destination in Greater London (DfT, 2003a).

The road freight lifted in London represented approximately 8% of the total freight lifted in Britain by weight in 2002 (DfT, 2003a and 2004a).

It is estimated that in 2002, 51 million tonnes lifted in London by British-registered vehicles had both an origin and destination in London. Thirty one million tonnes were lifted in London and had a destination elsewhere in Britain, while 41 million tonnes were lifted elsewhere in Britain and had a destination in London. Therefore London is a net importer of freight from the rest of Britain by road (DfT, 2004a).

Table 1 shows the quantity of goods lifted with an origin and/or destination in London between 1990 and 2002.

**Table 1: Freight lifted by British HGVs in London 1990-2002 (million tonnes) (DfT, 2003a)**

| Year | Remaining | Entering | Leaving | Total |
|------|-----------|----------|---------|-------|
| 1990 | 68        | 45       | 36      | 149   |
| 1991 | 44        | 38       | 30      | 112   |
| 1992 | 40        | 35       | 27      | 102   |
| 1993 | 44        | 36       | 32      | 112   |
| 1994 | 48        | 43       | 32      | 123   |
| 1995 | 50        | 40       | 33      | 123   |
| 1996 | 45        | 43       | 31      | 119   |
| 1997 | 52        | 45       | 32      | 129   |
| 1998 | 50        | 42       | 33      | 125   |
| 1999 | 48        | 41       | 29      | 118   |
| 2000 | 50        | 42       | 31      | 123   |
| 2001 | 55        | 44       | 31      | 130   |
| 2002 | 51        | 41       | 31      | 123   |

Table 2 shows the regions of the UK in which goods are loaded/unloaded that had an origin or destination in London.

Table 2 shows that of the 30 million tonnes lifted in London and delivered elsewhere in Britain in 2002, 73% was unloaded in the two regions closest to London, the South East and the East of England. Of the 40 million tonnes delivered in London from elsewhere in Britain, 70% was lifted in these same two regions.

Freight movements between London and Wales, Scotland and Northern Ireland represented less than 1% of all freight lifted with an origin and/or destination in London in 2002.

**Table 2: Goods lifted by British HGVs by origin and destination of journey, 1997-2002 (million tonnes) (DfT, 2004a)**

| a) On journeys originating in London |           |           |           |           |           |           |
|--------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| By destination:                      |           |           |           |           |           |           |
|                                      | 1997      | 1998      | 1999      | 2000      | 2001      | 2002      |
| London                               | 52        | 50        | 48        | 50        | 55        | 51        |
| North East                           | 0         | 0         | 0         | 0         | 0         | 0         |
| North West                           | 1         | 1         | 2         | 2         | 1         | 1         |
| Yorkshire & the Humber               | 1         | 1         | 1         | 1         | 1         | 1         |
| East Midlands                        | 2         | 2         | 2         | 2         | 2         | 2         |
| West Midlands                        | 3         | 2         | 2         | 2         | 3         | 2         |
| East of England                      | 11        | 10        | 9         | 10        | 12        | 10        |
| South East                           | 12        | 14        | 11        | 12        | 10        | 12        |
| South West                           | 1         | 2         | 1         | 1         | 1         | 2         |
| Wales                                | 1         | 1         | 0         | 1         | 0         | 0         |
| Northern Ireland                     | 0         | 0         | 0         | 0         | 0         | 0         |
| Scotland                             | 0         | 0         | 0         | 0         | 0         | 0         |
| <b>TOTAL</b>                         | <b>84</b> | <b>83</b> | <b>76</b> | <b>81</b> | <b>85</b> | <b>81</b> |

| b) On journeys with London destinations |           |           |           |           |           |           |
|---|-----------|-----------|-----------|-----------|-----------|-----------|
| By origin of journey:                   |           |           |           |           |           |           |
|   | 1997      | 1998      | 1999      | 2000      | 2001      | 2002      |
| London                                  | 52        | 50        | 48        | 50        | 55        | 51        |
| North East                              | 0         | 0         | 0         | 0         | 0         | 0         |
| North West                              | 1         | 2         | 2         | 1         | 2         | 2         |
| Yorkshire & the Humber                  | 1         | 2         | 2         | 2         | 1         | 1         |
| East Midlands                           | 3         | 3         | 3         | 3         | 4         | 3         |
| West Midlands                           | 3         | 3         | 3         | 2         | 4         | 3         |
| East of England                         | 16        | 14        | 14        | 12        | 15        | 15        |
| South East                              | 16        | 14        | 14        | 17        | 15        | 13        |
| South West                              | 2         | 2         | 2         | 3         | 2         | 2         |
| Wales                                   | 1         | 1         | 1         | 1         | 1         | 1         |
| Scotland                                | 0         | 0         | 0         | 0         | 0         | 0         |
| Northern Ireland                        | 0         | 0         | 0         | 0         | 0         | 0         |
| <b>TOTAL</b>                            | <b>95</b> | <b>91</b> | <b>89</b> | <b>91</b> | <b>99</b> | <b>91</b> |

Note: Totals may not add up due to rounding.

By comparison, the quantity of goods with an origin or destination in London that is transported to/from the rest of Europe by British-registered goods vehicles is very small (this represents approximately 1% of all the freight lifted by British-registered vehicles with an origin or destination in London). In 2002, approximately 450,000 tonnes was unloaded in London by British-registered goods vehicles that had been lifted outside the UK, while approximately 650,000 tonnes lifted by British-registered vehicles was loaded in Greater London and had a destination outside Britain (see Table 3 – DfT, 2004a).

**Table 3: Goods lifted by British HGVs, entering or leaving London, to or from outside Britain, by origins and destinations of journeys, 2002 (thousand tonnes) (DfT, 2004a)**

|                        | Goods entering<br>London | Goods leaving<br>London | Total        |
|------------------------|--------------------------|-------------------------|--------------|
| <b>EU countries</b>    |                          |                         |              |
| Austria                | 3                        | 2                       | 5            |
| Belgium & Luxemb'g     | 117                      | 81                      | 198          |
| Denmark                | 5                        | 3                       | 8            |
| Finland                | 1                        | 1                       | 2            |
| France                 | 236                      | 192                     | 427          |
| Germany                | 60                       | 39                      | 98           |
| Greece                 | 9                        | 8                       | 17           |
| Italy                  | 57                       | 18                      | 75           |
| Ireland*               | 3                        | 5                       | 8            |
| Netherlands            | 77                       | 56                      | 134          |
| Portugal               | 3                        | 5                       | 8            |
| Spain                  | 35                       | 22                      | 57           |
| Sweden                 | 0                        | 0                       | 0            |
| <b>Other countries</b> | 21                       | 23                      | 44           |
| <b>TOTAL</b>           | <b>627</b>               | <b>454</b>              | <b>1,081</b> |

Notes: \* excludes activity crossing the Irish Land Boundary

Totals may not add up due to rounding.

### 3.2 Goods lifted by vehicle type and weight

In 2002, rigid vehicles were responsible for lifting 57% of the goods transported on all journeys within, into and out of London, compared with 43% lifted by articulated vehicles (Table 4).

In terms of goods transported on journeys within London in 2002, rigid vehicles were responsible for lifting 85% of the goods transported, compared with 15% lifted by articulated vehicles.

Articulated vehicles lifted the majority of goods entering (71%) and leaving (55%) London in 2002.

**Table 4: Goods lifted by British HGVs on journeys with origin and/or destination in London by vehicle type in 2002 (percentages and millions) (DfT, 2004a)**

| Gross vehicle weight         | Within London    | Entering<br>London | Leaving<br>London | All journeys<br>with O and/or<br>D in London |
|------------------------------|------------------|--------------------|-------------------|--|
| Rigid over 3.5 to 7.5 t      | 16%              | 5%                 | 5%                | 9%   |
| Rigid over 7.5 to 17 t       | 16%              | 4%                 | 5%                | 9%   |
| Rigid over 17 to 25 t        | 11%              | 4%                 | 4%                | 7%   |
| Rigid over 25 t              | 43%              | 16%                | 31%               | 31%  |
| <b>ALL RIGID</b>             | <b>85%</b>       | <b>29%</b>         | <b>45%</b>        | <b>57%</b>                                   |
| Articulated over 3.5 to 33 t | 4%               | 9%                 | 7%                | 6%   |
| Articulated over 33 t        | 11%              | 62%                | 48%               | 37%  |
| <b>ALL ARTICULATED</b>       | <b>15%</b>       | <b>71%</b>         | <b>55%</b>        | <b>43%</b>                                   |
| <b>ALL VEHICLES</b>          | <b>51 (100%)</b> | <b>41 (100%)</b>   | <b>31 (100%)</b>  | <b>123 (100%)</b>                            |

### 3.3 Length of haul

The average journey distance for goods transported within London was 28.3 kilometres in 2000, 26.4 kilometres in 2001 and 27.5 kilometres in 2002.

Table 5 shows the journey distance for goods transported within London, goods leaving London and goods entering London in 2002. For goods remaining in London, the majority (71%) had a total distance of up to 25 kilometres, while 18% were moved between 25-50 kilometres. Only 12% of goods lifted that remained in London had a journey distance of more than 50 kilometres.

A small proportion of journeys within London (representing 1% of goods lifted that remain in London) are shown as having journey distances of more than 200 kilometres. This is probably due to journeys with more than five stops that start and finish in London but which include visits outside London as part of the journey.

**Table 5: Good lifted by British HGVs with origin and/or destination in Greater London in 2002 (million tonnes and percentages) (DfT, 2004a)**

| Journey distance (km) | Within London    | Entering London  | Leaving London   | All journeys with O and/or D in London |
|-----------------------|------------------|------------------|------------------|--|
| up to 25              | 36 (71%)         | 4 (10%)          | 4 (14%)          | 45 (37%)                               |
| Over 25 to 50         | 9 (18%)          | 8 (19%)          | 8 (25%)          | 24 (20%)                               |
| Over 50 to 100        | 4 (7%)           | 10 (24%)         | 5 (18%)          | 19 (15%)                               |
| Over 100 to 200       | 2 (4%)           | 11 (26%)         | 8 (24%)          | 20 (16%)                               |
| Over 200 to 300       | 0 (1%)           | 5 (11%)          | 3 (10%)          | 8 (7%)                                 |
| Over 300              | 0 (0%)           | 4 (10%)          | 3 (9%)           | 7 (6%)                                 |
| <b>All lengths</b>    | <b>51 (100%)</b> | <b>41 (100%)</b> | <b>31 (100%)</b> | <b>123 (100%)</b>                      |

Note: Totals may not add up due to rounding.

### 3.4 Vehicle kilometres on journeys entering, leaving and within London

From CSRGT it is estimated that goods vehicle journeys that had both an origin and destination in Greater London were responsible for 563 million vehicle kilometres (i.e. vehicles over 3.5 tonnes gross weight). This is approximately 2.5% of the total vehicle kilometres performed by goods vehicles over 3.5 tonnes in Britain in 2002 (DfT, 2003a). The breakdown of these vehicle kilometres performed on journeys within London between different types and weights of vehicle is shown in Table 6. This table shows that rigid vehicles carry out 90% of the vehicle kilometres on journeys in which goods remain in London.

**Table 6: Vehicle km performed by British HGVs on journeys with both origin & destination in London in 2002 (DfT, 2004a)**

| Gross vehicle weight         | Vehicle kilometres<br>(million) | Percentage  |
|------------------------------|---------------------------------|-------------|
| Rigid over 3.5 to 7.5 t      | 305                             | 54%         |
| Rigid over 7.5 to 14 t       | 31                              | 5%          |
| Rigid over 14 to 17 t        | 70                              | 12%         |
| Rigid over 17 to 25 t        | 53                              | 9%          |
| Rigid over 25 t              | 51                              | 9%          |
| <b>ALL RIGID</b>             | <b>510</b>                      | <b>90%</b>  |
| Articulated over 3.5 to 30 t | 13                              | 2%          |
| Articulated over 30 to 33 t  | 8                               | 1%          |
| Articulated over 33 t        | 33                              | 6%          |
| <b>ALL ARTICULATED</b>       | <b>54</b>                       | <b>10%</b>  |
| <b>ALL VEHICLES</b>          | <b>564</b>                      | <b>100%</b> |

A total of 587 million vehicle kilometres are performed on journeys in which goods lifted in London are delivered elsewhere in Britain; and 669 million vehicle kilometres are performed on journeys in which goods lifted elsewhere in Britain are delivered in London. However, only a proportion of the distance travelled on these journeys takes place within Greater London (DfT, 2004a). In total, journeys within London, to London and from London account for approximately 8% of all vehicle kilometres performed by goods vehicles in Britain in 2002.

Articulated performed 56% of the vehicle kilometres on journeys leaving London and 53% of the vehicle kilometres on journeys to London in 2002 (DfT, 2004a).

It should be noted that the vehicle kilometre data discussed above includes both loaded and empty vehicle kilometres. See section 3.8 on empty running for further discussion of this issue.

### 3.5 Commodities lifted

Table 7 shows estimates of the quantity of different commodities lifted by goods vehicles on journeys remaining within, entering and leaving London in 2002. Miscellaneous articles was the single most important commodity grouping in terms of weight, followed by other foodstuffs, and other crude minerals.

Miscellaneous articles includes the following products: packing containers, packaging only, pallets, parcels, household waste, arms and ammunition; commodities not elsewhere specified and unknown commodities.

In the case of some commodities such as crude minerals and cement, a greater quantity is transported within London than on journeys into or out of London. This is related to the value density of the commodity as well as its availability within London.

For other commodities such as other foodstuffs and petrol and petroleum products, far more is transported into London than is lifted on journeys within London.

**Table 7: Good lifted by British HGVs with origin and/or destination in Greater London in 2002 (DfT, 2004a)**

|   | Within<br>London | Entering<br>London | Leaving<br>London | All goods lifted<br>with O and/or D<br>in London |
|---|------------------|--------------------|-------------------|--|
| <b>Food, drink and tobacco</b>          |                  |                    |                   |  |
| Agricultural products                   | 1,190            | 1,632              | 1,783             | 4,605  |
| Beverages (excl. tea & coffee)          | 1,121            | 2,856              | 2,278             | 6,256  |
| Other foodstuffs                        | 2,528            | 7,690              | 2,196             | 12,414   |
| Building materials                      | 2,542            | 3,516              | 713               | 6,771  |
| <b>Subtotal</b>                         | <b>7,381</b>     | <b>15,693</b>      | <b>6,971</b>      | <b>30,046</b>                                    |
| <b>Bulk products</b>                    |                  |                    |                   |  |
| Wood, timber & cork                     | 211              | 420                | 261               | 892  |
| Sand gravel, clay & slag                | 2,526            | 2,720              | 1,419             | 6,665  |
| Other crude minerals                    | 7,197            | 2,381              | 2,877             | 12,455   |
| Ores                                    | 523              | 424                | 541               | 1,488  |
| Coal & coke                             | 0                | 176                | 0                 | 176  |
| Cement                                  | 6,754            | 971                | 264               | 7,989  |
| Other building materials                | 273              | 269                | 378               | 920  |
| Iron & steel products                   | 477              | 713                | 540               | 1,729  |
| <b>Subtotal</b>                         | <b>17,960</b>    | <b>8,073</b>       | <b>6,280</b>      | <b>32,313</b>                                    |
| <b>Chemicals, petrol and fertiliser</b> |                  |                    |                   |  |
| Fertiliser                              | 0                | 53                 | 34                | 88   |
| Chemicals                               | 598              | 681                | 708               | 1,988  |
| Petrol & petroleum products             | 362              | 2,112              | 281               | 2,754  |
| <b>Subtotal</b>                         | <b>960</b>       | <b>2,846</b>       | <b>1,024</b>      | <b>4,830</b>                                     |
| <b>Miscellaneous products</b>           |                  |                    |                   |  |
| Machinery & transport                   | 1,669            | 2,560              | 2,523             | 6,752  |
| Miscellaneous manufactures              | 2,568            | 3,880              | 2,310             | 8,758  |
| Manufactures of metal                   | 810              | 534                | 249               | 1,593  |
| Miscellaneous articles                  | 19,972           | 6,899              | 11,115            | 37,986   |
| <b>Subtotal</b>                         | <b>25,018</b>    | <b>13,873</b>      | <b>16,197</b>     | <b>55,088</b>                                    |
| <b>All commodities</b>                  | <b>51,319</b>    | <b>40,485</b>      | <b>30,472</b>     | <b>122,277</b>                                   |

### 3.6 Mode of appearance

Table 8 shows the mode of appearance of goods lifted on journeys within, into and out of London in 2002 by vehicle weight and type.

Thirty six percent of all goods lifted on these journeys were transported in solid bulk form, while 24% were palletised, and a further 23% were “other” (i.e. moved in a different form to the modes of appearance listed in Table 8).

**Table 8: Mode of appearance of goods lifted by British HGVs on trips with origin and/or destination by vehicle type in London in 2002 (thousand tonnes) (DfT, 2004a)**

| Vehicle type        | ISO container | Swap Body  | Palletised    | Liquid Bulk  | Solid Bulk    | Other packaged | Other         | Roll cages   | TOTAL          |
|---------------------|---------------|------------|---------------|--------------|---------------|----------------|---------------|--------------|----------------|
| R >3.5 to 7.5 t     | 0             | 0          | 1,670         | 7            | 1,471         | 801            | 4,950         | 2,509        | 11,408         |
| R >7.5 to 14 t      | 0             | 0          | 470           | 19           | 262           | 172            | 660           | 156          | 1,740          |
| R >14 to 17 t       | 26            | 0          | 2,434         | 170          | 843           | 66             | 5,692         | 210          | 9,441          |
| R >17 to 25 t       | 35            | 0          | 2,107         | 163          | 3,160         | 82             | 2,297         | 215          | 8,059          |
| R >25 t             | 81            | 108        | 1,623         | 496          | 31,657        | 123            | 4,236         | 124          | 38,447         |
| A >3.5 to 30 t      | 12            | 0          | 597           | 0            | 0             | 214            | 1,225         | 1,136        | 3,184          |
| A >30 to 33 t       | 185           | 5          | 1,077         | 342          | 21            | 88             | 1,624         | 1,213        | 4,556          |
| A >33 t             | 3,506         | 212        | 19,255        | 4,218        | 6,636         | 881            | 7,815         | 2,920        | 45,442         |
| <b>All vehicles</b> | <b>3,845</b>  | <b>325</b> | <b>29,234</b> | <b>5,414</b> | <b>44,050</b> | <b>2,427</b>   | <b>28,499</b> | <b>8,482</b> | <b>122,277</b> |
| Percent of total    | 3%            | 0%         | 24%           | 4%           | 36%           | 2%             | 23%           | 7%           | 100%           |

Note: Vehicle type – “R” is rigid vehicle, “A” is articulated vehicle

### 3.7 Mode of working

For all journeys into, out of and within London in 2002, public haulage operations (i.e. third party operators) carried 60% of freight lifted, compared with own account operations carried 40% of all freight.

Public haulage was responsible for approximately three-quarters of all freight lifted that was transported into and out of London in 2002. While own account operations were responsible for 59% of all freight lifted that was transported wholly within London in 2002.

**Table 9: Goods lifted by British HGVs by mode of working on journeys with origins and/or destinations in London in 2002 (thousand tonnes and percentages) (DfT, 2004a)**

| Mode of working | Within London    | Entering London  | Leaving London   | All journeys with O and/or D in London |
|-----------------|------------------|------------------|------------------|--|
| Public haulage  | 21 (41%)         | 29 (72%)         | 23 (75%)         | 73 (60%)                               |
| Own account     | 30 (59%)         | 11 (28%)         | 8 (25%)          | 49 (40%)                               |
| <b>TOTAL</b>    | <b>51 (100%)</b> | <b>41 (100%)</b> | <b>31 (100%)</b> | <b>123 (100%)</b>                      |

Note: Totals may not add up due to rounding.

### 3.8 Empty running

Table 10 shows the proportion of empty vehicle kilometres by weight category and type of journey (i.e. the vehicle kilometres run empty as a proportion of total vehicle kilometres). It is important to note that for journeys leaving and entering London only a proportion of the vehicle kilometres take place in Greater London.

Approximately 20% of goods vehicle kilometres on journeys within London were empty in 2002, compared with 34% on journeys leaving London and 22% on journeys entering London.

For all journeys within, into and out of London in 2002, 25% of vehicle kilometres were run empty. This compares with an empty running percentage of 26% for all goods vehicles in Britain in 2002 (DfT, 2003a).

**Table 10: Empty running performed by British HGVs on journeys with origins and/or destinations in London in 2002 (DfT, 2004a)**

| Gross vehicle weight         | Within London | Entering London | Leaving London |
|------------------------------|---------------|-----------------|----------------|
| Rigid over 3.5 to 7.5 t      | 17%           | 21%             | 34%            |
| Rigid over 7.5 to 14 t       | 16%           | 33%             | 32%            |
| Rigid over 14 to 17 t        | 19%           | 20%             | 35%            |
| Rigid over 17 to 25 t        | 17%           | 29%             | 30%            |
| Rigid over 25 t              | 35%           | 39%             | 43%            |
| <b>ALL RIGID</b>             | <b>19%</b>    | <b>26%</b>      | <b>35%</b>     |
| Articulated over 3.5 to 30 t | 13%           | 15%             | 22%            |
| Articulated over 30 to 33 t  | 18%           | 20%             | 24%            |
| Articulated over 33 t        | 33%           | 18%             | 34%            |
| <b>ALL ARTICULATED</b>       | <b>26%</b>    | <b>18%</b>      | <b>32%</b>     |
| <b>ALL VEHICLES</b>          | <b>20%</b>    | <b>22%</b>      | <b>34%</b>     |

### 3.9 Lading factors

Table 11 shows the lading factors for different weight categories of rigid and articulated goods vehicles working in London in 2002.

The lading factor is defined as the ratio of the actual goods moved to the maximum tonne-kilometres achievable if the vehicles, whenever loaded, were loaded to their maximum carrying capacity (DfT, 2003a).

The lading factors in 2002 are lower for journeys within London than for journeys entering and leaving London. The data indicates that in general, the heavier the vehicle, the greater the lading factor.

The lading factor for all goods vehicles in Britain in 2002 was 0.58 (DfT, 2003a).

**Table 11: Lading factor for British HGVs on journeys with origins and/or destinations in London by vehicle type and mode of working in 2002 (DfT, 2004a)**

| Gross vehicle weight        | Within London | Entering London | Leaving London |
|-----------------------------|---------------|-----------------|----------------|
| Rigid over 3.5 to 7.5t      | 0.35          | 0.41            | 0.52           |
| Rigid over 7.5 to 17t       | 0.35          | 0.52            | 0.42           |
| Rigid over 17 to 25t        | 0.37          | 0.57            | 0.48           |
| Rigid over 25t              | 0.53          | 0.67            | 0.61           |
| <b>ALL RIGID</b>            | <b>0.43</b>   | <b>0.59</b>     | <b>0.57</b>    |
| Articulated over 3.5 to 33t | 0.33          | 0.48            | 0.41           |
| Articulated over 33t        | 0.45          | 0.64            | 0.57           |
| <b>ALL ARTICULATED</b>      | <b>0.41</b>   | <b>0.62</b>     | <b>0.54</b>    |
| <b>ALL VEHICLES</b>         | <b>0.42</b>   | <b>0.61</b>     | <b>0.55</b>    |

### 3.10 Goods lifted by foreign-registered goods vehicles in London

The Department for Transport carried out a survey of activity by foreign-registered goods vehicles over 3.5 tonnes gross weight in Britain in 2003 (DfT, 2003b). This included goods unloaded in Britain but loaded elsewhere, cabotage work within Britain, transit movements and goods loaded in Britain for delivery elsewhere. The survey results showed that foreign vehicles bring 20 million tonnes into Britain and take 9.4 million tonnes out of Britain per year, lifting a total of 33 million tonnes. This represents 2% of the quantity of goods lifted by British registered vehicles in Britain.

In London, foreign-registered vehicles lifted approximately 3.5 million tonnes, which is equivalent to 2.8% of the freight lifted by British vehicles. Of this 3.5 million tonnes, approximately 2 million tonnes was unloaded in London but loaded elsewhere, 1.3 million tonnes was loaded in London and delivered elsewhere, and 200,000 tonnes had both an origin and destination in London (i.e. a cabotage movement).

### 3.11 Light goods vehicles

Light goods vehicles (i.e. up to 3.5 tonnes gross vehicle weight and often referred to as vans) carrying out freight and servicing work are not surveyed in the DfT's Continuing Survey of Road Goods Transport. However, the DfT has recently been carrying out two separate surveys in respect of British company-registered and privately-registered vans. The company-registered van survey is carried out through a statutory enquiry, sampled from DVLA records, along the lines of the existing domestic road freight survey (CSRGT). The results of the first survey are due to be published in June 2004. The privately-registered van survey has been carried out as a stand-alone household survey, also sampled from DVLA records. This one-off survey, based on the responses of approximately 2500 van owners, was published in January 2004 (DfT, 2004b).

The results indicate that approximately 9% of all privately-registered van trips in Britain took place in London between October 2002 and September 2003 (88 million trips – which include trips with an origin, destination or both in London). Those trips that took place wholly within London (59 million trips) resulted in an estimated 709 million vehicle kilometres, with an average trip length of 12 kilometres (see Table 12).

There were estimated to be 14 million trips that had an origin in London but a destination elsewhere, and 15 million trips with a destination in London but an origin elsewhere. These trips are estimated to

have resulted in 668 million vehicle kilometres and 573 million vehicle kilometres respectively. However, it should be noted that only a proportion of the vehicle kilometres performed on these trips took place in London. (DfT, 2004a).

**Table 12: Privately-owned van trips with origin and/or destination in London: Oct 2002 - Sept 2003 (DfT, 2004a)**

|                          | Within London | Entering London | Leaving London |
|--------------------------|---------------|-----------------|----------------|
| Trips (millions)         | 59            | 15              | 14             |
| Vehicle km (million)     | 709           | 573             | 668            |
| Average trip length (km) | 12            | 38              | 46             |

Table 13 shows the trip purpose for those privately-owned van trips taking place within London.

**Table 13: Privately-owned van trips within London by trip purpose: Oct 2002 - Sept 2003 (DfT, 2004a)**

| Main reason for trip                       | Trips (millions) | Vehicle kilometres (millions) |
|--|------------------|-------------------------------|
| Travelling to work from home               | 11 (19%)         | 144 (20%)                     |
| Travelling to home from work               | 9 (16%)          | 177 (25%)                     |
| Collection / Delivery of goods / equipment | 13 (23%)         | 192 (27%)                     |
| Travelling between jobs                    | 7 (11%)          | 65 (9%)                       |
| Other business use                         | 6 (9%)           | 23 (3%)                       |
| Personal use                               | 13 (22%)         | 107 (15%)                     |
| <b>TOTAL</b>                               | <b>59 (100%)</b> | <b>709 (100%)</b>             |

Note: Totals may not add up due to rounding.

Table 14 shows the type of business for which the trip is made for those privately-owned van trips taking place within London. Construction is the most important business type both in terms of trips and vehicle kilometres, followed by wholesale & retail trade, repairs & hotels.

**Table 14: Privately-owned van trips within London by type of business: Oct 2002 - Sept 2003 (DfT, 2004a)**

| Main reason for trip  | Trips (millions) | Vehicle kilometres (millions) |
|---|------------------|-------------------------------|
| Agriculture, Forestry & Fishing                                   | 2 (3%)           | 11 (2%)                       |
| Energy & water supply   | 1 (2%)           | 30 (4%)                       |
| Other manufacturing industries                                    | 3 (5%)           | 61 (9%)                       |
| Construction  | 22 (37%)         | 340 (48%)                     |
| Wholesale & retail trade, repairs & hotels                        | 11 (19%)         | 104 (15%)                     |
| Transport & communication   | 4 (7%)           | 48 (7%)                       |
| Banking, finance and insurance, business services & leasing       | 0 (1%)           | 2 (0%)                        |
| Health, Social work and other community services                  | 5 (8%)           | 18 (3%)                       |
| Education, public admin & defence, extra territorial organisation | 1 (2%)           | 10 (1%)                       |
| Other services  | 9 (15%)          | 86 (12%)                      |
| <b>TOTAL</b>  | <b>59 (100%)</b> | <b>709 (100%)</b>             |

Note: Totals may not add up due to rounding.

### 3.12 Goods vehicle traffic in London

Over the last decade, the total volume of motor traffic in Greater London has increased from approximately 31 to 33 billion vehicle-kilometres (an increase of 14%) (TfL, 2003a). In 2002, 35 per cent of this traffic was on principal roads, 38 per cent on minor roads and 27 per cent on trunk roads (TfL, 2003a). Cars comprise over 80 per cent of the total vehicle flow on major roads in London, while light and heavy goods vehicles account for approximately 14 per cent (TfL, 2001).

Surveys of radial goods vehicle traffic movements over a 24-hour period in London take place on a continuous basis at the Greater London Boundary, Inner and Central London cordons (Figure 3 shows the location of the cordons). The Boundary and Inner cordon counts take place every three years, while the Central cordon count takes place annually.

The total number of goods vehicles crossing the Greater London Boundary cordon has rose by 15% between 1992 and 2001, while goods vehicles crossing the Inner cordon rose by 8% between 1993 and 2002. The picture at the Central cordon is different, with the number of goods vehicles crossings rising slightly between 1993 and 2001 (1%), but falling by 8% between 2001 and 2003 (see figure 2 - TfL, 2004a).

Figures 4, 5 and 6 show the numbers of medium and heavy goods vehicles crossing into outer, inner and central London<sup>1</sup>. These figures show that the types of goods vehicles entering the Boundary and Inner cordons have been changing, with the number of light goods vehicles increasingly sharply and the number of medium goods vehicles. Between 1992 and 2001 the number of light goods vehicles crossing the Boundary cordon increased by 31%, while the number of medium goods vehicles fell by 17%. At the Inner cordon between 1993 and 2002 the number of light goods vehicles increased by 23%, while the number of medium goods vehicles fell by 32%. There has also been a shift from medium to light vehicles, albeit smaller, at the Central cordon. (TfL, 2004a). Table 15 shows the change in the proportion of goods vehicles crossing each of the boundaries over the previous decade.

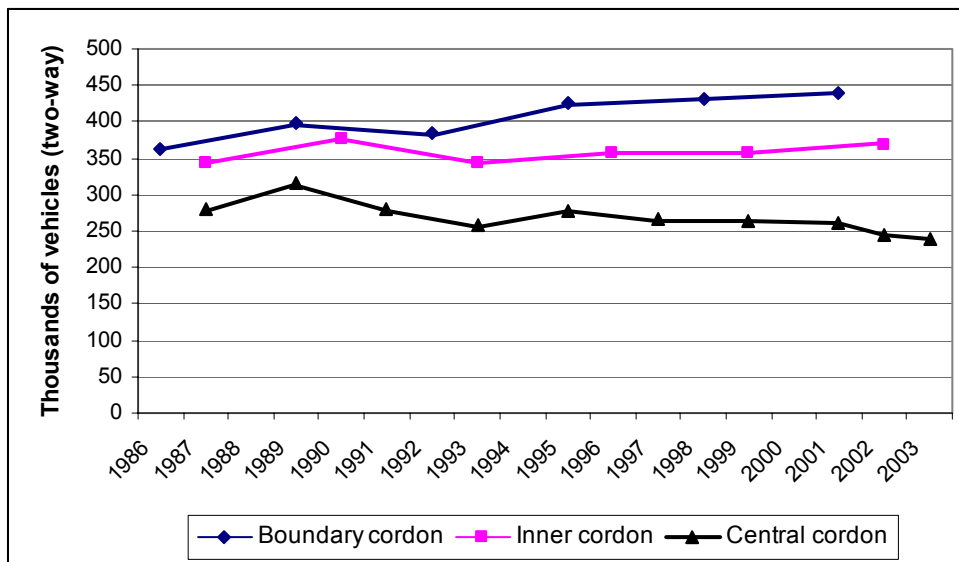


Figure 2: Daily goods vehicles crossing at the three cordons (TfL, 2004a)

<sup>1</sup> Light goods vehicles are those with a gross weight of up to 3.5 tonnes, medium goods vehicles are 2-axle rigid vehicles with a gross weight above 3.5 tonnes, and heavy goods vehicles are all other goods vehicles over 3.5 tonnes with 3 or more axles.

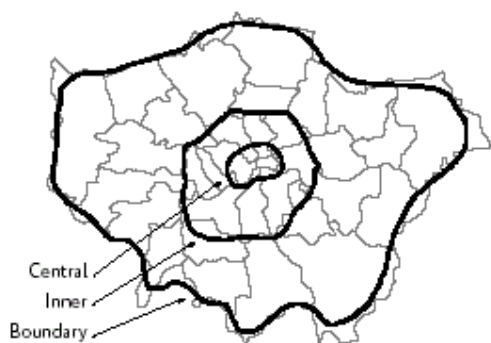


Figure 3 Location of London road traffic cordons

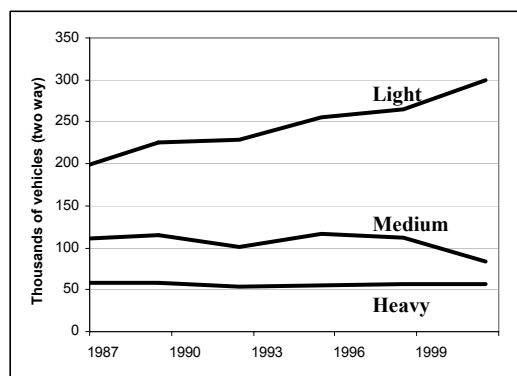


Figure 4 GLA boundary daily crossings – freight vehicles: 24 hour flows

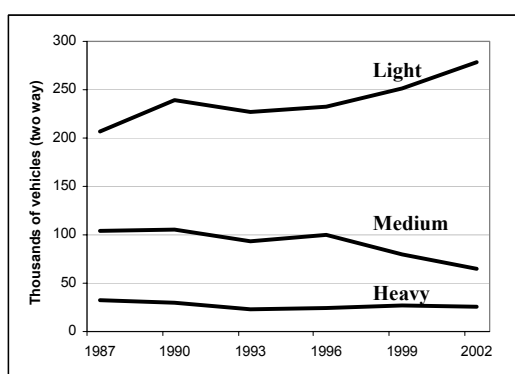


Figure 5 Inner London cordon daily crossings – freight vehicles: 24 hour flows

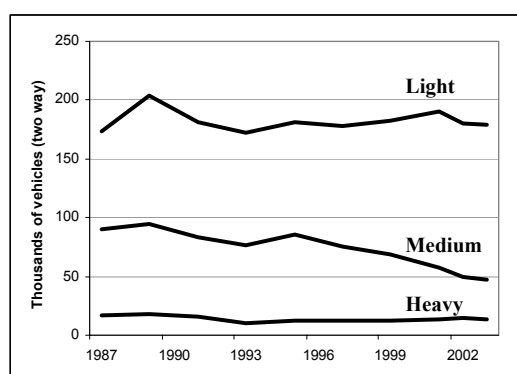


Figure 6 Central London cordon daily crossings - freight vehicles: 24 hour flows

**Table 15: Daily goods vehicles crossing at the three cordons (24-hour flows in both directions) (thousand vehicles and percentages) (TfL, 2004a)**

| Vehicle type                           | Boundary cordon       |                       | Inner cordon          |                       | Central cordon        |                       |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|  | 1992                  | 2001                  | 1993                  | 2002                  | 1993                  | 2003                  |
| Light                                  | 229<br>(60%)          | 300<br>(68%)          | 227<br>(66%)          | 279<br>(76%)          | 172<br>(66%)          | 179<br>(75%)          |
| Medium                                 | 101<br>(26%)          | 84<br>(19%)           | 94<br>(27%)           | 64<br>(17%)           | 77<br>(30%)           | 47<br>(20%)           |
| Heavy                                  | 54<br>(14%)           | 56<br>(13%)           | 22<br>(7%)            | 25<br>(7%)            | 10<br>(4%)            | 14<br>(6%)            |
| <b>Total goods vehicle flow (000s)</b> | <b>384<br/>(100%)</b> | <b>441<br/>(100%)</b> | <b>343<br/>(100%)</b> | <b>368<br/>(100%)</b> | <b>259<br/>(100%)</b> | <b>240<br/>(100%)</b> |

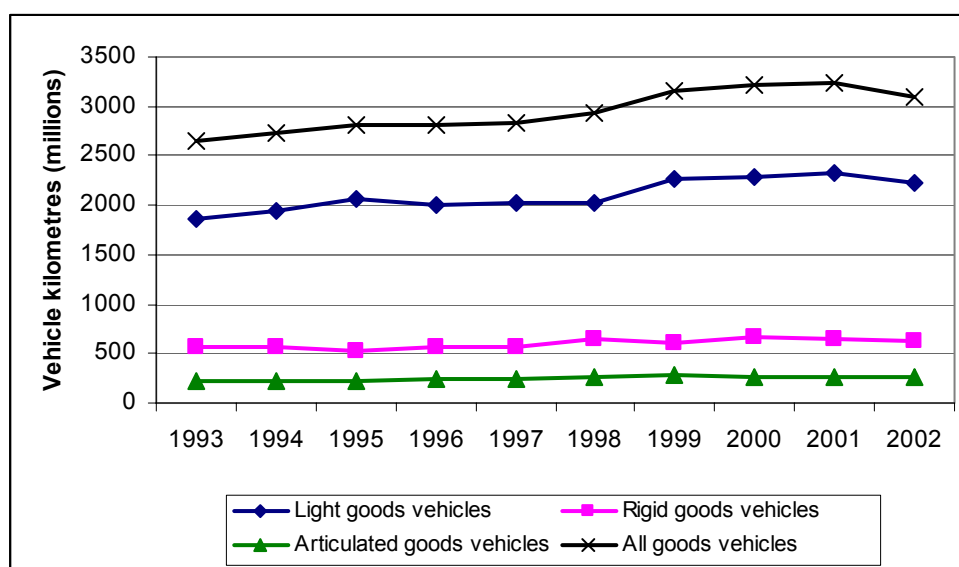
Note: Totals may not add up due to rounding. Vehicle definitions in footnote 1.

Traffic count data for major roads in London from the Department for Transport's Rotating Traffic Census can be used to estimate the annual vehicle kilometres performed by light goods vehicles, and rigid and articulated goods vehicles over 3.5 tonnes gross weight<sup>2</sup> (TfL, 2004b). These estimates show

<sup>2</sup> This is achieved by multiplying the Annual Average Daily Flow estimate (AADF) for each link on the network by the length of the link - and then multiplying by 365 (366 in the leap years) to get an annual figure for each

that all goods vehicles (i.e. light and heavy) were responsible for approximately 15% of all vehicle kilometres performed by motorised traffic on major roads in London in 2002 (3.1 out of 20.3 billion vehicle kilometres). Light goods vehicles accounted for 11% of all vehicle kilometres on major roads in London in 2002, while rigid and articulated goods vehicles over 3.5 tonnes gross weight accounted for 3% and 1% respectively.

Figure 7 shows the vehicle kilometres performed by light, rigid and articulated goods vehicles on major roads in London over the past decade. Goods vehicle traffic on major roads in London (measured in vehicle kilometres) is estimated to have increased by 17% between 1993 and 2002; this compares with a 4% in all traffic on major roads over the same period (TfL, 2004b and 2003a). Light goods vehicle traffic increased by 20% on major roads between 1993 and 2002, while rigid and articulated goods vehicle traffic increased by 8% and 21% respectively. The data indicates a shift in use from articulated vehicles with up to 4-axles to vehicles with 6 or more axles over this period.



**Figure 7: Vehicle kilometres performed by goods vehicles on major roads in London, 1993-2002 (TfL, 2004b)**

### 3.13 Goods vehicle licensed in London

There were approximately 210,000 goods vehicles licensed with keepers' addresses in London in 2002 (see Table 16). The vast majority of these are light goods vehicles (i.e. gross weight up to 3.5 tonnes).

**Table 16: Commercial vehicles licensed in 2002 with keepers' addresses in London**

| Vehicle type                                     | Number of licensed vehicles |
|--|-----------------------------|
| Light goods vehicles up to 3.5 tonnes gvw*       | 182,580                     |
| Rigid goods vehicles over 3.5 tonnes gvw**       | 21,800                      |
| Articulated goods vehicles over 3.5 tonnes gvw** | 4,900                       |
| <b>TOTAL</b>                                     | <b>209,280</b>              |

Source: \* DfT, 2004c.  
 \*\* DfT, 2003e

vehicle class. Not all links are counted every year. When a count does not take place on a link, the Department for Transport factor up the AADF from the previous year until the link is counted again. Light goods vehicles are up to 3.5 tonnes gross weight, rigid and articulated vehicles are over 3.5 tonnes gross weight. Data provided by TfL (2004b).

Table 17 shows a more detailed breakdown of the rigid and articulated vehicles over 3.5 tonnes gwv licensed with keepers' addresses in London in 2002.

**Table 17: Goods vehicles licensed in London region in 2002 (DfT, 2003e)**

|                                   | Goods vehicles by axle configuration |
|-----------------------------------|--------------------------------------|
| <b>Rigid goods vehicles</b>       |                                      |
| 2-axle                            | 17,700                               |
| 3-axle                            | 2,100                                |
| 4-axle                            | 2,000                                |
| <b>ALL RIGID VEHICLES</b>         | <b>21,800</b>                        |
| <b>Articulated goods vehicles</b> |                                      |
| 2-axle tractor, 2-axle trailer    | 800                                  |
| 2-axle tractor, 3-axle trailer    | 1,100                                |
| 2-axle tractor, any trailer       | 1,200                                |
| 3-axle tractor, 2-axle trailer    | 200                                  |
| 3-axle tractor, 3-axle trailer    | 1,600                                |
| 3-axle tractor, any trailer       | 200                                  |
| <b>ALL ARTICULATED VEHICLES</b>   | <b>4,900</b>                         |
| <b>ALL VEHICLES</b>               | <b>26,800</b>                        |

Note: Totals may not add up due to rounding.

However, the number of commercial vehicles with keepers' addresses in London is far lower than the number that operate within London each day, as many are kept outside. As part of the Low Emission Zone study an attempt was made to estimate the number of different light and heavy goods vehicles operating within London during the course of a year. This estimated that between 60,000-155,000 different heavy goods vehicles, and 340,000-440,000 different light goods vehicles operated within Greater London over a year (Watkiss et al, 2003).

### **3.14 Parking and loading on the Transport for London Road Network**

Moving Observer Parking surveys carried out for TfL to monitor stationary vehicles on the Transport for London Road Network show the level of illegal parking and loading by goods vehicles (TfL, 2003b).

The data shows that the majority of goods vehicle either loading or parking on the TLRN do so legally, with the exception of loading activities observed during the morning peak (07.45-09.15).

Of the observed loading activities by goods vehicles on the Clearway and non-Clearway links, illegal loading accounted for 28% and 26% of all loading activity in 2002 during all observed time periods on the Clearway and Non-Clearway sample links respectively. These illegal loading activity rates during all time periods were higher than those observed in 2001 (17% on Clearway links and 9% on non-Clearway sample links).

The highest rates of illegal loading took place during the morning peak (07.45-09.15). It accounted for 57% of all loading activity on the Clearway sample links and 62% of all loading activity on the non-Clearway sample links. This represented a marked increase in illegal loading in the morning peak compared with 2001, when only 2% of loading observed on the Clearway and non-Clearway links was classified as illegal. However, the report notes that this data needs to be treated with caution given the relatively small number of vehicles observed in this category.

In terms of parking by goods vehicles, illegal parking represented 27% and 28% of all parking activity during all observed time periods on the Clearway and Non-Clearway sample links respectively in 2002. The proportion of illegal parking activity by goods vehicles during all observed time periods was slightly lower in 2002 than 2001 (29% and 33% on Clearway and Non-Clearway sample links respectively in 2001).

Parking densities on non-Clearway sample links (measured in vehicles per kilometre) for loading or parking activities by goods vehicles were found to be higher for legal than illegal activities, with the exception of vehicles loading during the morning peak. However, the report notes the latter finding needs to be treated with caution given the relatively small number of vehicles observed.

The illegal loading activities by goods vehicles represent very low parking densities on Non-Clearway links (of between zero and 0.11 vehicles per kilometre) and on Clearway links (of between zero and 0.03 vehicles per kilometre) throughout the day.

Illegal parking activities by goods vehicles also represent low parking densities on Non-Clearway links (of between 0.17 and 0.55 vehicles per kilometre throughout the day), and virtually zero on Clearway links throughout the day.

The report concludes that the 2002 results indicate “the TLRN controls continue to have a beneficial effect by transferring stopping events from illegal to legal locations for both cars and HGVs, and so help to keep congestion in check” (TfL, 2003b).

### 3.15 Goods vehicle road accidents

In total there were 3,741 accidents involving goods vehicles in Greater London in 2002 (this includes both goods vehicle up to and over 3.5 tonnes gross weight) (TfL, 2004c). These accidents resulted in 4,625 casualties. Table 18 shows all casualties from accidents in which goods vehicles were involved in Greater London in 2002. The highest severity rates were for pedestrians, cyclists and motorcyclists (powered two-wheelers).

This compares with a total of 33,895 road traffic accidents, resulting in 41,379 casualties in Greater London in 2002 (TfL, 2004c).

**Table 18: All casualties resulting from accidents in which goods vehicles were involved by mode of travel and severity in Greater London in 2002 (TfL, 2004c)**

| Casualty mode of travel | Severity of casualty |            |              |              | Severity ratio | % of total  |
|-------------------------|----------------------|------------|--------------|--------------|----------------|-------------|
|                         | Fatal                | Serious    | Slight       | Total        |                |             |
| Pedestrian              | 18                   | 115        | 446          | 579          | 23%            | 13%         |
| Pedal cycle             | 13                   | 48         | 243          | 304          | 20%            | 7%          |
| Powered two-wheeler     | 11                   | 102        | 474          | 587          | 19%            | 13%         |
| Car                     | 11                   | 197        | 1,817        | 2,025        | 10%            | 44%         |
| Taxi                    | 0                    | 5          | 35           | 40           | 13%            | 1%          |
| Bus or coach            | 0                    | 8          | 99           | 107          | 7%             | 2%          |
| Goods vehicle           | 3                    | 104        | 845          | 952          | 11%            | 21%         |
| Other                   | 0                    | 3          | 28           | 31           | 10%            | 1%          |
| <b>TOTAL</b>            | <b>56</b>            | <b>582</b> | <b>3,987</b> | <b>4,625</b> | <b>14%</b>     | <b>100%</b> |

Notes: Not all casualties were injured by goods vehicles. They may have been injured by another vehicle involved in the accident.

The severity ratio is the percentage of fatal and serious injuries to all injuries.

In 2002, 802 road accidents involved injury to goods vehicle occupants, and resulted in 952 casualties among goods vehicle occupants (2% of total casualties in Greater London) - a rate of 13 per 100,000 Greater London population in 2002. This is slightly less than the national rate of 17 per 100,000 population from 10,185 goods vehicle occupant casualties (3% of all casualties in Great Britain for 2002) (TfL, 2004c).

Of the 952 goods vehicle occupant casualties in Greater London in 2002, 716 were drivers and 236 were passengers. Table 19 shows goods vehicle occupant casualties by vehicle type, casualty class, severity and severity ratio (the percentage of fatal and serious injuries to all injuries) in Greater London in 2002. (TfL, 2004c).

**Table 19: Goods vehicle occupant casualties by vehicle type, casualty class and severity in Greater London, 2002 (TfL, 2004c)**

| Goods vehicle   | Severity of casualty |            |            | Total             | Severity ratio |
|-----------------|----------------------|------------|------------|-------------------|----------------|
|                 | Fatal                | Serious    | Slight     |                   |                |
| Up to 3.5 t gvw | 2                    | 78         | 717        | 797 (84%)         | 10%            |
| >3.5 –7.5t gvw  | 0                    | 8          | 39         | 47 (5%)           | 17%            |
| >7.5 t gvw      | 1                    | 18         | 89         | 108 (11%)         | 18%            |
| <b>All</b>      | <b>3</b>             | <b>104</b> | <b>845</b> | <b>952 (100%)</b> | <b>11%</b>     |

Note: the three categories of goods vehicles used in accident data are not the same as those used in the road traffic cordon counts shown in section 3.12

Thirty two percent of the accidents resulting in injury to goods vehicle occupants in 2002 occurred in inner London, while 68% occurred in outer London (TfL, 2004c).

The majority of goods vehicle occupant casualties in Greater London in 2002 took place on A-roads (61% of the total), followed by C and unclassified roads (each accounting for 14% of the total), and motorways and B-roads (each accounting for 6% of the total). The highest severity ratio (15%) occurred on motorways (TfL, 2004c).

Severity ratios in Greater London in 2002 tended to increase with higher road speed limits, with 11% severity ratio at 30mph, 13% at 40mph, 17% at 60mph and 21% at 70mph (TfL, 2004b).

Sixty four percent of goods vehicle occupant casualties in Greater London in 2002 occurred on borough roads, compared with 30% the TLRN, and 5% on Highway Agency roads (TfL, 2004b).

The number of goods vehicle occupant casualties in Greater London has fallen over the past twenty years (with the exception of an increase during the mid-1980s). Casualty levels in 2002 were 30% lower than the 1981-1985 average, and 14% lower than the 1994-1998 average. In addition, goods vehicle occupant fatalities have fallen from a peak of 14 in 1986 to 3 in 2002. However the severity ration has increased slightly between 2000 and 2002 from 9% to 11% (but this is well below the 15% severity ratio in 1987-1989 and 1995 – TfL, 2004c).

This reduction in goods vehicle occupant casualties has taken place at the same time that total goods vehicle activity in Greater London has been increasing (see section 3.12).

### 3.16 Goods vehicle spot and fleet checks

The Vehicle Inspectorate's (VI) primary aim is to contribute to the improvement of road safety and environmental standards within the UK. One of the responsibilities in order to achieve this involves carrying out roadside checks and other spot checks on vehicles to ensure they comply with legal standards and regulations relating to roadworthiness, load length and weight requirements; operator and vehicle licensing; and drivers for compliance with drivers' hours, breaks and driver licensing

requirements. They also check the exhaust emissions of vehicles and vehicles carrying hazardous chemicals. Some of these checks take place in Greater London.

The VI is organised into eight Traffic Areas: South Eastern and Metropolitan, Western, Eastern, North Eastern, North Western, West Midlands, Welsh, Scottish.

The South Eastern and Metropolitan Traffic Area comprises Greater London, the counties of Kent, Surrey, East Sussex and West Sussex, The Districts of Brighton and Hove, and the Medway Towns. The VI publishes annual data showing the results of their spot checks for each of these eight Traffic Areas. The results of these checks in the South Eastern and Metropolitan area compared with the national results are shown in Table 20.

**Table 20: Results of VI spot and fleet checks 2000/2001-2002/2003 (VI, 2003)**

|   | 2000/2001        |                  | 2001/2002        |                  | 2002/2003        |                  |
|---|------------------|------------------|------------------|------------------|------------------|------------------|
|   | Number of checks | Prohibition rate | Number of checks | Prohibition rate | Number of checks | Prohibition rate |
| <b>HGV road worthiness spot checks</b>  |                  |                  |                  |                  |                  |                  |
| SE and Metro.   | 7879             | 26.5%            | 6667             | 30.1%            | 8804             | 27.1%            |
| National  | 68270            | 21.3%            | 56984            | 24.0%            | 64373            | 21.9%            |
| <b>HGV road worthiness fleet checks</b>   |                  |                  |                  |                  |                  |                  |
| SE and Metro.   | 5178             | 10.2%            | 3043             | 12.2%            | 3072             | 9.9%             |
| National  | 32449            | 8.2%             | 20886            | 9.5%             | 20987            | 9.0%             |
| <b>HGV exhaust emissions spot checks</b>  |                  |                  |                  |                  |                  |                  |
| SE and Metro.   | 1580             | 0.7%             | 1123             | 0.4%             | 953              | 0.4%             |
| National  | 9832             | 1.0%             | 9809             | 0.8%             | 7748             | 0.8%             |
| <b>HGV drivers hours and records spot checks (inc. no. of vehicles weighed)</b> |                  |                  |                  |                  |                  |                  |
| SE and Metro.   | 22337            | 1.1%             | 19352            | 4.9%             | 16807            | 7.7%             |
| National  | 132784           | 0.7%             | 108917           | 3.5%             | 106587           | 4.7%             |
| <b>HGV overloading spot checks</b>  |                  |                  |                  |                  |                  |                  |
| SE and Metro.   | 10740            | 6.7%             | 8424             | 9.4%             | 8520             | 8.5%             |
| National  | 56607            | 6.4%             | 48452            | 7.6%             | 50223            | 7.5%             |
| <b>HGV hazchem inspections</b>  |                  |                  |                  |                  |                  |                  |
| SE and Metro.   |                  |                  | 1406             | 4.2%             | 1136             | 6.7%             |
| National  |                  |                  | 7117             | 4.3%             | 6641             | 5.0%             |
| <b>LGV exhaust emissions spot checks</b>  |                  |                  |                  |                  |                  |                  |
| SE and Metro.   | 1337             | 2.5%             | 1535             | 4.8%             | 1713             | 4.7%             |
| National  | 8604             | 3.0%             | 11003            | 3.5%             | 10089            | 4.1%             |
| <b>LGV overloading spot checks</b>  |                  |                  |                  |                  |                  |                  |
| SE and Metro.   | 1262             | 19.6%            | 938              | 20.2%            | 1210             | 21.2%            |
| National  | 8461             | 17.0%            | 8175             | 22.5%            | 9310             | 20.9%            |

Note: "LGV" is a goods vehicle up to 3.5 tonnes gross weight, and "HGV" is a goods vehicle over 3.5 tonnes gross weight.

The VI also publishes data showing the initial test failure rates (i.e. vehicle as presented at test centre) for annual MOT tests on goods vehicles and trailers over 3.5 tonnes gross weight by Traffic Area. This shows that 39.4% of goods vehicles and 26.4% of trailers failed their initial MOT test in the South Eastern and Metropolitan area test centres in 2002/3. This compares with a national initial failure rate of 42.5% for goods vehicles and 28.5% for trailers in 2002/3 (VI, 2003).

### **3.17 Lorry load crime data**

The first attempt to gather data about lorry load thefts began in 1990 when New Scotland Yard (NSY) examined such thefts inside the M25 perimeter. This was then extended to cover the South East of England. This data collection and information centre was relocated to the Essex Police (due to the numerous major logistical/distribution routes in Essex and the proximity to the Ports of Tilbury, Purfleet and Harwich). In 1992 data collection was extended to cover all 43 Police Forces in the UK and named the National Stolen Lorry Load Desk (NSLLD). This continued until April 2003 when the NSLLD closed.

Since the closure of the NSLLD, the Metropolitan Police Service has established TruckPol, an intelligence unit dedicated to collating and analysing road freight crime across the UK. TruckPol acts as a single point of contact, collating crime reports and intelligence from a variety of sources. In this way it is able to deliver a national perspective in its strategic assessment of road freight criminality. TruckPol is jointly funded with contributions from insurance, manufacturers and industry, together with Home Office matched fund grant. Truckpol is therefore continuing the work of the NSLLD.

Truckpol is intended to detect and prevent lorry load crime, and monetary loss, to disrupt criminal activity in the area of lorry load theft, and to develop intelligence on stolen lorry loads and warehouse attacks where a lorry was needed to perpetrate the crime.

Incidents are recorded in six categories:

- Warehouse (burglaries of commercial premises)
- Hijack (occasions where force or violence is used or threatened against a driver and the vehicle is stolen with the load)
- Theft (where an unattended vehicle and/or load are stolen)
- Attempted Theft (relates to attempts to steal the vehicle and/or load but where suspects are unable due to complete the theft)
- Round the Corner (relates to deceptions where drivers are deceived into delivering elsewhere than to the intended destination)
- Jump Up (thefts of load from stationary vehicles e.g. curtain slash or delivery vehicle left unlocked/unattended)

Table 21 shows the number of each of these incidents in the UK that were entered onto the Truckpol database during the period October to December 2001-2003.

Approximately 150 incidents that took place in the In the Metropolitan Police Area were entered onto the Truckpol database for the period October-December 2003 (Truckpol, 2004).

**Table 21: UK incidents entered onto the Truckpol database during the period October to December 2001-2003 (Truckpol, 2004)**

|                  | Number of incidents |              |              |
|------------------|---------------------|--------------|--------------|
|                  | Oct-Dec 2001        | Oct-Dec 2002 | Oct-Dec 2003 |
| Warehouse        | 30                  | 32           | 43           |
| Hijack           | 12                  | 13           | 18           |
| Theft            | 385                 | 246          | 308          |
| Attempted theft  | 20                  | 44           | 89           |
| Round the corner | 42                  | 13           | 9            |
| Jump up          | 533                 | 361          | 352          |
| <b>TOTAL</b>     | <b>1022</b>         | <b>709</b>   | <b>819</b>   |

Notes:

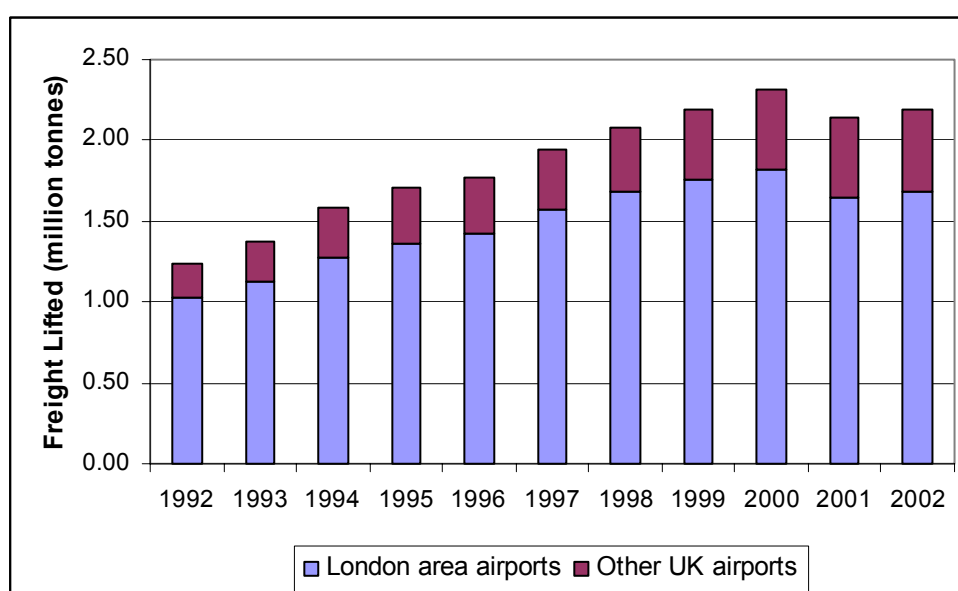
The reduction in the total number of incidents reported between 2001 and 2003 is attributable to a number of factors, including a change in the way TruckPol records data (see below) and disruption caused by the migration of the NSLLD from Essex to the Metropolitan Police Service.

TruckPol now records thefts of a vehicle and load as one and not two separate reports. This may account for reduction in the number of ‘jump up’ and ‘theft’ reports between 2001 and 2003

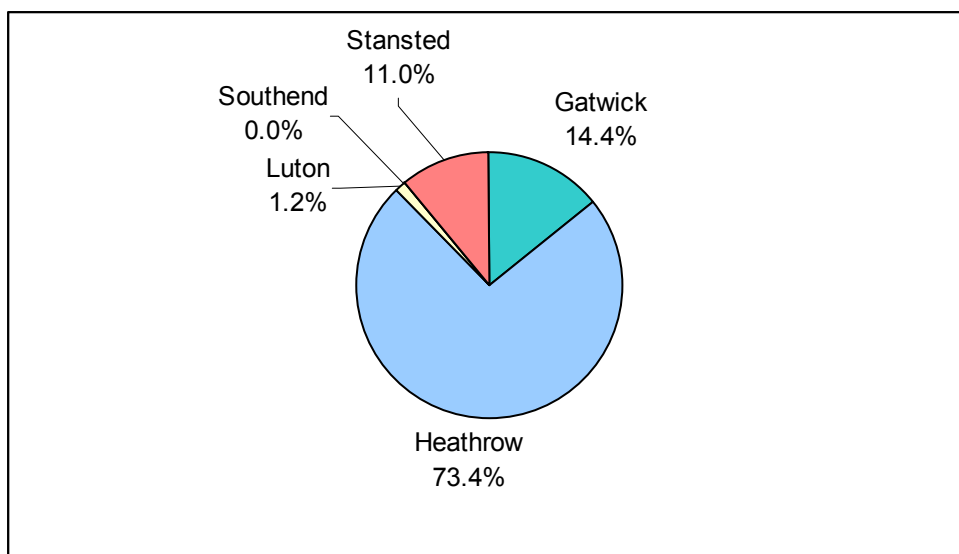
#### 4. FREIGHT TRANSPORT BY NON-ROAD MODES

##### 4.1 Air freight

Seventy seven per cent of the UK’s air freight passed through the London area airports of Heathrow, Gatwick, Stansted, Southend and Luton in 2002. The total quantity of freight handled by these airports was 1.7 million tonnes in 2002 (CAA, 2003). Figure 8 shows the importance of the London area airports in terms of UK air freight tonnage lifted over the last ten years. Heathrow alone handled 56 per cent of all UK air cargo tonnage in 2002 (CAA, 2003). Figure 9 shows the dominance of Heathrow in terms of freight tonnage lifted among the London area airports.



**Figure 8: Freight lifted at London area airports and other UK airports (CAA, 2003)**



**Figure 9: Freight lifted at the London area airports in 2002 (CAA, 2003)**

Of the 1.7 million tonnes of airfreight handled in London area airports, 92% is lifted on scheduled aircraft movements and 8% on charter movements. There was a balance between freight set down and picked up at London area airports in 2002, with a 50:50 split (CAA, 2003).

Eighty-seven percent of this freight lifted is carried on international (non-EU) flights, 12% moves within the EU, and 1% is carried domestically (CAA, 2003).

Seventy eight percent of the air freight lifted travels on passenger aircraft and 22 percent is moved on cargo aircraft (CAA, 2003).

In addition to freight, 94,000 tonnes of mail was lifted at London airports in 2002. This is approximately 50 percent of the total mail lifted at UK airports (CAA, 2003).

#### 4.2 Rail freight

Annual rail freight data for London has not been available since 1994 due to confidentiality since rail privatisation. However, estimates for 2000, taken from an SRA analysis of rail freight in London and the South East, were included in the London Rail Freight Study report (Ove Arup, 2003). This data indicated that, excluding transit traffic, rail freight was equivalent to about 6% of freight lifted by road in London (see Table 22).

**Table 22: Estimated rail freight flows in London in 2000 (million tonnes) (quoted in Ove Arup, 2003)**

|   | Tonnes     |
|---|------------|
| Lifted and delivered in London          | 1.1        |
| Received in London from rest of Britain | 4.7        |
| Sent from London to rest of Britain     | 2.0        |
| <b>TOTAL</b>                            | <b>7.8</b> |

This report also included data showing rail freight lifted to and from London in 2000. However we have not been able to establish the source of this data (see Table 23).

**Table 23: Rail freight tonnages to/from London in 2000 (million tonnes) (quoted in Ove Arup, 2003)**

|                             | To London  | From London |
|-----------------------------|------------|-------------|
| East of England             | 0.2        | 0.5         |
| South East                  | 1.1        | 1.3         |
| South West                  | 1.5        | <0.1        |
| West Midlands               | <0.1       | <0.1        |
| East Midlands               | 1.4        | <0.1        |
| North West                  | <0.1       | 0.1         |
| Yorkshire and Humberside    | 0.3        | <0.1        |
| Wales                       | 0.1        | <0.1        |
| Scotland                    | <0.1       | 0.1         |
| North East                  | <0.1       | <0.1        |
| <b>TOTAL INTER-REGIONAL</b> | <b>4.7</b> | <b>2.0</b>  |

### 4.3 Internal and seagoing freight

#### 4.3.1 Seagoing traffic

The Port of London Authority (PLA) is responsible for the tidal River Thames between Teddington Lock and its outer limits in the Thames Estuary, a length of 96 miles. Sea-going freight traffic through the Port of London, which is the largest port in the UK, declined between 1990 and 1992, then increased to 57.3 million tonnes in 1998 before falling to 47.9 million tonnes in 2000, and rising to 51.2 million tonnes in 2002 (DfT, 2003c). The PLA is the second largest port in the UK, handling 9.2 percent of all the foreign and domestic tonnage handled at UK ports (the largest port is Grimsby and Immingham which handles 10 per cent of all tonnage) (DfT, 2003c).

Twenty-nine percent of the cargo tonnage handled at the PLA moved to/from other UK ports in 2002, 37 percent moved between the PLA and EU ports, 18 percent moved to/from other Europe and Mediterranean ports, and 15 percent moved to/from ports in the rest of the world.

The cargo handled at PLA facilities in 2002 is shown in Table 24.

**Table 24: Foreign and domestic traffic handled at PLA, 2002 (DfT, 2003c)**

|                                       | All foreign and domestic<br>traffic<br>(thousand tonnes) |
|---------------------------------------|--|
| <b>Liquid bulks</b>                   |  |
| Liquefied gas                         | 431  |
| Crude oil                             | 7,602  |
| Oil products                          | 9,936  |
| Other liquid and bulk products        | 779  |
| All liquid bulk traffic               | 18,749   |
| <b>Dry bulks</b>                      |  |
| Ores                                  | 560  |
| Coal                                  | 1,876  |
| Agricultural products                 | 2,560  |
| Other dry bulk                        | 11,266   |
| All dry bulk traffic                  | 16,263   |
| <b>Other general cargo</b>            |  |
| Forestry products                     | 1,989  |
| Iron and steel products               | 679  |
| General cargo and containers <20'     | 585  |
| All other general cargo               | 3,253  |
| Containers                            | 7,314  |
| Roll on/roll off (self propelled)     | 999  |
| Roll on/roll off (non self propelled) | 4,607  |
| <b>All traffic</b>                    | <b>51,185</b>  |

The PLA has provided data as part of this project that divides the traffic handled at PLA wharves into the London boroughs and other local authorities outside Greater London in which the wharves are located. This is shown in Table 25.

There are 73 operational wharves in the Port of London of which 39 are in Greater London (PLA, 2004). These wharves within the Greater London boundary handled 18% of the total cargo handled in the entire PLA area in 2002. (9.8 million tonnes) (PLA, 2004). This relatively low percentage handled within London is due to the fact that much of the bulk and unitised traffic is handled at the largest facilities at Tilbury, Purfleet and Thames Europort.

**Table 25: Port of London Trade by Local Authority Area, 2001 and 2002 (tonnes)  
(PLA, 2004)**

| Local authority      | 2001              | 2002              |
|----------------------|-------------------|-------------------|
| Barking & Dagenham   | 3,108,841         | 2,878,253         |
| Bexley               | 1,186,767         | 1,001,047         |
| Castle Point         | 299,128           | 296,128           |
| City                 | 77,000            | 70,883            |
| Dartford             | 3,124,150         | 3,497,706         |
| Gravesham            | 2,777,062         | 2,901,904         |
| Greenwich            | 3,093,374         | 3,268,773         |
| Hammersmith & Fulham | 84,424            | 99,192            |
| Havering             | 21,439            | 16,512            |
| Medway               | 862,238           | 1,043,670         |
| Newham               | 1,373,834         | 1,281,661         |
| Southend             | 0                 | 429,168           |
| Thurrock             | 35,304,647        | 35,234,745        |
| Tower Hamlets        | 1,122,593         | 401,418           |
| Wandsworth           | 688,290           | 788,141           |
| <b>Total</b>         | <b>53,123,787</b> | <b>53,209,201</b> |
| <b>Of which:</b>     |                   |                   |
| Greater London       | 10,756,562 (20%)  | 9,805,880 (18%)   |
| Essex                | 35,603,775 (67%)  | 35,960,041 (68%)  |
| Kent                 | 6,763,450 (13%)   | 7,443,280 (14%)   |

Note: Includes transshipment traffic.

#### 4.3.2 Internal traffic on the Thames and inland waterways

Internal freight traffic on the Thames has fluctuated over the last decade, in 2002 it was 5 per cent above the 1990 level (2.1 million tonnes compared with 2.0 million tonnes) (DfT, 2003d). Much of this is waste and aggregate.

Relatively small quantities of freight are currently moved on inland waterways in London including the Regents Canal, the Grand Union (London Branch) and the River Lee. However this may have the potential to increase due to factors such as redevelopment in East London and the transfer of waste from roads to waterways.

## **5. EMPLOYMENT IN FREIGHT TRANSPORT AND RELATED ACTIVITIES**

The Office of National Statistics (ONS) collects data concerning employment in freight transport and related activities in London. This data is collected as part of the Annual Business Enquiry (ONS, 2004).

Table 26 shows employment levels in Greater London in distribution and logistics sectors in 2002. This shows that almost 100,000 (2.5% of the London workforce) were directly employed in organisations whose main activity involves freight transport and distribution in 2002.

In addition, other industries in Greater London also include employees engaged in freight transport and distribution activities. Table 27 shows the importance of wholesaling, retailing and manufacturing

in terms of employment in London. All of these industries employ people engaged in distribution and logistics tasks (such as warehousing and inventory management, distribution planning and own account freight transport operations) but it is not possible from the ONS data to identify the scale of these distribution activities within each industry.

Table 27 also shows employment levels in other transport sectors in Greater London (such as rail, sea and coastal water transport and air transport). A proportion of the employment in each of these transport sectors is engaged in freight transport and distribution activities. However, it is not possible to disaggregate these employees from those engaged in passenger transport services.

**Table 26: Employment in freight transport and distribution activities in Greater London (ONS, 2004)**

| Sector   | Employment in Greater London, 2002 | As a % of total employment in Greater London |
|--|------------------------------------|--|
| Freight transport by road (SIC 60.24)  | 14,065                             | 0.4%   |
| Storage and warehousing (SIC 63.12)  | 8,681                              | 0.2%   |
| Activities of other transport agencies (inc. freight forwarding and goods handling operations) (SIC 63.40) | 19,037                             | 0.5%   |
| National post activities (SIC 64.11)   | 39,895                             | 1.0%   |
| Courier activities other than national post activities (SIC 64.12)   | 13,622                             | 0.3%   |
| <b>Total</b>   | <b>95,300</b>                      | <b>2.4%</b>                                  |

Note: SIC codes shown in the table are UK (1992) SIC codes.

**Table 27: Employment in other sectors that include freight transport and distribution activities in Greater London (ONS, 2004)**

| Sector  | Employment in Greater London, 2002 | As a % of total employment in Greater London |
|---|------------------------------------|--|
| <b>Other industries that include logistics and distribution activities</b>        |                                    |  |
| Wholesaling (SIC 51)  | 170,514                            | 4.3%   |
| Retailing (SIC 52)  | 377,966                            | 9.6%   |
| Manufacturing (SIC 15-37)   | 236,166                            | 6.0%   |
| <b>Other transport sectors that include logistics and distribution activities</b> |                                    |  |
| Transport via railways (SIC 60.10)  | 12,736                             | 0.3%   |
| Sea and coastal water transport (SIC 61.10)                                       | 2,033                              | 0.1%   |
| Inland water transport (SIC 61.20)  | 273                                | 0.0%   |
| Scheduled air transport (SIC 62.10)   | 39,569                             | 1.0%   |
| Non-scheduled air transport (SIC 62.20)   | 987                                | 0.0%   |
| Cargo handling (SIC 63.11)  | 1,218                              | 0.0%   |

Notes: SIC codes shown in the table are UK (1992) SIC codes.

It is therefore difficult to determine an accurate estimate of employment in freight transport and distribution activities in London, as the classifications of employment used by the ONS lead to both under- and over-estimates.

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