



## **BESTUFS WP 3.1**

### **Report on urban freight data collection in the UK**



Traffic chaos on the streets was the stimulus for the creation of the Underground.  
This print by Gustave Doré also shows the unsightly bridge, built to connect  
the Metropolitan with the railways of south London, which wrecked the view of  
St Paul's Cathedral.

**Final version**

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# 1. Overview of urban freight data collection in the UK

## 1.1 Introduction

A range of freight data is currently collected in the UK. This includes census and register data (such as economic and land use data used in modelling), continuous and period surveys carried out nationally, and occasional surveys.

The only data collection work in the UK that is solely about urban freight has been occasional surveys carried out in specific towns or cities. These have usually been conducted on a one-off basis as part of a review of urban freight strategy or to assist in making an urban planning decision.

The availability of urban freight data has improved in the last five years with the introduction of a company-registered van survey by the UK Government Department for Transport (DfT), as well as an increase in one-off surveys of urban freight in towns and cities. However, the quantity and coverage of available urban freight data is still far less than either: i) freight data available at a national level, or ii) urban passenger transport data. This is due to the fact that all levels of UK government have traditionally focussed on passenger transport data collection rather than freight data (at national, regional and urban levels), together with the fact that much freight data (urban and elsewhere) is held by private companies and is not made generally available by them.

## 1.2 Main organisations collecting freight data in the UK

The DfT is the main organisation collecting freight data in the UK. The data collected by the DfT is concerned with national freight activity. This data therefore comprises urban freight data as well as freight data for operations outside urban areas.

Of the DfT published freight data available, the vast majority is reported at a national scale (i.e. it does not distinguish between urban and non-urban freight), however it is possible to disaggregate some urban freight data from these sources.

Difficulty in extracting urban freight data from DfT data collections varies depending on type of data. A special request has to be made to DfT for the extraction of urban data from most of the surveys/data collection exercises (although it is possible that extracts of databases could be made available). Limited data already published at urban level (e.g. quantity of cargo handled by airport, and by seaport) but this gives no indication of where/how the goods moved in the UK. Some urban data is relatively easily extracted/made available (for instance traffic count data), while extracting urban data from other data collection exercises is more difficult (e.g. Continuing Survey of Road Goods Transport).

Main difficulties in extracting data include:

- It is dependent on time availability of DfT
- Surveys are based on vehicle activity, not specific geographical location, so both urban and non-urban data is collected (with no easy method of separation)
- Sample sizes for smaller urban areas likely to be relatively small in vehicle activity surveys

Most urban authorities in the UK also carry out either periodic or occasional vehicle traffic counts that include goods vehicles but do not carry out surveys of goods vehicle operations.

Transport for London has been making efforts to put together data about freight transport in London. However TfL does not collect all the data itself. Some is extracted and provided from national surveys by DfT.

Other bodies collecting freight data (including urban freight data) include the Traffic Commissioners,

the Institute of Grocery Distribution (IGD), the Freight Transport Association (FTA), the Road Haulage Association (RHA), the Civil Aviation Authority (CAA), the Vehicle Inspectorate and HM Revenue & Customs.

### **1.3 Reviews of freight data collection in the UK**

The Review of Freight Modelling project (which took place for the DfT between 2001 and 2003) considered data requirements and data sources currently available in UK for freight modelling purposes. Much of the review was at the national and regional scales, but urban scale was considered. The reports published as part of this project are available at:

[http://www.dft.gov.uk/stellent/groups/dft\\_econappr/documents/divisionhomepage/032179.hcsp](http://www.dft.gov.uk/stellent/groups/dft_econappr/documents/divisionhomepage/032179.hcsp)).

Work by the University of Westminster for Transport for London (TfL) has reviewed freight data sources for London.

## 2. Specific urban freight data collected

This section provides information about specific freight data collection exercises in the UK. This information is provided in a summarised tabular form in Appendix 1.

### 2.1 Site/Land Use/Establishment surveys

#### *TRICS (Trip Rate Information Computer System) database*

TRICS stands for Trip Rate Information Computer System. It is a computerised database and trip rate analysis package for transport planning and development control, and is marketed and managed by JMP Consultants on behalf of the TRICS Consortium of 6 County Councils in the south of England.

TRICS is a database containing site and development information for some 2,000 development sites in the UK. In each of these developments traffic entering and exiting is recorded, and from this information trip rate calculations are carried out, which can be used to estimate traffic flows for a variety of development types. In a growing number of newer surveys, multi-modal (public transport, pedestrian, etc.) counts are also available.

The main function of the TRICS system, other than providing the user with site, development and traffic/transport survey count data from a large database of development sites, is the facility to calculate trip rates, which are calculations that show how many traffic/people arrivals and departures take place at a type of site. These trips rate cannot be sub-grouped by vehicle type.

There are 16 main land use categories in TRICS, and a total of 94 sub-categories.

Goods vehicle counts at sites include:

- Light goods vehicles
- Goods vehicles over 3.5 tonnes with 2- or 3-axles (OGV1)
- Goods vehicles with 4 or more axles (OGV2)

Manual counts take place from when the site opens to when the site closes, which on average is a 12 hour period. ATC counts, which covered a 24-hour period, are being phased out.

There is a similar but separate database containing trip generation data for different types of land use within London. This is called TRAVL (Trip Rate Assessment Valid for London).

### 2.2 Continuous and occasional transport operator surveys

#### *Continuing Survey of Road Goods Transport (CSRGT)*

CSRGT is a statutory survey of UK-registered HGVs over 3.5 tonnes gross vehicle weight. The survey is based on a random sample of about 350-400 vehicles each week. The operator of each vehicle is asked to provide details of all domestic trips undertaken in one week, including the domestic part of any trip that starts or ends in a foreign country. The survey collects a range of data, used to provide estimates of HGV activity by, for example, vehicle type and weight. The sample is also divided evenly between DFT Traffic Areas to ensure adequate regional coverage.

Data cover the United Kingdom and are available for Scotland, Wales and Northern Ireland and at county and regional level for England. A survey of road goods transport has been carried out since the early 1970s but in its present form since 1984.

The survey collects the following information from UK hauliers:

- journey origin and destination
- type of goods carried
- distance travelled
- weight of goods collected/delivered
- type of vehicle
- type of industry company is involved in
- hire & reward/own account details

From this it is possible to calculate the following by commodity and vehicle type:

- Tonnes lifted
- Tonne-kilometres performed
- Vehicle kilometres travelled
- Average length of haul
- Empty running
- Lading factor

The survey is analysed and published annually by the DfT as **Transport of Goods by Road in Great Britain**. Main results are published four months after the end of the year. From 2004 origins and destinations of trips have been coded at NUTS4 level. Disaggregations of the dataset are possible on a geographical basis, but can be affected by sample size.

### *Company Van survey*

The DfT has carried out two separate surveys in respect of company-registered and privately-registered vans. The former is carried out through a statutory enquiry, sampled from DVLA records, along the lines of the existing domestic road freight survey (CSRGT). The latter was carried out as a stand-alone household survey, also sampled from DVLA records. These surveys collect information about the vehicle itself and the journeys it makes. The results of the privately-owned van survey were published by DfT in January 2004 (**Survey of Privately Owned Vans: Results of survey, October 2002 - September 2003**) and is an occasional survey. The results of the survey of company-owned vans are currently published annually.

The van surveys collect the following information from companies and individuals that own vans:

- type of van
- distance travelled
- type of goods carried
- type of origin and destination
- start/end time of trip
- reason for trip
- total distance travelled over last 12 months
- contract hire/leasing details

From the data collected it is possible to calculate trips and vehicle kilometres travelled, average trip length and empty running.

In both of the van surveys the origin and destination of a trip are recorded at the NUTS4 level. However, the sample size may not be large enough to provide robust estimates of activity at a NUTS4 level.

### ***Survey of Foreign Vehicle Activity in Great Britain***

In the summer of 2003, a survey of foreign registered HGV activity in GB was undertaken by DfT to provide more detailed information on foreign vehicle activity than is available from the quarterly Ro-Ro enquiry. The survey was carried out over a six-week period during June and July 2003. It comprised around 2,100 interviews with drivers of foreign registered vehicles. The interviews were carried out at ports and truck stops around GB. The ports were Hull, Harwich, Portsmouth and Holyhead. The truck stops were Ashford, Clackett's Lane and Thurrock.

Respondents were asked to provide information on their way out of GB, in order to record unplanned activity, as well as activity they had planned when entering GB. The details collected related to the vehicle and its activity whilst in GB, including journeys made, goods carried, length of time in GB and number of visits to GB.

The results were published in "Survey of Foreign Vehicle Activity in Great Britain 2003". This is an occasional survey.

### ***Continuing International Road Haulage Survey (IRHS)***

The Continuing International Road Haulage Survey (IRHS) is a statutory survey of the international activity undertaken by UK-registered HGVs over 3.5 tonnes gross vehicle weight. The data is not published but is available from DfT on request.

The survey is based on a weekly random sample of about 80 haulage firms who are known to carry out international work. The haulier is asked to provide details of all vehicles that have travelled abroad on specified days. The survey collects a similar range of statistics to the CSRGT including mode of appearance of load and country of origin and destination of trip.

Data cover the United Kingdom and are available by country of origin and destination for Wales and Scotland and regions of England. A survey of road goods transport has been carried out since the early 1980s but only in its present methodological form since 1992. It is a continuous survey and is analysed on an annual basis. Main annual results are available five months after the end of the year.

This dataset contains little data related to urban freight activity, except details of those international goods vehicle trips by UK companies that have origins or destinations in urban locations.

### ***Quarterly Roll-on / Roll-off Enquiry (RoRo)***

The Quarterly Roll-on Roll-off Goods Enquiry is a DfT survey conducted on a quarterly basis. The survey is based on ferry operators' and Eurotunnel's reports of the numbers of vehicles and trailers to and from the UK and Europe, by port of embarkation and disembarkation, and by country of registration.

This data has little relevance to urban freight transportation.

### ***LATS 2001 Roadside Interviews with goods vehicle drivers***

The London Area Transport Survey (LATS) is carried out to provide comprehensive statistical coverage of travel in Greater London and the surrounding area. It is carried out every ten years.

Roadside Interviews (RSIs) are a major part of the LATS program. They are used to gain data on vehicle movements in and around London. The interview involves stopping a random sample of vehicles and asking the driver their origin, destination and journey purpose. In addition to the

interviews, classified traffic counts are taken for grossing up purposes. The data from the interviews are used to estimate origin-destination matrices, to support transport models such the London Transportation Studies Model (LTS), and also to help validate the data from the other LATS component surveys.

The LATS roadside survey 2001 contained 800 sites, arranged in a series of screenlines and cordons. The survey took place over four time periods: autumn 2000, spring 2001, autumn 2001 and spring 2002. In the 2001 survey some attention has been given to freight, within the constraints of time available for each interview.

The following data have been collected as part of this survey:

- Origin and destination of the trip (full postal address)
- Trip purpose (the trip purpose for LGVs is being identified)
- Commodities being carried

Commercial vehicle categories used in the roadside interviews are:

- Van (car based)
- Van (four tyres)
- Light goods vehicle (6 tyres, no plate)
- Medium goods (2 axles)
- Heavy goods (3 + axles)

Trip purpose includes:

- Home
- Usual workplace
- Collect/deliver goods
- Other work/business
- Shopping/use services
- Sport/entertainment/social
- Education
- Hotel/holiday home
- Escort

Thirteen commodity/load categories have been used (including empty).

## 2.3 Good vehicle fleet licensing data

### *Vehicle Licensing Statistics*

The DfT hold DVLA annual vehicle licensing data for the following categories of commercial vehicles in the UK:

- Light goods vehicles
- Rigid goods vehicles
- Articulated goods vehicles

The DfT publishes an annual report, **Vehicle Licensing Statistics**, which summarises characteristics of the vehicle stock in Great Britain. This report includes historical series and regional breakdowns.

DfT can produce special analyses of the vehicle licensing dataset for vehicles with a keeper's address in a particular urban area.



It is, however, important to note that the address at which the vehicle is licensed may not be the address at which the vehicle is kept.

### ***Traffic Commissioners Annual Report***

The Traffic Commissioners are appointed by the Secretary of State for Transport and have responsibility in their Traffic Area for:

- The licensing of the operators of heavy goods vehicles (HGVs) and of buses and coaches (Public Service Vehicles or PSVs)
- The registration of local bus services
- Disciplinary action against drivers of HGVs and PSVs.

Great Britain is divided into eight Traffic Areas: South Eastern and Metropolitan, Western, Eastern, North Eastern, North Western, West Midlands, Welsh, Scottish.

The Traffic Commissioner is responsible for the issuing of operator's (O) licences for heavy goods vehicles. Operator's licences are required to carry goods if the vehicle has a gross plated weight of more than 3.5 tonnes; or, if it has no gross plated weight, has an unladen weight of more than 1525kg.

The O-licence application contains details of the address at which the vehicles will be kept and the number of vehicles kept. This data is collated by each TAO. The TAOs collate data about:

- O-licences in issue
- Applications for new O-licences
- Results of opposed applications for new licences
- Complaints against existing operating centres
- Disciplinary action taken at Public Inquiry

Information about O-licences in issue and the vehicles held on these licences is held on a database by the Traffic Commissioners.

The Traffic Commissioners' Annual Report contains data about the above bulleted points concerning O-licences both for Britain as a whole and disaggregated by Traffic Area.

## **2.4 Traffic counts**

Large number of manual and automatic traffic counts take place in urban areas in the UK. Some of these traffic counts are carried out by the Department for Transport, while others are carried out by urban authorities. Some traffic counts are manual counts while other are carried out automatically.

In London, for example, five types of road traffic count are carried out by DfT and Transport for London (TfL). In addition, London boroughs also carry out traffic counts. Each of these traffic counts include goods vehicles.

It is important to note that the classification of goods vehicles is not identical in all of these road traffic counts.

The five types of counts carried out in London are:

**STC Cordon Data** - these are manual classified counts (MCCs) collected around London. The sites on each cordon are counted for one weekday. All of the sites are counted for 16 hours (6am to 10pm). The cordons/screenlines that data are collected for include: Central London Cordon, Inner London Cordon, and the Greater London Authority (GLA) Boundary Cordon.

**DfT Rotating Traffic Census (RTC)** - DfT Rotating Traffic Census takes place in an area including Greater London, and outside. This area yields roughly 1,000 sites per year and provides 12-Hour (7am to 7pm) manual classified count data.

**LATS (London Area Transportation Survey) 2001** - traffic counts cover South East England. The survey consisted of approximately 1000 sites. It took place between Autumn 2000 and Spring 2002. A 16-hour (6AM to 10 PM) manual classified count took place at each Roadside Interview Site (RSI).

**DfT ATCs within London** - this consists of automated counts for all period of operation for 54 sites (4 in Central London, 20 in Inner London and 30 in Outer London).

**TfL ATCs** - TfL operate a network of around 30 continuously operating ATC sites on the TLRN and 50 sites on borough roads.

In addition, approximately 80 ATC sites are operated as part of the TfL congestion charging scheme in London.

## **2.5 Distribution industry surveys**

### ***IGD Annual report "Retail Logistics "***

The Institute of Grocery Distribution (IGD) publishes a report entitled **Retail Logistics** on an annual basis. The report comprises a questionnaire completed by the major grocery retailers concerning their supply chain strategies and distribution operations. Variables in the **Retail Logistics Report include:**

- Logistics costs
- Distribution productivity
- Stock levels
- Vehicle distances
- Home shopping statistics
- Transport operations
- Stock levels
- Lead-time by product category
- Distribution network
  - No. Of Depots, Locations and Products held
  - Operational Resource, Distance Travelled and Backhauling
  - Vehicle and Operating Statistics
  - Warehouse Operations
  - Operational Characteristics and Levels of Automation
  - Product Handling Methods and Use of Packaging
  - Stock Levels by product category

The data provided in the Retail Logistics report cannot be split regionally. However, the report does contain depot data for grocery retailers' distribution centres in and around urban areas that serve those urban areas.

### ***Freight Transport Association Quarterly Transport Activity Survey***

The Freight Transport Association (FTA) carried out a Quarterly Transport Activity Survey to identify increases or decreases in goods vehicle activity in the UK.

The data is obtained from a questionnaire survey. Standard questionnaires are sent each year, containing yes/no questions and requesting activity estimates from the participating companies. The

data is published on a quarterly basis. It includes regional breakdowns, but not specifically for urban areas.

The survey also questions companies about how they have been affected by recent events in the freight industry.

The FTA and the Road Haulage Association (RHA) also carry out some ad-hoc surveys among their members. These are mainly concerned with campaign issues and are opinion surveys.

## **2.6 Vehicle operating cost surveys**

### ***Road Haulage Association vehicle operating cost tables***

The Road Haulage Association (RHA) has been producing goods vehicle operating cost tables in association with transport consultants DFF International, for the past ten years. The tables are used by RHA members to calculate the cost of the amount of time and distance it will take them to do a job for which they are preparing quotes.

The cost tables are averages, derived from annual operating cost surveys among RHA members.

### ***The Freight Transport Association's Manager's Guide to Distribution Costs***

The Freight Transport Association (FTA) produces an annual guide to distribution costs. This is produced by surveying their members. Most of the companies participating in the survey operate on a national basis.

Neither the RHA or FTA cost surveys report costs specifically for urban operations, instead they are based on overall costs across an entire company's operations.

## **2.7 Data on road accidents involving goods vehicles**

### ***Local vehicle accident data collected by local authority or police is collated nationally by DfT***

Goods vehicle accident data is held by the DfT. This data is collated at a local level by a Local Processing Unit (LPU), which can be managed directly either by the police or local authority, or be sub-contracted to a private consultancy. Each LPU is asked by the DfT to report the same set of accident records for national purposes and to transmit them to central government. These are commonly known as STATS19 records, named after the code number of the collection form.

The STATS19 report form consists of an accident record, a vehicle record to be completed for each vehicle involved in the accident, and a casualty record for each casualty arising from the accident. In 2001, local authorities and police forces collected, coded, validated and reported 229,000 accident records, 420,000 vehicle records and 313,000 casualty records for central government.

The data collected about each accident includes:

- Day
- Date
- Time
- Location
- Weather Conditions
- Whether it was light or dark
- Road category
- Where the accident occurred on the road
- Casualty information

- Age/sex of casualties
- Categories of vehicle involved in the accident
- How the accident occurred (subjective information)
- Contributory factors (subjective information)
- If schoolchildren were involved, whether or not they were travelling to school
- Postcode information on those involved in the accident

The Department for Transport publish an annual report on road traffic accident statistics, **Road Accidents Great Britain**”

## 2.8 Vehicle safety and maintenance

### *Vehicle Inspectorate Effectiveness Report*

The Vehicle Inspectorate (VI) is an executive agency within the Department for Transport (DfT). The VI’s primary aim is to contribute to the improvement of road safety and environmental standards within the UK. Among their responsibilities the VI is responsible for:

- Supervising the MOT scheme to ensure that the 18,500 garages authorised to carry out MOTs are doing so to the correct standards
- Conducting Statutory Testing for goods vehicles (HGVs) and offering tests for light goods vehicles (LGVs) of between 2,000kg and 3,500kg design gross weight
- 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;
- taking appropriate enforcement action by prohibiting vehicles from use; prosecuting drivers and vehicle operators who commit serious offences; and making recommendations to Traffic Commissioners about action to be taken against the Operators' Licence.

The **Vehicle Inspectorate Effectiveness Report** is published annually and contains data about the VI’s testing of commercial vehicles.

The VI collate data about HGV vehicle testing, and roadside and spot checks on a monthly basis. Data is provided for each of the eight Traffic Areas regions in the UK. Data reported in the **Vehicle Inspectorate Effectiveness Report** includes:

- Initial vehicle test fail rates for HGV vehicles and trailers units
- HGV spot and fleet roadworthiness checks for vehicles and trailers
- HGV exhaust emissions spot checks
- HGV examinations, weighings and prohibitions for overloading and drivers’ hours offences
- HGV Hazchem inspections and prohibitions
- LGV exhaust emissions spot checks
- LGV examinations, weighings and prohibitions for overloading

This data is provided nationally and by Traffic Area in the report.

## 2.9 Data on lorry/lorry load thefts

### *Truckpol/National Stolen Lorry Load Desk*

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. In 1992 was extended again to cover all 43 Police Forces in the UK. Named “TruckPol” it is 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.

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.

Truckpol maintains a database of lorry and lorry load crimes. The data is collected from a range of sources including other Police Forces, hauliers, insurance companies, goods in transit claims handlers, loss adjusters and private investigators. The information held on the database includes:

- The category of commercial vehicle involved in the crime (from car-derived vans to articulated LGV units).
- Type of loads including hazardous materials (and their value supplied either by the victim or insurance companies).
- Type of incident
- Location, time and date of incident

## 2.10 Rail freight traffic data

### *National Rail Trends*

Until its recent abolition, the Strategic Rail Authority (SRA) published rail freight data for Great Britain on a quarterly basis. This comprised:

- Freight moved by commodity (commodity groups: coal, metals, construction, oil and petroleum, international, domestic intermodal and other). This data is collected by Network Rail to calculate invoices for the rail freight operators.
- Freight lifted (only available for coal and “other”. This data is gathered from the rail freight operators by the SRA.

Both freight lifted and freight moved data was provided net (i.e. it excludes the weight of the locomotives and wagons). This rail freight data could not be disaggregated for urban areas.

The DfT has now taken over responsibility for rail freight data in the UK.

## 2.11 Port freight traffic

The DfT publishes **Maritime Statistics** which is an annual transport statistics report presenting detailed statistics of freight and passenger traffic through UK ports, ships owned or registered in the UK, and the world fleet. This report contains the following data for each major port:

- Foreign and domestic traffic handled
- Freight handled by commodity category
- Area of loading/unloading of goods handled at the Port of London (i.e. domestic, EU, other Europe and Mediterranean and rest of world)

- Containers handled (empty and loaded)

This data is obtained shipping lines or their agents of all freight traffic at major UK ports, and from port authorities.

## 2.12 Inland waterway freight traffic data

The DfT publishes **Waterborne Freight in the UK**. This is a statistical bulletin which presents statistics of domestic waterborne freight traffic carried along inland waters, around the coast, and to and from offshore installations and sea dredging, measured in terms of goods lifted (tonnes) and goods moved (tonne-kilometres). The statistics cover:

- traffic carried by both barges and seagoing vessels along inland waters;
- traffic carried around the UK coast;
- traffic to and from offshore installations, and sea dredging and dumping.

The principal sources of the data are:

- Survey of barge operators, carried out by MDS-Transmodal;
- Port traffic statistics produced by DfT from returns supplied by shipping lines or their agents and port authorities as required by an EC Maritime Statistics Directive;
- Ship arrivals data supplied by Lloyd's Marine Intelligence Unit

## 2.13 Airport freight traffic data

Data about cargo movements at UK airports is collated by the airports and then reported to the Civil Aviation Authority (CAA). Data is available from the CAA in electronic format from 1986 to present.

The CAA publishes freight and mail data on a monthly basis for each of the London area airports: Gatwick, Heathrow, London City, Luton, Southend, and Stansted. A report **Annual Aviation Statistics** is also published. This report contains the following freight and mail data from UK airports:

- Tonnages of freight lifted
- Tonnages of freight picked up and set down on scheduled and charter flights
- Tonnages of freight picked up and set down by flight location (domestic, EU and other overseas operators)
- Tonnages of freight picked up and set down on passenger and cargo aircraft
- Tonnages of mail lifted
- Tonnages of mail picked up and set down on scheduled and charter flights
- Tonnages of mail picked up and set down by flight location (domestic, EU and other overseas operators)
- Tonnages of mail picked up and set down on passenger and cargo aircraft
- Number of air transport movements by cargo aircraft

## 2.14 Employment surveys in freight transport and logistics industry

### *Annual Business Enquiry*

The Office of National Statistics holds data concerning employment in freight transport and related activities. This data is collected as part of the **Annual Business Enquiry**. The 4-digit SIC (1992) codes data (available on request) show employment levels in the entire country (which can also be disaggregated by urban area) for:

- Freight transport by road (SIC 60.24)
- Cargo handling (SIC 63.11)
- Storage and warehousing (SIC 63.12)
- National post activities (SIC 64.11)
- Courier activities other than national post activities (SIC 64.12)
- Activities of other transport agencies (inc. freight forwarding and goods handling operations) (SIC 63.40)
- Transport via railways (SIC 60.10)
- Sea and coastal water transport (SIC 61.10)
- Inland water transport (SIC 61.20)
- Scheduled air transport (SIC 62.10)
- Non-scheduled air transport (SIC 62.20)

The dataset also includes data on employment levels in the following industries that include distribution and logistics-related activities and employment:

- Wholesaling (SIC 51)
- Retailing (SIC 52)
- Manufacturing (SIC 15-37)

### **2.15 Land use databases for town/city needed for freight modelling**

The Review of Freight Modelling project for the Department for Transport (Integrated Transport and Economic Appraisal - completed in 2002) examined sources of land use data for freight modelling (primarily at a national level). The text below is extracted and summarised from the project report (WSP et al, 2002).

The report identified that there are several categories of land use data:

- Classifications of areas (polygons) of land, without further identification of the intensity of use or development – e.g. just that an area is agricultural, housing, industrial, etc.
- Quantities associated with land use, usually in the form of statistical values for zones – e.g. retail or industrial floorspace, number of employees, number of houses, tourist numbers, etc.
- Gazetteer data, that lists properties, addresses or items such that their position is known. Sometimes, additional information is available with gazetteer entries, for instance the type of use of a property at an address.

The report noted that, in general, the latter two types of land use data listed above are of most use for freight modelling. The main sources of land use data identified and their usefulness as reported by this project are shown in Table 2.1.

**Table 2.1: Summary of land use data sources in the UK identified in the Review of Freight Modelling Project**

Source of data	What it contains	Usefulness
Population Census	Number of houses, Number of employees at usual workplace	Not widely used for freight modelling – as based on residential homes
Neighbourhood Statistics by the Social Exclusion Unit	Contains only person-based data at present	Not currently useful for freight
National Land Use Database (NLUD)	Aims to provide a complete and maintained record of land use for England.	Only previously developed land. Currently of little practical use for freight modelling
National Land and Property Gazetteer (NLPG)	Intended as a gazetteer containing every address in the country with a unique property reference number (UPRN) and a grid co-ordinate reference.	Potential value for freight modelling lies in its aim to be the master address list for Britain, with potential to link to other data sources - not ready for this yet.
Postcode Address File (PAF)/ ADDRESS POINT	Royal Mail's master list of addresses (and grid refs from ADDRESS-POINT)	
Valuation Office Agency Data – Rating Lists and Rating Support Applications	Source for non-domestic properties most useful. Rating lists are publicly available (but do not contain floorspace data). RSAs are confidential (but do contain floorspace data)	Ability to identify at a detailed spatial level the likely generators and attractors of freight shipments. This data could complement data on employment from the IDBR
Inter Departmental Business Register	Database of businesses registered for PAYE or VAT (contains employees, turnover, business type and address)	Linking the IDBR with the VOA non-domestic Property and Rating lists would combine business type, name and turnover with floorspace and an indication of property (rateable) value. There will be confidentiality issues associated with such data combination.
Central Business Directory	Created by ONS alongside the IDBR to enlarge on the IDBR, by identifying businesses that might otherwise be missed, and to overcome most of the issues of confidentiality.	The CBD is in trial mode, and not yet ready for use. It has promise as a data source for freight modelling, and should be monitored.
Local Authority Data –	Individual local authorities have been the source of much land use data that is used in local transport planning. This is unlikely to continue. However, London Boroughs inconsistent in their interest in land use and pressure on cost reducing this work. GLA has register of land use, but only database of planning applications.	Modellers likely to have to rely increasingly on national data sources.
Private data firms (e.g. CACI, Geoplan, Kingswood, MapInfo)	Growing availability of data from private firms. Among types of relevant small area or grid referenced data are: <ul style="list-style-type: none"> <li>Enhanced versions of standard data, such as Census</li> <li>Neighbourhood classifications</li> <li>Population estimates and projections</li> <li>Income estimates</li> <li>Lists of companies by location and type</li> </ul>	Some concerns about completeness and data quality. Necessary to understand the quality of any data source before using it.

Source: WSP and Katalysis Ltd, 2002.

## 2.16 Other sources of urban freight data

### *Origins & destinations survey of UK International Trade*

The DfT periodically carries out international origin and destination surveys covering the movement of freight. Previous surveys have been carried out in 1978, 1986, 1991 and 1996. The Department has



carried out these surveys in order to provide a database of UK international traffic flows, with particular reference to cross-Channel traffic.

To carry out the 1996 survey a list of transport operators was first compiled including shipping companies, air freight operators, express carriers, and rail companies. These operators were asked if they would be willing to provide DfT with identifying information (for example names/addresses, reference numbers) about a sample of shipments. Potential respondents were asked if they would be willing to provide information about 1 in 200 shipments. Operators sent this sample information to DfT regularly throughout the year, and a copy of the survey questionnaire was then sent for completion to the companies identified (whichever country they were based in). Respondents were asked to provide details of the transport mode used and locations through which the goods passed on each stage in the supply chain from origin to final destination.

### ***UK Trade statistics***

The Statistical and Analysis of Trade Unit (SATU) - part of HM Revenue & Customs - produce trade statistics. HMRC data is the most complete, authoritative and up to date information on UK imports and exports available. Information is taken directly from returns and reports required with every export and import consignment.

UK trade information is compiled from trade declarations made at 8-digit Commodity Code from the UK Tariff (HS Nomenclature).

<http://www.uktradeinfo.com/>

## **2.17 Freight informatics data (from cameras, sensors & other automatic data capture devices)**

### ***GPS (Global Positioning System) vehicle trip data***

GPS vehicle trip data can be used to analyse goods vehicle activity. This data is recorded for all vehicles fitted with the necessary GPS equipment. This data can typically provide the following:

Information about the date, time and location of the vehicle each time polling occurs while the vehicle is travelling on its journey (polling can be set to occur at a time frequency set by the user). Speed information is often also available.

Information about the date, time and vehicle location every time an event takes place (such as when the vehicle is approaching a delivery point or when the vehicle stops). The polling can often be set to become more frequent when an event occurs.

This type of data can be used to investigate the journey patterns of individual vehicles, or can be used to indicate, at a macro scale, the good vehicle journeys that take place in an urban area in terms of the flow of goods vehicles entering/leaving the urban area and concentrations of vehicle trips in different parts of the urban area by time of day and day of week (if a sufficient number of vehicles are equipped with GPS). The data can be plotted onto a road network map to highlight key roads and routes that are used.

There are several issues that can limit the usefulness of GPS data:

- The time between polling makes it difficult to determine actual route (i.e. roads) used by vehicle,
- Often GPS datasets do not contain variables about the type or weight of vehicle, the commodity being carried, and the industrial sector/supply chain in which the vehicle operates,
- The GPS system does not necessarily have the facility to allow the driver the record the nature of an event taking place (e.g. stopping for driver rest, making a delivery, making a collection, making a collection and delivery, reloading at depot, vehicle problem etc.). Also such systems do

not necessarily allow the driver to record the type and quantity of goods delivered/collected at each delivery/collection point.

The dataset can only be based on those companies that have GPS equipment installed in their vehicles. There are therefore, issues about the extent to which GPS data is representative of total freight transport movement in an urban area, as such GPS systems are more likely to be used in some sectors of the freight transport industry than others.

Obviously, obtaining this type of data requires the agreement of the GPS system provider and/or the goods vehicle operator. Even if such permission is obtained some GPS data may have to be withheld due to reasons of commercial confidentiality.

## **2.18 One-off urban freight data surveys**

### ***“A framework for considering policies to encourage sustainable urban freight traffic and goods/service flows”***

An exploratory study of urban freight transport in the UK was carried out by the Transport Studies Group at the University of Westminster between 1998-2000 (Allen et al., 2000). This work was funded by the EPSRC as part of the Sustainable Cities Research Programme. The aim of the research was to develop and apply a framework for understanding urban freight transport and logistics in its broadest sense, reflecting the breadth of freight and service-related transport activity in urban areas. The research took place in Norwich and London.

During the course of research many retailing, manufacturing, freight transport, logistics and service companies participated in interviews and group discussions. Through this primary research, it was possible to investigate:

- current urban goods and service transport operations in the UK,
- the problems experienced by freight transport and service companies in supplying goods and services in urban areas,
- policy measures that could help to make urban freight transport more sustainable,
- initiatives that companies could implement to make urban freight transport more sustainable.

The work illustrated the range and scale of freight and commercial service requirements of city businesses, showing how these requirements are met by distribution and logistics services and the resultant vehicle movements. The framework developed to investigate these issues proved useful in gaining an understanding of:

- the relationship between goods/service flows and vehicle activity,
- the decision-making process that takes place between supply chain parties that determines how and why vehicle activity takes place in the way that it does,
- how supply chains would react to new transport policy measures and the effect that this would have on vehicle activity,
- how supply chains or individual companies in the supply chain could alter their behaviour to reduce environmental impacts of vehicle operations and the barriers to these changes being implemented, and
- how changes to urban freight transport could be discussed and planned by supply chain parties, and policy makers.

Table 2.2 shows the survey work carried out in the project.

**Table 2.2: Details of the survey work carried out in the project**

<b>Primary research technique</b>	<b>Extent and coverage</b>
<b>Face-to-face interviews</b>	58 interviews held with owners/managers of premises in Norwich and London receiving goods and services 8 interviews with managers of suppliers and wholesalers providing goods to premises in Norwich and London 7 interviews with managers of freight transport companies carrying out collection and delivery work to premises in Norwich and London 5 interviews with managers of service companies providing services to premises in Norwich and London
<b>Consultation meeting</b>	1 meeting held with policy makers (8 participants)
<b>Discussion groups</b>	7 discussion group sessions (4 to 8 participants in each)
<b>Vehicle activity logs/vehicle manifests</b>	Vehicle logs and manifests from 6 freight transport companies

The interviews with owners/managers of premises receiving deliveries provided the following data:

- the complete range of different goods trips that take place at the premises both for goods coming in and goods being sent out;
- the frequency with which each of these goods trips take place (and whether this has changed over time), the means of transport, the type/size of vehicle used, who operates the transport vehicles;
- the supply system used for main and ancillary goods coming in and out of the premises (i.e. the number of suppliers used, the degree of centralisation in the supply system, how the ordering process takes place and who does this etc.);
- the time at which, and days on which, goods movements take place, how these times and days are arranged and whether there is scope to change them;
- the size of the delivery/collection, the time taken to load/unload the vehicle, where the vehicle is parked during loading/unloading, whether checking/signing for delivery is necessary etc.;
- the stockholding policy at the premises and whether this has changed over time;
- the entire range of services required by the premises that result in trips to the premises, and the frequency of these visits;
- problems experienced by the premises in receiving goods and services, scope for changing the current arrangements for goods and services.

The interviewee was also asked to help draw diagrams depicting the goods supply system within which the premises operated and all the different categories of goods trips that took place at the premises. Interviews lasted for between 15 and 60 minutes, with a typical interview taking approximately 20-30 minutes.

#### ***“Modelling Policy Measures and Company Initiatives for Sustainable Urban Distribution”***

The project entitled, “Modelling policy measures and company initiatives for sustainable urban distribution”, built on the University of Westminster project described above. It took place between 2001 and 2003. It received Department for Transport and EPSRC funding as part of the Future Integrated Transport programme in the UK (Allen et al., 2003).

The main aim of the project was to investigate the extent to which policy measures and company initiatives are likely to result in changes in patterns of goods flows and goods vehicle activity in

different types of urban distribution operation. Policy measures tested include Low Emission Zones, congestion charging, weight and access time restrictions.

Analysis was carried out into how these changes in goods vehicle collection and delivery patterns will affect the cost and efficiency of the goods collection/delivery operation, and the social and environmental impacts. Consideration was also given to whether the policy measures examined are likely to lead to similar outcomes for a range of urban distribution operations carried out in the three urban areas studied.

The intention of the project was been to:

- Show how current distribution operations vary for the same company in three different urban areas (Birmingham, Norwich and Basingstoke);
- Make comparisons between different types of current operations in the same urban area;
- Indicate how distribution operations and performance may change if new policy measures were introduced;
- Indicate whether the same policy measures are likely to result in the same or different outcomes in the three urban areas.

The project involved collecting a significant amount of data from the seven distribution companies that participated. This included: (i) a detailed three-day survey of vehicle rounds in the three urban areas, and (ii) a more general survey of the total distribution activity taking place at the depots from which these vehicles operate. Detailed information about 120 vehicle rounds carried out by the companies was collected. In total, 2286 collections and deliveries were made on these rounds.

The detailed information about each vehicle round studied over this three-day period included the following overall information:

- Date of delivery round;
- Time vehicle left depot;
- Time vehicle returned to depot;
- Odometer reading at end of trip;
- Odometer reading at start of trip;
- Vehicle age and specification;
- Vehicle fill at start of round.

For every delivery and collection or stop for any other reason on each vehicle round the following information was recorded:

- Start time of journey to next stopping point;
- Arrival time at next stopping point;
- Distance travelled in vehicle between stopping points;
- Whether stop was for a delivery, collection, both or another reason;
- Name & address of delivery/collection point;
- Quantity of goods delivered or collected;
- Where vehicle was parked during delivery/collection (i.e. on-street, off-street, or in shopping centre);
- Time taken for each delivery or collection;
- Any problems experienced during journey between each delivery/collection point or during delivery/collection.

In addition, details were collected about the vehicle used for the rounds studied. This comprised details of:

- Vehicle age;
- Make and type of vehicle;
- External size of vehicle;
- Internal load space (volume);
- Gross weight of vehicle;
- Maximum payload;
- Fuel type used;
- Vehicle fuel consumption rate.

Vehicle utilisation data for the vehicles studied over the three-day period was also collected. This captured how the vehicles had been used over during the 72-hour period. Time utilisation results were grouped into three headings:

- Time idle (empty) at home depot;
- Time vehicle is out on collection or delivery work;
- Time vehicle is (un)loading or waiting at depot, or rest period.

The database developed and used in the project had to be capable of handling all the distribution data collected. It also had to be designed to allow manipulation of this data to reflect operational changes resulting from policy measures and company initiatives in accordance with the views expressed by companies.

A set of indicators was selected to reflect the sustainability of these current vehicle rounds. These included: (i) operational indicators, (ii) financial indicators and (iii) environmental indicators.

### ***West Midlands Freight Study***

A scoping study was carried out by TTR into potential freight surveys in the West Midlands Metropolitan Authorities Transport Study 2001. The purpose of the scoping study was to identify the data required to provide an initial set of base year freight trip matrices in the West Midlands county, which in turn would be used for defining future monitoring programmes, and developing transport models. In the scoping study it was recommended that the programme of West Midlands freight surveys followed a parallel two-strand process.

It was suggested that one set of surveys should be aimed at collecting information on the generation of demand for freight transport in the West Midlands area. This would focus on the production of goods that need to be transported away from the point of production and the demand for goods produced at a point away from the point of demand. It was proposed that this first survey would be conducted with a stratified sample of the businesses in the West Midlands metropolitan area. The businesses would be selected in order to generate a sample of responses that will allow categorisation of freight transport demand according to business size within each sector in a representative manner. In order to achieve this it was anticipated that a minimum of 1,000 businesses within the study area would need to be successfully surveyed. The output from this exercise could be in the form of a typical number, size and time of consignments defined as a function of business size within each business sector, or it could be a distribution function for the number, size and time of consignments generated by size of business in each business sector.

The second set of surveys would be aimed at producing a matrix of observed freight vehicle movements for journeys with an origin or destination or both within the West Midlands area based on an existing zoning system for the study area. This would involve carrying out a survey similar to the CSGRT conducted nationally by DfT, but the respondents to this survey would be working within the West Midlands area.

In addition, the work would require the following information and data collection: a zoning system for the study area, an inventory of the businesses in each of the study area zones, data collection via ongoing traffic count programmes within the study area, and data collection using roadside interview. From this it would be possible to generate the overall set of base year freight trip matrices for the zones in the West Midlands area.

Pilot survey work was conducted. The survey work proposed did not proceed beyond this pilot phase.

### ***Heathrow Airport Retail Consolidation Centre***

The British Airports Authority (BAA) has developed a 25,000 square feet consolidation centre at Heathrow Airport that is managed by Exel. The purpose of the scheme is to reduce goods vehicle movements, and to improve goods handling systems and waste packaging management in the terminals. In this scheme, goods destined for retailers with premises in Terminals 1-4 are now delivered to the centre, which is located away from the terminal buildings, rather than directly to the shops. The scheme began as a trial in 2000 but has now become a permanent operation. Data is collected by Exel in order to produce the following metrics to assess the consolidation centre performance:

- throughput (roll cages delivered, and retail deliveries)
- % reduction in vehicle movements
- NOx emissions reduction
- PM10 emissions reduction
- CO<sub>2</sub> reductions

Results show that in 2004 the centre received 20,000 vehicle deliveries; this resulted in 45,000 store deliveries being made from the centre on 5,000 vehicle trips. 190 out of 240 of the retail outlets are using the centre. Vehicle trip reduction of approximately 70% is being achieved for those goods that flow through the centre. This was estimated to result in 87,000 vehicle kilometres saved in 2003, and 144,000 vehicle kilometres saved in 2004. Vehicle emissions reductions have also increased as goods throughput has grown, with CO<sub>2</sub> savings of 1,200 kg per week in 2003 and 3,100 kg per week in 2004 (Foster, 2005).

### ***Freight Quality Partnerships (FQPs)***

In the DfT's guidance to local authorities for Local Transport Plans it requires local authorities to "seek to develop integrated freight distribution plans, promoting the efficient and effective use of all modes of transport, while recognising that road will continue to be the dominant mode of freight distribution for the foreseeable future" as part of the UK Government's Sustainable Distribution Strategy. The DfT promotes the idea of Freight Quality Partnerships (FQPs) as a means of formalising the consultation and development work needed for a sustainable distribution strategy. Several FQPs have been established in the UK in the last 5 years. These FQPs typically involve the carrying out of surveys of businesses and goods vehicle drivers to establish priority issues that need addressing. Examples of the survey work carried out in the FQPs in Newton Abbot, Reading, Winchester and Bexleyheath is provided below.

### ***Newton Abbot FQP Freight Research***

The FQP area is largely rural, interspersed with several small urban communities, including the busy market town of Newton Abbot, Teignmouth and Dawlish on the south coast, Buckfastleigh, Ashburton and Moretonhampstead in the Dartmoor National Park, Kingskerswell, Bovey Tracey and Chudleigh.

Discussions held at initial FQP meetings to better understand what the main issues and potential solutions were. A postal survey of businesses in Newton Abbot was carried out. Approximately 140 questionnaires were sent out and 42 responses were received covering a range of businesses sector from the main shopping centre, the industrial estates, small retail outlets, offices and service industries. Findings from the survey included that:

- 80% of businesses have kerbside access for deliveries and of these 57% experienced parked vehicles obstructing deliveries.
- Cars illegally or inconsiderately parked in service areas or parked so as to prevent access to off street loading/unloading facilities can cause serious problems.
- A majority of businesses were against out of hours deliveries because of staffing problems; increased costs resulting from operating later/earlier; security difficulties; the problem of checking goods and noise.
- When a time for deliveries was specified 90% of the suppliers complied.
- Requests were made for improved loading facilities and more loading bays and for an out of town depot.

In addition, the FTA carried out a survey of lorry drivers travelling in the FQP area. This helped to identify particular access problems within the area.

### ***Reading FQP Freight Research***

Reading is situated at the heart of the thriving Thames Valley region. Historically, it was the largest urban district within Berkshire, and became a Unitary Authority in April 1998. Reading is a major economic centre with a growing number of key commercial and business activities and the chosen European headquarters of a number of international high-tech companies. The FQP was established in 1999.

Two surveys were undertaken. Firstly a questionnaire was sent out to 50 Reading Businesses to get their views on what the problems were and what should be done about them. 15 businesses responded. In addition, 300 questionnaires were sent out to goods vehicle operators and their drivers to find out about particular difficulties of delivering into Reading. 50 responses were received from this survey. The surveys revealed:

- Two-thirds of businesses have daily deliveries while others receive goods weekly.
- The vehicles used range from light vans to 41 tonne articulated vehicles from one dedicated supplier or a number of independent suppliers.
- Access problems in many areas, with difficulties caused by indiscriminate parking making manoeuvring awkward and potentially dangerous.
- That Reading's approved lorry route was not well known and could be more effectively communicated.
- Businesses' preferred delivery times nearly all fall within the working day, but only half are able to specify delivery times to suppliers.
- Businesses identified potential difficulties with out of hours deliveries, including staffing and security issues.

### ***Winchester FQP Freight Research***

The Winchester FQP commenced in 2001. The first meeting aimed to identify and agree upon the key issues and problems associated with deliveries in Winchester. The following issues were highlighted:

- Shortage of overnight parking for commercial vehicles.
- Poor advanced direction signing and knowledge of the most suitable delivery routes and times.
- Enforcement of waiting and loading restrictions.

- Adverse environmental impacts of noise from night-time deliveries.
- Building and fabric damage from large vehicles in the country lanes adjacent to Winchester and in the narrow streets of the City.

However, much of the evidence in support of these problems was anecdotal. The main conclusion from the first meeting was the need to clarify more precisely the problems associated with the movement of freight in and out of Winchester. It was agreed that a study should be carried out to gather data on the collective effects of freight movements within the City. The study would identify specific problems and recommend potential changes to freight deliveries and collections, which promoted sustainable distribution as part of the Winchester Movement and Access Plan.

The Transportation Research Group from the University of Southampton were commissioned to carry out this work. The study concentrated on all freight movements in the city centre, Bar End and Winnall areas of Winchester to determine:

- The numbers of core goods deliveries by day and time interval and business type.
- The types of vehicles used and their mean dwell times by business type.
- Areas where goods vehicles are parked during core deliveries and the numbers of premises with dedicated unloading facilities.
- Peak business periods during the year and the associated increase in vehicle movements.
- The type and frequency of service vehicle visits to premises, mean dwell times and mode of transport used.
- The problems reported by local businesses associated with core and service deliveries made to their premises.
- The possible solutions posed by the local businesses that in their opinion would help alleviate their problems.

A questionnaire survey was sent to all businesses in the study areas. 137 responses were received, representing a response rate of 34%. The study found that overall, the four survey areas generate approximately 3690 core deliveries and 4000 service visits a week (615 and 667 respectively per day between Monday and Saturday).

### ***Bexleyheath Town Centre Study***

A study was carried out in Bexleyheath town centre in 2003/4 as part of a Freight Quality Partnership (FQP) set up in the London Borough of Bexley. The purpose of the study was to study freight transport delivery problems to premises on the high street, and to design short-term solutions to help address these problems. The research carried out as part of the study included:

- Scope key freight transport issues (Literature review of previous appraisals of the high street)
- Carry out pilot face-to-face interviews with local businesses
- Conduct a business survey to local businesses located on the high street
- Carry out a parking survey on the high street

The business survey consisted of 22 questions including both closed and open response questions. The survey was distributed to 251 businesses on the high street in October/November 2003. Topics included the total amount of collections and deliveries at the address, the variation in deliveries by day of week and time of day, the origin of deliveries, the type of vehicles used for deliveries, the loading/unloading arrangements and facilities, and the number and purpose of service vehicle visits per week. Businesses were visited by surveyors to ensure receipt and to answer any queries. 21 completed survey forms were received, this represents an 8% response rate.

The parking survey took place on the high street between 09:00 to 17:00 on a Wednesday. The survey area was divided into two locations and two different types of survey was carried out in each. In one,



a “beat” survey was carried out in which the vehicle registration numbers of all vehicle that were parked and loading/unloading was recorded at 30 minute intervals. In the other, a continuous detailed survey was carried out of all vehicles parked and loading/unloading with vehicle registration numbers recorded by arrival and departure time. The beat survey produced little useful information; the continuous survey results were far more useful as they provided average dwell times by vehicle type, as well as the legal and illegal use of parking/loading space over the duration of the survey.

### **3. Three freight data collection surveys in detail**

Detailed information about three of the surveys discussed in section 2 that have been carried out on more than one occasion is provided below. These three surveys are:

- Continuing Survey of Road Goods Transport (CSRGT) (see section 3.1)
- Company Van Survey (see section 3.2)
- Survey of Foreign Vehicle Activity in Great Britain (see section 3.3)

Each of these surveys is carried out by the UK Department for Transport.

#### **3.1 Continuing Survey of Road Goods Transport (CSRGT)**

##### ***a) Frequency of data collection***

Continuous data collection all year round.

##### ***b) Length of time data collection has been carried out***

Data has been collected regularly since 1980, and occasionally since 1952.

##### ***c) Organisation collecting/owning the data***

UK Department for Transport

##### ***d) Purpose of data collection (why it is carried out)***

To gain an understanding of national road haulage activity.

##### ***e) Ways in which the data is used***

Estimates from CSRGT are a key source of data used by the DfT for policy briefing on freight and vehicle taxation, and for work on vehicle regulations and traffic forecasts. Quarterly estimates of public haulage tonne kilometres from CSRGT are used as one of the indicators for the output measure of GDP. Data from CSRGT are also regularly supplied to Eurostat to fulfil the requirements of Regulation 1172/98.

Results from the survey are regularly published in “Transport of Goods by Road in Great Britain” (the annual report on the survey’s results) and “Transport Statistics Great Britain”. As well as providing a valuable source of information for government, the survey is used to meet frequent requests for statistics from industry, academia and the general public.

A recent review of CSRGT (published in 2004) has shown that that CSRGT and the DfT’s other freight surveys are generally considered to be the main source of road freight statistics.

##### ***f) Summary of ways in which the data is used for modelling purposes***

Used in GB Freight Model and EUNET model.

##### ***g) Methodology (i.e. data collection method)***

CSRGT is a statutory survey of UK-registered HGVs over 3.5 tonnes gross vehicle weight. The CSRGT samples goods vehicles and collects data about one week’s activity from each vehicle in the

sample. The sample is spread evenly over the year so that the sample is ‘self weighting’ in respect of seasonal effects, holidays etc. . It is carried out by postal questionnaire. Survey questionnaires are sent out to operators 10 days before the start of the survey week. Operators are asked to complete the questionnaire and return it within 7 days after the end of the survey week.

The sample is also divided evenly between Government Office Regions to ensure adequate regional coverage.

Estimates of the total activity of the vehicle population are derived by applying a grossing factor to the work done by each sampled vehicle. The mean of the previous end quarter and current end quarter figures are used to gross up results for each quarter. The grossing factors are calculated using the population of heavy goods vehicles, from the Driver and Vehicle Licensing Agency’s (DVLA) licensing records, for each quarter of the relevant survey year..

In the Quality Review of CSRGT (published in 2004), an external methodologist, found that CSRGT was a well-established and mature survey that has evolved over a number of years to reflect changing institutional contexts and user requirements and in response to feedback from the industry.

#### ***h) Sampling and sample size***

The CSRGT samples goods vehicles and collects data about one week’s activity from each vehicle in the sample. The sample is spread evenly over the year so that the sample is ‘self weighting’ in respect of seasonal effects, holidays etc.

The sample is drawn from vehicle records at the DVLA. The vehicles covered by the survey are goods vehicles over 3.5 tonnes gross vehicle weight. The normal maximum weight limit for goods vehicles is 40 tonnes gross (44 tonnes for vehicles with ‘road friendly’ suspension). This wide range in size and carrying capacity means that important estimates such as tonne kilometres moved can vary considerably from vehicle to vehicle. In order to make the best use of the sample size available, the questionnaires are not sent to a random selection of the whole vehicle population. Instead random samples are selected from various vehicle groups. This is known as stratified sampling. The sample is also divided evenly between Government Office Regions to ensure adequate regional coverage.

Stratified sampling - the vehicle population has natural groupings arising from the administrative rules governing the construction and use of goods vehicles. These vehicle groups, based on ten gross weight bands, are characterised by different types of freight activity. The Great Britain sample is allocated to each of the ten groups based on the strategy of:

optimising the estimates of total freight activity by sampling in proportion to how much each group contributes to the overall variability in activity;

because the above results in quite large sample errors for the lighter rigid groups, there is some reallocation with the aim of bringing those errors within plus or minus 10 per cent.

The sample sizes so derived for each vehicle group are then divided equally over each of the eleven Government Office Regions to ensure adequate regional coverage.

In 2004, the survey was based on a random sample of about 330 vehicles each week.

#### ***i) Reliability of the data collected***

The overall reliability of the data collected is felt to be good, although there are some areas for concern as described below.

As mentioned above, because the sampling approach results in quite large sample errors for the lighter rigid groups, there is some reallocation with the aim of bringing those errors within plus or minus 10 per cent (for estimates of tonnes, tonne kilometres and vehicle kilometres). Data reliability issues can arise when disaggregating the data (e.g. by geographical location, product type etc.) due to the resulting small sample sizes.

Figures for 2004 are not fully comparable with those for 2003 and earlier years. Detailed comparisons should therefore be made with caution. This is a result of changes made to the survey methodology in 2004 to improve the accuracy of estimates, in particular the use of new sample strata and changes to the sample selection methodology.

One continuing area of concern is that the vehicle kilometres recorded by the CSRGT and by the Department of Transport's road traffic census show significant differences, suggesting that the CSRGT is under-recording HGV activity. In terms of looking at trends in HGV activity, this does not matter too much unless the level of under recording is changing. There is some evidence however that this is happening.

#### ***j) Difficulties experienced in collecting the data***

The survey has a very good response rate as it is a statutory survey (i.e. a legal requirement to complete it). Telephone reminders are used as the final part of a scheme devised to chase non-respondents and increase response rates for the CSRGT.

Of 17,290 forms sent out in 2004, 94 per cent were returned. 79 per cent of the forms sent out were finally used to compile information about vehicle activity. The reasons for non-use of returned forms include: vehicle sold, vehicle scrapped, vehicle stolen, vehicle not licensed, forms not delivered, refusal, and respondents that were excused.

#### ***k) Advantages and disadvantages (strengths and weaknesses) of the data collection methods used***

High response rate due to statutory nature of survey (as well as follow-up reminders).

Burden on respondents - Level of detail required from respondents results in it taking, on average, 26 minutes to complete the CSRGT.

#### ***l) Evaluation of the data collection: has the data collection been a success or failure***

Very successful survey that has proven itself over many years. Estimates produced from the data collected are very useful to the government, industry, academia and the general public.

#### ***m) Lessons learned in collecting the data***

The success of the survey is due to its continuous nature which means that it is based consistent definitions which are well understood by respondents and processing staff. Because of the relative complexity of the survey it is important that processing staff fully understand its requirements and are always available to answer queries respondents' queries.

#### ***n) Cost of data collection/survey***

In 2003, it was calculated by the DfT that the annual cost of running the CSRGT was £249,000. This comprised the following costs: staffing, consumables and supplies (forms, envelopes and other stationery), postage, training, travel & subsistence, and computing.

It was also estimated that the total annual cost to respondents (based on 20,300 forms despatched ) was £228,000.

***o) Content of data collection (details of the specific topics about which data is collected)***

The operator of each vehicle is asked to provide details of all domestic trips undertaken in one week, including the domestic part of any trip that starts or ends in a foreign country. The survey provides estimates of heavy goods vehicle activity by type and weight of vehicle, public and own account operation, length of haul, commodities carried, mode of appearance of load and inter-regional flows.

***p) Units in which the data is collected and analysed***

Units of analysis used:

- Goods moved (tonne kilometres)
- Goods lifted (tonnes)
- Length of haul (kilometres)
- Population of heavy goods vehicles (number of vehicles)
- Fuel consumption (miles per gallon)
- Empty running (empty vehicle km as % of total vehicle km)
- Lading factor (ratio of the actual goods moved to the maximum tonne-kms achievable if the vehicles, whenever loaded, were loaded to their maximum carrying capacity)

***q) Availability of data to people and organisations that wish to use it***

The data freely available to people and organisations that wish to use it. A report is published annually. In addition the DfT can produce additional tabulations and disaggregations, depending on time availability. This can be subject to a cost to the organisation requesting the data. Depending on what is required, extracts of the survey database may also be made available.

***r) Geographical breadth of data captured (i.e. only urban freight transport or non-urban freight transport as well)***

The CSRGT records all the activity carried out by a vehicle within the entire country during the survey week. This therefore includes urban trips and trips outside urban areas.

***s) If the data collected is about more than just urban freight transport, whether the urban freight data can be easily extracted***

Some of the data concerning urban activity can be extracted. However, due to small sample sizes, disaggregating data for a specific urban area can lead to data reliability issues. Also some trips take place both inside and outside urban areas, so these cannot be readily allocated as urban or outside urban vehicle activity.

Also, respondents with multi-drop trips that include 5 or more stops do not record details about each stop, only the start and end locations and total distance (due to the burden this would place on respondents). Therefore, the detail of such multi-drop trips is not available. Many such multi-drop trips are likely to take place in urban areas.

***t) Whether the data collected and analysed helps to provide insight into the total freight transport in an urban area, and the units this data is expressed in***

Where available, urban data can be produced in the units of analysis discussed in section p).

### **3.2 Company Van Survey**

The DfT started a survey of company owned vans in 2003 (i.e. goods vehicles up to 3.5 tonnes gross vehicle weight). It is carried out through a statutory enquiry, sampled from DVLA records, along the lines of the existing domestic road freight survey (CSRGT). The survey collect information about the vehicle itself and the journeys it makes. The results of the survey of company-owned vans is published annually.

#### ***a) Frequency of data collection***

Data is collected all year round.

#### ***b) Length of time data collection has been carried out***

Occasional surveys were carried out in 1987 and 1993. An on-going survey started in 2003. Data is collected all year round. The results are published annually.

#### ***c) Organisation collecting/owning the data***

UK Department for Transport.

#### ***d) Purpose of data collection (why it is carried out)***

Over the last decade the van population (i.e. vehicles up to 3.5 tonnes gross weight) has increased by a third and van traffic by 40%, compared with increases of 15% in car traffic and nearly 20% in heavy goods vehicle traffic. There has been a need therefore to obtain information about vans to complement information available on cars and heavy goods vehicles to provide a complete picture, particularly in relation to road freight activity.

#### ***e) Ways in which the data is used***

Estimates from the Company Van Survey are used by the DFT for policy briefing on freight and vehicle taxation, and for work on vehicle regulations and traffic forecasts. Results from the survey are published annually.

Estimates produced from the data collected are also very useful to industry, academia and the general public.

#### ***f) Summary of ways in which the data is used for modelling purposes***

Data are not used for modelling

#### ***g) Methodology (i.e. data collection method)***

The survey is carried out by postal questionnaire.

#### ***h) Sampling and sample size***

The survey samples company owned vans and collects data about three days activity from each vehicle in the sample. There are approximately the same number of vehicles allocated to each day of the week in each survey week. The sample is spread evenly over the year.

The sample is drawn from vehicle records at the Driver and Vehicle Licensing Agency (DVLA). The vehicles covered by the survey are vehicles registered as company owned, not exceeding 3.5 tonnes

gross vehicle weight in the light goods taxation class with van body types according to DVLA records. The sample was stratified by van body type and Government Office Region. This ensures adequate regional coverage.

During 2004, around 4,800 owners of light goods vehicles provided details of the trips that they made on specific days.

***i) Reliability of the data collected***

The reliability of the data collected is felt to be good, subject to the fact that comparison with the Department of Transport's road traffic estimates suggests that there is some underestimation of company van activity in the survey.

In terms of the national estimates produced from the data collected by the DfT, 95% confidence limits for trip related variables (to calculate annual distance by reason of use, and annual distance by day of travel) range from +/- 4% to +/- 27% depending on the variable.

95% Confidence limits for variables related to the vehicle (to calculate annual distance by van type, and annual distance by geographical region) range from +/- 4% to +/- 19% depending on the variable.

***j) Difficulties experienced in collecting the data***

Making the survey statutory has ensured a good response rate.

7,267 questionnaires were posted in 2004, an average of 140 forms per week. Of the forms posted, 85 per cent (6,171) were returned and 66 per cent (4,832) of those sent out were finally used to compile information about vehicle activity.

The response rate was 82 per cent, this excludes questionnaires posted which could never have been completed; that is undelivered forms and scrapped, sold, stolen, unlicensed vehicles and excused. During the survey period 62 per cent of vans were being used.

***k) Advantages and disadvantages (strengths and weaknesses) of the data collection methods used***

High response rate due to statutory nature of survey (as well as follow-up reminders).

The survey does place a burden on respondents. But the DfT focus on keeping the time taken to complete the questionnaire as short as possible.

As with all diary-based surveys of this type, there is a danger of under-recording of vehicle activity.

***l) Evaluation of the data collection: has the data collection been a success or failure***

On balance, a successful survey that is providing valuable information about van activity that was not previously available, although the possible under-recording of activity is an area of concern. Estimates produced from the data collected are very useful to the government, industry, academia and the general public.

***m) Lessons learned in collecting the data***

In order to maximise response and data quality it is important to ensure that the questionnaire, and in particular the travel diary, is as simple as possible for respondents to complete.

***n) Cost of data collection/survey***

Annual running cost : £40,000 (approximate)  
Cost to respondents : £79,000 for 7,300 forms despatched.

***o) Content of data collection (details of the specific topics about which data is collected)***

The operator of each vehicle is asked to provide details of all domestic trips undertaken in three survey days. This includes providing the following information about trips:

- Survey day and date
- Nearest village/town and county to start and end of trip
- Type of origin and destination (14 types of land use provided)
- Start and end time of trip
- Number of people in van including driver
- Main reason for trip (14 options provided)
- Subsidiary reason for trip (14 options provided)
- Estimate of how full vehicle was at start of trip
- Description of any goods and/or equipment carried
- Distance travelled on trip

The survey data is used to provide estimates of van activity.

***p) Units in which the data is collected and analysed***

Units of analysis used:

- Distance travelled (vehicle kilometres)
- Goods moved (tonne kilometres)
- Number of trips
- Average length of trip
- Utilisation of vehicle capacity

Analysed by main reason for journey, day of week, by type of goods carried, by type of light goods vehicle, by geographical region, and by land use type.

***q) Availability of data to people and organisations that wish to use it***

A report is published annually. In addition the DfT can produce additional tabulations and disaggregations, depending on time availability. This can be subject to a cost to the organisation requesting the data. Depending on what is required, extracts of the survey database may also be made available.

***r) Geographical breadth of data captured (i.e. only urban freight transport or non-urban freight transport as well)***

The Van Survey records all the activity carried out by a vehicle within the entire country during the three day survey period. This therefore includes urban trips and trips outside urban areas.

***s) If the data collected is about more than just urban freight transport, whether the urban freight data can be easily extracted***

Some of the data concerning urban activity can be extracted. However, due to sample sizes, disaggregating data for a specific urban area can lead to data reliability issues. Also some trips take place both inside and outside urban areas, so these cannot be readily allocated as urban or outside urban vehicle activity.



Also, respondents with multi-drop trips that include 5 or more stops do not record details about each stop, only the start and end locations and total distance (due to the burden this would place on respondents). Therefore, the detail of such multi-drop trips is not available. Many such multi-drop trips are likely to take place in urban areas.

***t) Whether the data collected and analysed helps to provide insight into the total freight transport in an urban area, and the units this data is expressed in***

Where available (see section r), urban data can be produced in the units of analysis discussed in section p.

### **3.3 Survey of Foreign Vehicle Activity in Great Britain, 2003**

***a) Frequency of data collection***

Occasional survey.

***b) Length of time data collection has been carried out***

Carried out in 2000 and 2003.

***c) Organisation collecting/owning the data***

UK Department for Transport.

***d) Purpose of data collection (why it is carried out)***

To obtain information about the activity of foreign registered heavy goods vehicles travelling to Great Britain, within the country. This survey provided more detailed information on foreign vehicle activity than is available from the quarterly Ro-Ro enquiry (an on-going survey).

This is important as the number of foreign registered heavy goods vehicles travelling to Great Britain has increased almost three times (229%) over the last 10 years. During 2004, there were around 1.4 million trips made to GB by non- UK registered HGVs.

***e) Ways in which the data is used***

The survey results have been grossed to provide annual estimates of foreign vehicle activity in GB. This helps to understand developments in foreign vehicle activity.

***f) Summary of ways in which the data is used for modelling purposes***

Data are not used for modelling

***g) Methodology (i.e. data collection method)***

The latest survey was carried out by MORI over a six week period in June and July 2003. The interviews were conducted when the hauliers were on their way out of GB in order to pick up unplanned activity undertaken, as well as activity they had planned when entering GB. The interviews were conducted face-to-face, by a team of multi-lingual interviewers.

General vehicle details were collected, together with details of all the trips, deliveries and collections they made whilst in GB. Detailed route information was obtained for a sample of trips made by each driver, to enable estimates of distance travelled by type of road to be derived.

***h) Sampling and sample size***

A sample of 2,109 drivers was interviewed. In order to ensure a representative sample of all countries of registration and type of activity, the interviews were carried out at a variety of ports around GB: Hull, Harwich, Portsmouth and Holyhead and three truck stops; Ashford, Clackett's Lane and Thurrock. Quotas were set for each nationality at each site.

***i) Reliability of the data collected***

The data collected is felt to be reliable.

Estimates of the total activity of the vehicle population are derived by applying a grossing factor to the work done by each sampled vehicle. The grossing factors are calculated using the population of foreign vehicles, from the Ro-Ro enquiry, stratified by country of vehicle registration and Port group.

In terms of the estimates produced from the data collected, 95% confidence limits for tonnes lifted on all journeys is +/-3%, while 95% confidence limits for tonnes lifted by location of loading range from +/- 3% to +/- 11%.

95% Confidence limits for the estimate of total vehicle kilometres travelled in Great Britain is +/-2%, while confidence limits for vehicle kilometres by country of vehicle registration range from +/- 5% to +/- 21%.

The results from this survey are not directly comparable with the Survey of Foreign Registered Lorries carried out and published in 2000, since that survey was based on a smaller sample and limited to a single site.

The new survey is larger and more representative of foreign vehicle activity in the UK. In particular it includes North Sea and Irish Sea ports which are used by Dutch and Irish hauliers respectively.

***j) Difficulties experienced in collecting the data***

No major difficulties.

***k) Advantages and disadvantages (strengths and weaknesses) of the data collection methods used***

Port authorities were involved at an early stage in order to agree suitable points and times for interviewing. Any language difficulties were overcome by using multi-lingual interviewers. Interviewing drivers on their way out of GB ensured that a fuller record of all activity in GB is obtained.

***l) Evaluation of the data collection: has the data collection been a success or failure***

Successful.

***m) Lessons learned in collecting the data***

See answer to section k).

***n) Cost of data collection/survey***

Not available

***o) Content of data collection (details of the specific topics about which data is collected)***

Respondents were asked to provide information on their way out of GB, in order to record unplanned activity, as well as activity they had planned when entering GB. The details collected related to the vehicle and its activity whilst in GB, including journeys made, goods carried, length of time in GB and number of visits to GB.

The survey results have been grossed to provide annual estimates. The estimates include detailed analysis of time spent and frequency of stay in GB. They also include activity by type and gross weight of vehicle, and by country of registration, commodities carried, and inter-regional flows. Details of the place of loading and unloading and whether activity was planned or unplanned are also given. The survey also provides information on the activity of foreign registered vehicles undertaking cabotage.

***p) Units in which the data is collected and analysed***

Units of analysis used:

- Distance travelled (vehicle kilometres)
- Goods lifted (tonnes)
- Goods moved (tonne kilometres)
- Number of trips
- Average length of trip
- Utilisation of vehicle capacity

Analysed by country of registration, by geographical region in GB, by gross vehicle weight, type of commodity and by trip length.

***q) Availability of data to people and organisations that wish to use it***

A report is published annually. In addition the DfT can produce additional tabulations and disaggregations, depending on time availability. This can be subject to a cost to the organisation requesting the data. Depending on what is required, extracts of the survey database may also be made available.

***r) Geographical breadth of data captured (i.e. only urban freight transport or non-urban freight transport as well)***

The Foreign Vehicle Survey records all the activity carried out by a foreign-registered vehicle within the entire country during its stay. This therefore includes urban trips and trips outside urban areas.

***s) If the data collected is about more than just urban freight transport, whether the urban freight data can be easily extracted***

Some of the data concerning urban activity can be extracted. However, due to small sample sizes, disaggregating data for a specific urban area can lead to data reliability issues. Also some trips take place both inside and outside urban areas, so these cannot be readily allocated as urban or outside urban vehicle activity.

***t) Whether the data collected and analysed helps to provide insight into the total freight transport in an urban area, and the units this data is expressed in***

Where available (see section r), urban data can be produced in the units of analysis discussed in section p.

#### 4. Freight transport indicators used in the UK

Table 4.1 shows indicators that have been used in the UK by either the government or researchers to measure the performance of freight transport. The majority of these indicators are used on a national basis, rather than specifically at an urban level. However, they are also applicable at an urban scale.

**Table 4.1: Indicators used in the UK to measure the performance of freight transport**

<b>Title and description of the urban freight indicator</b>	<b>Units in which the indicator is measured</b>	<b>Project/organisation using this indicator and reference if known</b>	<b>Indicator used primarily at national, urban or fleet level?</b>
Freight Intensity	Tonne kilometres/GDP	Department for Transport, Focus On Freight, 2003.	National
Lorry traffic intensity	Vehicle kilometres/GDP	Department for Transport, Focus On Freight, 2003	National
Goods moved	Tonne kilometres	Department for Transport (DfT) – results from Continuing Survey of Road Goods Transport (CSRGT)	National
Goods lifted	Tonnes	DfT results from CSRGT	National
Average length of haul	Vehicle kilometres	DfT results from CSRGT	National
Distance travelled	Vehicle kilometres	DfT results from CSRGT	National
Lading factor		DfT results from CSRGT	National
Empty running	Vehicle km run empty/total vehicle km (loaded and empty)	DfT results from CSRGT	National
HGV kilometres per tonne of oil consumed	HGV vehicle km/HGV tonnes of oil consumed	Department for Transport, Focus On Freight, 2003.	National
HGV tonne-kilometres per tonne of oil consumed	HGV tonne-km/HGV tonnes of oil consumed	Department for Transport, Focus On Freight, 2003.	National
Energy intensity	Fuel consumed per tonne kilometre	Key Performance Indicators (KPIs) used in DfT Transport Energy Best Practice Programme (TEBPP) projects	Fleet

Goods vehicle time utilisation	Proportion of 24-hour period spent: <ul style="list-style-type: none"> <li>- Running on the road</li> <li>- Loading/unloading</li> <li>- On the road – daily rest</li> <li>- Pre-loaded awaiting departure</li> <li>- Delayed/loaded and inactive</li> <li>- Maintenance/repair</li> <li>- Idle (empty and stationary)</li> </ul>	KPIs used in DfT TEBPP projects	Fleet
Average vehicle fill at start of round	Proportion of total vehicle weight or volume capacity used (expressed as %)	University of Westminster - Modelling policy measures and company initiatives for sustainable urban distribution	Urban
Ave driving time and stationary time as % of total round time	Proportion of total time vehicle is away from depot spent i) driving and ii) stationary while making deliveries (expressed as % of total round time)	University of Westminster - as above	Urban
Average speed per round (including and excluding stops to make deliveries) km/hour	Km per hour	University of Westminster - as above	Urban
Average time taken per delivery	Minutes per delivery	University of Westminster - as above	Urban
Average distance travelled per collection/delivery	Kilometres per collection or delivery	University of Westminster - as above	Urban
Average operating cost per collection/delivery	£ per collection or delivery	University of Westminster - as above	Urban
Total distance travelled on roads in urban area transporting food by HGV, LGV, and car used as a proxy for accidents and congestion costs	Total vehicle km per year in UK urban areas	AEA Technology Environment et al. - The Validity of Food Miles as an Indicator of Sustainable Development	Urban

## 5. Data gaps and concluding remarks

### 5.1 Gaps in freight data collection in the UK

The most important gaps in urban freight data collection in the UK are as follows:

- Existing statistics on traffic congestion are limited.
- National vehicle trip origin and destination survey data is limited when disaggregated for particular urban areas.
- Lack of information about multi-drop vehicle rounds with more than 5 stops (only summary data collected).
- Information on the overall structure and profitability of the UK road haulage industry (including urban operators) is limited.
- There is relatively little data on fuel consumption per km by goods vehicles (but data on fuel consumption is published as part of the DfT's Continuing Survey of Road Goods Transport).
- There is limited data on the freight flows and goods vehicle trips generated by different types of urban businesses in terms of factors such as trip frequency, time, vehicle type.
- Rail freight data is limited at the urban scale.

The most important gaps in urban freight data collection for freight modelling purposes in the UK are:

- Sample size for vehicle trip origin and destination surveys very limited when disaggregated for particular urban areas.
- Lack of information about multi-drop vehicle rounds with more than 5 stops (only summary data collected).
- There is limited data on the freight flows and goods vehicle trips generated by different types of urban businesses in terms of factors such as trip frequency, time, vehicle type.
- Lack of single source of data about location, size and types of business in urban areas that is comprehensive and detailed enough for freight modelling.

In addition, much of the freight data in the UK is collected and analysed at a national scale. Urban data can potentially be extracted from these national datasets but this can prove difficult depending on type of data. Special requests have to be to DfT for the extraction of urban data from most of the surveys/data collection exercises.

A limited amount of data is already published at the urban level (e.g. quantity of cargo handled by airport, and by seaport) but this gives no indication of where/how the goods moved in the UK.

Some urban data is relatively easily extracted/made available (for instance traffic count data), while extracting urban data from other data collection exercises is more difficult (e.g. Continuing Survey of Road Goods Transport).

Main difficulties in extracting urban freight data include:

- It is dependent on time availability of DfT
- Surveys are based on vehicle activity, not specific geographical location, so both urban and non-urban data is collected (with no easy method of separation)
- Sample sizes for smaller urban areas likely to be relatively small in vehicle activity surveys

## 5.2 Concluding remarks

The DfT coordinates several on-going surveys of freight data in the UK. However, these surveys take place at a national rather than a specifically urban level. But some urban freight data can potentially be disaggregated from these national surveys, subject to the limitations discussed in the previous section.

The most relevant DfT freight data publications (such as the CSRGT, and the company van survey) are published on an annual basis. However, data collection takes place all year round.

Another important source of urban freight data are road traffic counts carried out by the Statistics Traffic division in the DfT and in local authorities.

Most urban authorities in the UK do not tend to carry out surveys of goods vehicle operations. Transport for London has been making efforts to compile data about freight transport in London. However TfL does not collect all the data itself. Some is extracted and provided from national surveys by DfT.

In addition, there have been a few one-off surveys of freight transport operations at an urban level as part of research projects and local developments.

Urban freight data collection has improved in the UK over the last five years with the introduction of the DfT's company-registered van survey, as well as the occasional Foreign Vehicle Survey. However, the Company Van Survey may revert to being carried out on an occasional basis in future.

There are no plans for expansion in urban freight data collection in the UK at a national level at present.



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Further information about the Bexleyheath Freight Quality Partnership is available at: <http://www.bexley.gov.uk/service/environ/fqp.html>

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## **Appendix 1: Summary of freight data sources in the UK**

Table A.1 provides a summary of the main sources of continuous freight data in the UK grouped according to the data collection topic. The following information is provided for each data collection exercise:

- Name of data collection/ survey
- Name of organisation collecting data
- Reason for data collection
- Whether the data is used for modelling
- Frequency of data collection
- Last time data was collected
- Type of data collected
- Method of data collection

**Table A.1 Sources of continuous freight data in the UK**

Type of data collection exercise/survey	Name of data collection/ survey	Name of organisation collecting data	Reason for data collection	Is data used for modelling?	Frequency of data collection	Last time data was collected	Type of data collected	Method of data collection	Sample size	Units of measurement used	Geographical area over which data collected	How difficult to extract urban data?
<b>Commodity flow survey</b>	NONE											
<b>Site/Land Use/Establishment surveys</b>	TRICS (Trip Rate Information Computer System) database	TRICS	To estimate traffic flows for variety of sites	Yes	New counts added all the time	2005	Vehicle counts at different types of site	Site surveys	N/A	Vehicles per hours by vehicle type	Sites throughout UK	Easy but need to pay subscription
<b>Transport operator surveys (including driver diary surveys)</b>	Continuing Survey of Road Goods Transport (CSRGT)	Department for Transport	Produce national estimates	Yes	All the time - published annually	2005	Goods vehicle trip data over 1 week	Postal questionnaire	14,000 vehicles per year in 2004	Several	All trips in UK by UK reg HGVs	Needs special analysis by DfT, and many urban trips difficult to identify.
	Company Van survey	Department for Transport	Produce national estimates	No	All the time - published annually	2005	Goods vehicle trip data over 3 days	Postal questionnaire	4,800 vehicles per year	Several	All trips in UK	Needs special analysis by DfT, and many urban trips difficult to identify.
	Survey of Foreign Vehicle Activity in Great Britain	Department for Transport	Produce national estimates	No	Occasional	2003	Goods vehicle trip data during time in UK	Face to Face questionnaire	2,109 vehicles	Several	All trips in UK	Needs special analysis by DfT, and many urban trips difficult to identify.
	Continuing International Road Haulage Survey (IRHS)	Department for Transport	Produce national estimates	No	All the time	2005	Goods vehicle trip data for international trips on specified days	Postal questionnaire	4,500 international haulage firms per year	Several	All international trips by UK vehicles	Needs special analysis by DfT, and many urban trips difficult to identify.
	Quarterly Roll-on / Roll-off Enquiry (RoRo)	Department for Transport	Produce national estimates	No	Quarterly	2005	Goods vehicles travelling on RoRo ferries/Channel Tunnel	Postal questionnaire	All Roll-on/Roll-off ferry operators known to carry road goods vehicles, and Eurotunnel	Number of goods vehicles carried	Ferry/Channel Tunnel trips to/from UK	Not relevant
	London Area Transport Survey - Roadside interviews with goods vehicle drivers	TfL	Produce London estimates and trip matrix	Yes	Every 10 years	2001	Origin/destination, trip purpose and type of goods carried	Face to face interview	150,000 light and heavy goods vehicles	Several	London and SE	Is London data
<b>Shipper surveys</b>	NONE											

(continued)

Type of data collection exercise/survey	Name of data collection/ survey	Name of organisation collecting data	Reason for data collection	Is data used for modelling?	Frequency of data collection	Last time data was collected	Type of data collected	Method of data collection	Sample size	Units of measurement used	Geographical area over which data collected	How difficult to extract urban data?
<b>Receiver surveys</b>	NONE											
<b>Good vehicle fleet licensing data</b>	Vehicle Licensing Statistics - DfT hold DVLA annual vehicle licensing data	DfT	Legal requirement for licensing	No	All the time - published annually	2005	Vehicle type and weight, registered address of owner	Postal licensing form	All vehicles		All of UK	Needs special analysis by DfT
	Traffic Commissioners Annual Report	Traffic Commissioners	Legal requirement for licensing	No	All the time - published annually	2005	Licences in issue to goods vehicle operators inc. address, number and type of vehicles	Postal licensing form	All goods vehicle operators		All of UK	Difficult - needs special analysis by Traffic Commissioner's office - not all data in electronic
<b>Traffic counts</b>	Large number of manual and automatic counts in urban areas in UK	Department for Transport	Produce national estimates		All the time	2005	Traffic flows	Manual and automatic counts		Vehicles/vehicle kilometres	GB	Fairly simple, but needs special analysis by DfT.
	Manual and automatic counts in many towns and cities	Urban authorities	Traffic monitoring	No	All the time	2005	Traffic flows	Manual and automatic counts		Vehicles/vehicle kilometres	Many urban areas in GB	Collected at urban scale
<b>Distribution industry surveys</b>	Annual report "Retail Logistics: Benchmarking Supply Chains"	Institute of Grocery Distribution	Commercial	No	Annual	2004	Includes stock levels, lead-time by product category, no. and location of depots, distance travelled and backhauling, for grocery retailers providing data	Postal questionnaire	All major grocery retailers sent questionnaire	Several	All of UK	Data cannot be split regionally or by urban area
	Quarterly Transport Activity Survey	Freight Transport Association (FTA)	Industry support/commercial	No	Quarterly	2005	Includes business activity by region and sector as well as views on special issues	Postal questionnaire	Usually 100-150 companies	Several	All of UK	Data cannot be split by urban area
<b>Vehicle operating cost surveys</b>	Vehicle operating costs / Distribution Cost surveys	FTA and RHA (Road Haulage Association)	Commercial	No	Published Quarterly	2005	Wages, warehouse costs, vehicle costs, haulage rates	Postal questionnaire	80 goods vehicle operators	Several	All of UK	Data cannot be split regionally or by urban area

(continued)

Type of data collection exercise/survey	Name of data collection/ survey	Name of organisation collecting data	Reason for data collection	Is data used for modelling?	Frequency of data collection	Last time data was collected	Type of data collected	Method of data collection	Sample size	Units of measurement used	Geographical area over which data collected	How difficult to extract urban data?
<i>Loading/unloading/parking infrastructure data for goods vehicles</i>	NONE											
<i>Data on road accidents involving goods vehicles</i>	Local vehicle accident data collected by local authority or police is collated nationally by DfT	Department for Transport collates data	Legal requirement & Accident analysis	No	All the time	2005	Day, date, time, location, vehicles involved, casualty information for each accident	Police reports	Not applicable		All of the UK	Needs special analysis by DfT
<i>Data on lorry/lorry load thefts</i>	Truckpol/National Stolen Lorry Load Desk	Metropolitan Police	Crime investigation	No	All the time	2005	Location, time, date of incident, type of vehicle, type of load	Reported by Police Forces, hauliers, insurance companies, goods in transit claims handlers, loss adjusters and private investigators	Not applicable		All of the UK	Needs special analysis by Truckpol team
<i>Employment surveys in freight transport and logistics industry</i>	Annual Business Enquiry	Office for National Statistics	Employment in UK	No	Published annually	2005	Number of employees by sector	Postal questionnaire	All businesses with more than 250 employees and a proportion of business with up to 250 employees	Number of employees	All of the UK	Can require special analysis by ONS team depending on geographical scale required
<i>Land use databases for town/city needed for freight modeling</i>	Several possibilities											

(continued)

Type of data collection exercise/survey	Name of data collection/ survey	Name of organisation collecting data	Reason for data collection	Is data used for modelling?	Frequency of data collection	Last time data was collected	Type of data collected	Method of data collection	Sample size	Units of measurement used	Geographical area over which data collected	How difficult to extract urban data?
<b>Port freight traffic data in the urban area</b>	Maritime Statistics	DfT	Produce national estimates	Yes	Annual	2005	Freight handled by commodity, type of ship, port	Returns by port operators	All port operators	Tonnes	All of UK	Available for individual ports
<b>Rail freight traffic data in the urban area</b>	National Rail Trends	Strategic Rail Authority (now DfT)	Produce national estimates		Published Quarterly	2004	Freight moved by commodity (commodity groups: coal, metals, construction, oil and petroleum, international, domestic intermodal and other) and freight lifted (coal and other)	Returns by rail freight operators	All rail freight operators	Tonnes and tonne kilometres	All of UK	Needs special analysis by SRA - difficult as most rail freight flows are into and out of urban area
<b>Inland waterway freight traffic data in the urban area</b>	Waterborne Freight in the UK	DfT	Produce national estimates		Published Annually	2005	Goods lifted and moved by barges and seagoing vessels along inland waters; traffic carried around the UK coast; and traffic to/from offshore installations, sea dredging and dumping	Barge and ship operators and ports	All ports	Tonnes and tonne kilometres	All of UK	Available for individual waterways
<b>Airport freight traffic data in the urban area</b>	UK Airport Freight Data	Civil Aviation Authority (CAA)	Produce national estimates		Published Monthly	2005	Freight and mail lifted by airport, by scheduled or chartered flight, and by passenger and cargo aircraft	Returns by airports	All airports	Tonnes	All UK airports	Available for individual airports

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Type of data collection exercise/survey	Name of data collection/ survey	Name of organisation collecting data	Reason for data collection	Is data used for modelling?	Frequency of data collection	Last time data was collected	Type of data collected	Method of data collection	Sample size	Units of measurement used	Geographical area over which data collected	How difficult to extract urban data?
<b>Freight informatics data (from cameras, sensors &amp; other automatic data capture devices)</b>	GPS (Global Positioning System) vehicle trip data	GPS companies such as ISOTRAK, MinorPlanets, etc.	Used by operators to monitor vehicle fleet	Used by operators for trip planning and scheduling	All the time	2005	Vehicle ID, location and time data	Satellite tracking				
<b>Other sources of urban freight data</b>	Origins & destinations survey of UK International Trade	DfT			Occasional	1996	Weight of international trade by inland origins and destinations, by mode of transport and by foreign country.	Postal questionnaire	15,400 shipments imported, and 18,400 imports exported	Tonnes	All of UK	Provided at regional scale
<b>Vehicle safety and maintenance</b>	Vehicle Inspectorate Effectiveness Report	Vehicle Inspectorate	Part of vehicle road safety and environmental standards within the UK	No	All the time	2005	Vehicle test fail rates, road worthiness spot check test, exhaust emission tests	Vehicle testing	Varies depending on test - for some tests all vehicles are included	Several	All the UK	Would require special analysis by Vehicle Inspectorate
<b>Other sources of urban freight data</b>	UK Trade statistics	HM Revenue & Customs	Legal requirement	Yes	All the time	2005	Quantity and value of imports and exports	Compiled from trade declarations	All trade declarations	Value and quantity (usually weight)	All goods entry points to UK	Relevant for modelling if urban area is a seaport - require special analysis by HM Revenue & Customs



## Appendix 2: Freight terminology in the UK

Table A.2 lists the terms used in urban freight data collection in the UK together with their definition.

**Table A.2 Selected terms used in UK freight data collection**

<b>Term used (in English)</b>	<b>Definition</b>
Heavy goods vehicle (HGV)	Goods vehicle with a maximum permissible gross weight over 3.5 tonnes
Light goods vehicle (LGV)	Goods vehicle with a maximum permissible gross weight up to and including 3.5 tonnes
Urban areas	Urban areas are defined by the Office of the Deputy Prime Minister as settlements with a population of 10,000 or more residents
Journeys/Trips	Work carried out by goods vehicles from 'base to base' to make deliveries and/or collections (including empty journeys/trips for vehicles repositioning)
Stops	Each time a goods vehicle stops for a delivery and/or collection during a journey/trip.