# MEETING THE CHALLENGES OF URBAN FREIGHT IN EUROPEAN CITIES THE EXAMPLES OF LONDON AND PARIS

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**Abstract:**

The paper presents an overview of freight distribution in two World Cities, Paris and London. It starts by discussing the impacts of political changes that took place in both cities in the last three to four years, on deliveries and distribution. Freight statistics are presented for London and Paris and trends explained. The paper compares the Mayor's Transport Strategy with the Paris Mobility Masterplan (Plan de deplacements de Paris); discusses the impact of various transport policies on freight, and the emergence of Freight Quality Partnerships in both cities. There is an in-depth coverage of the issues affecting freight in the two cities and the new initiatives. These include traffic management and lorry controls; delivery bays; central London congestion charge; bus lanes; night-time deliveries; freight databases; rail and waterborne transport, and the "greening up" of delivery fleets. The paper concludes with the comparison of each city's response to the challenges they are facing, and highlights the similarities and differences in their approach.

Keywords: Freight transport; Deliveries; Local policies; Freight quality partnerships; Traffic management; Congestion charging; Access regulation; Cleaner energy

Topic Area: B5 Urban Goods Movement

## 1. Introduction

London and Paris are two World Cities. World Cities "now function as command points in the organisation of the world economy, as sites for the production of innovation in finance, and advanced services for firms, and as key marketplaces for capital[1]." It is these economic forces and activities that create the demand for the movement of goods and services in such cities, which is the subject of this paper.

Both cities have gone through political change in the last four years. In London, the office of the Mayor of London was created in 2000. This change has resulted in a fresh look at new strategies for the Capital, including transport. The two transport policies, which have created the greatest impact in London, are the introduction of the Congestion Charge for central London and the increased investment in buses. Alongside these policies, one of the key objectives of the Mayor's Transport Strategy is "making the distribution of goods and services in London more reliable, sustainable and efficient, whilst minimising negative environmental effects". This statement underlines the importance attached to the contribution of the industry to London's economic activity.

Almost simultaneously in Paris, a new administration took charge of the City Hall in 2001. Transport issues were high in the agenda of the new administration, including major developments in public transit through dedicated bus lanes and a new tramway line. The elected official who was appointed with responsibility for transport is one of the four Green politicians who participate in the Paris government. Regarding freight, he recently stated that "The City of Paris has the will to take into account goods transport in its urban

[1] Saskia Sassen, The Global City, 1991.

planning and mobility management policies. For that, we will give priority to freight traffic over private automobile traffic".

The comparison of the administrative areas of London and Paris in this paper requires an explanation. The administrative area of London is that of the Greater London Authority (GLA), which encompasses the 33 London boroughs, as shown in **Figure 1**. Its population today is 7.4 million and is set to grow to 8.1 million by 2016. Currently there are some 4.5 million jobs in Greater London, which are forecast to increase to 5.1 million by 2016. The Financial and Business Services sector has dominated the job growth in London for the past thirty years and is likely to continue to do so. London's GDP represents around 20% of the UK's entire output, and is bigger than many national economies. The City of London alone generates over £30 billion ( €42 bn) a year for the UK economy.

The administrative situation of Paris is slightly different. The City of Paris itself represents 1.7 million jobs and 2 million residents on 10 000 ha. However, it is at the geographic as well as economic center of the "Ile de France" region[2], with its 11 million inhabitants and its 20% contribution to France's GDP. The denser urban area of the region includes 124 municipalities divided into 3 departments (Val de Marne, Seine St Denis, Hauts de Seine – also called "petite couronne" or "small belt") and Paris, as shown in **Figure 2.** This dense area has a population of 8 million people. In demographic, economic and spatial terms, Paris and the "petite couronne" are equivalent to Greater London, without its institutional unity (the Paris metropolitan area with its 1400 municipalities, among which 124 in the dense urban territory, is commonly referred to as the most fragmented urban area of France). Figure 2 also shows a comparison between Paris and London areas on the same scale.


Figure 1 Greater London Authority boroughs

[2] Other than the "petite couronne" and Paris, the Ile de France region is composed of 3 departments : Seine et Marne, Val d'oise, Yvelines. See Figure 2

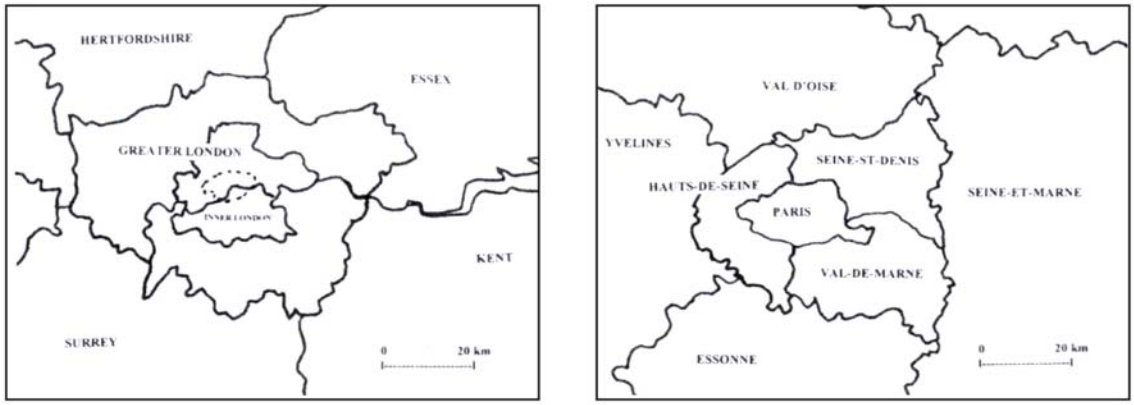


Figure 2 Paris institutional map – comparison with the London area

Three major circular highways today define the Ile de France region: the Peripherique around Paris, the A86 which crosses the three departments of the "petite couronne", and the Francilienne, which crosses the outer departments of the region.

## 2. Freight transport activity in London and Paris

Freight traffic in large cities is largely the result of logistic and economic decision-making processes, which are not necessarily connected to concerns over the adequacy of transport provision. This is because:

- retailers tend to limit their stocks and turn most or all of their business premises into sales areas, relying on the high reactivity of the transport system for rapid supplies;
- deliveries are also more frequent due to the general changes in commercial patterns : higher number and rotation of products (in particular in the garment sector); sophisticated packaging, development of franchise businesses and decrease in the number of independent shops, etc., and
- express transport is increasingly vital to the service sector.

Moreover, the trend is for the number and variety of distribution services to increase with e-commerce and home deliveries, the 24-hour city and the increasing consumer sophistication. These patterns can explain a rise in the frequency of deliveries as well as the increased use of small commercial vehicles, vans and motorbikes, for delivering goods.

### London freight statistics

In 2002, 123 million tonnes of road freight, lifted by vehicles with gross weight of over 3.5 tonnes, had its origin or destination in Greater London. For 51 million tonnes, both the origin and destination were in London. The freight lifted in London in 2002 is approximately 17% below the 1990 level, reflecting changes in the nature of London's economy. The freight lifted in London represented approximately 8% of the total freight lifted in Britain by weight.

Sea-going freight traffic through the Port of London, which is the largest port in the UK, declined between 1990 and 1992, then increased to 57.3 million tonnes in 1998 before falling to 47.9 million tonnes in 2000, and rising to 51.2 million in 2002. Internal freight traffic on the Thames has fluctuated over the last decade. In 2002 it was 5 per cent above the 1990 level (2.1 million tonnes compared with 2.0 million tonnes), although the amounts are relatively small.

Figure 3**.** shows the total volume of freight, in terms of tonnes moved, between 1990 and 2002. This illustrates that road is the dominant mode for goods movement in London.

If Port of London traffic is excluded from the calculation, road accounted for approximately 94% of all freight lifted in London in 2002. Figure 3 only includes rail freight data up to 1994. Annual rail freight data has not been available since then. However, in 2000 it was calculated that rail freight accounted for approximately 4% of total freight lifted in London.

Throughout the 1990s, the total volume of motor traffic in Greater London has remained steady at around 29 to 30 billion vehicle-kilometres. Around 38 per cent of traffic is on principal roads, 32 per cent on minor roads and 30 per cent on trunk roads. Cars comprise over 80 per cent of the total vehicle flow on major roads in London, while commercial vehicles for freight and servicing account for approximately 14 per cent. Many freight and service movements now use the M25 rather than passing through London, including much of the road access to the east coast ports.

The 1990s have also seen a shift in freight traffic from medium sized goods vehicles to light vans. Figure 4 shows the location of the boundary and cordon points; Figure 5, 6 and 7 show the numbers of freight vehicles crossing them. It can be seen that the numbers of medium and heavy goods vehicles crossing into outer, inner and central London are almost stable or falling; with the main growth being in light goods (van) traffic, especially in inner and outer London.

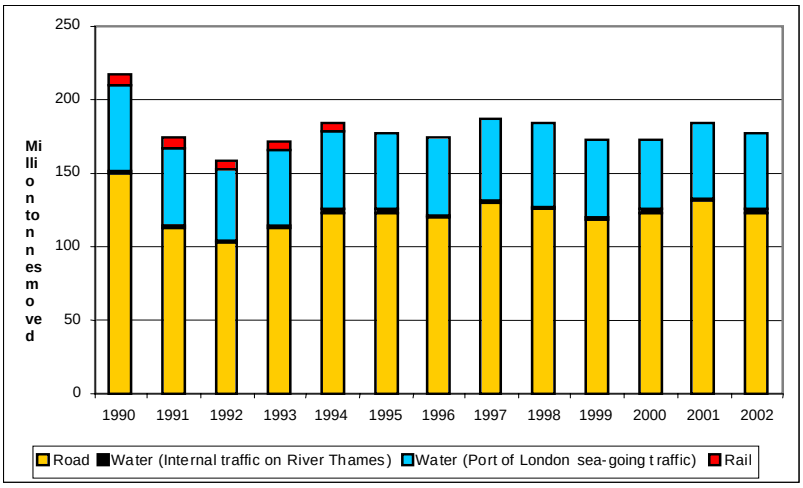


Figure 3 Freight lifted in London 1990-2002

In the absence of policy change, total goods and service vehicle traffic in London is projected to rise by over ten per cent by 2011, with light vans likely to continue to be the fastest growing category.

Even with greatly increased use of other modes, the vast majority of goods transported in London will continue to be road based. Road space in London is at a premium and needs better management. There are no easy solutions to the many potential conflicts. It is within


Figure 4 Location of London **road** traffic cordons
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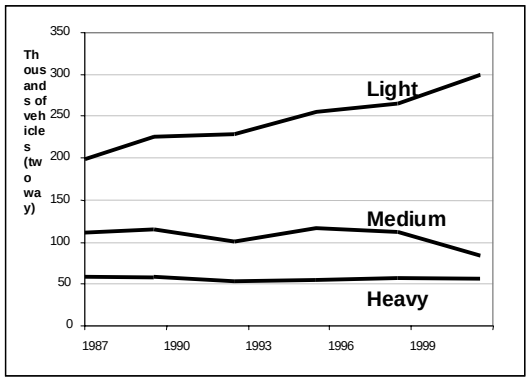


Figure 5 GLA bounda ry-daily freight vehicles: 24 hour flows
**crossings**

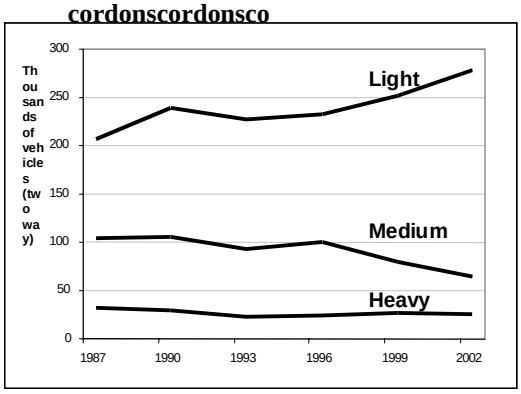


Figure 6 Inner London cordon - daily freight vehicles: 24 hour flows
**crossings**

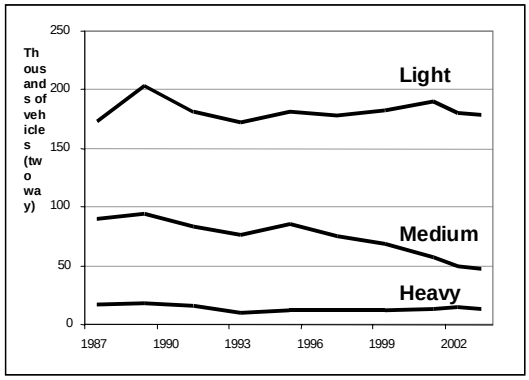


Figure 7 Central London -daily freight vehicles: 24 hour flows

this context that opportunities for improving freight movements and servicing must be found.

***Paris freight statistics***

On a yearly basis, more than 31 million tonnes are transported in Paris, of which 10% are internal and 90% have their origin outside Paris. This figure, however, does not reflect the true picture because of methodological problems : governmental freight statistics are not very suitable for urban areas as they do not take into account transport made by light commercial vehicles.

The 300 000 business units (including 59 000 retail stores) located in Paris generate about 1.6 million deliveries or collections every week. It is worth noting that there is approximately one delivery/pick up operation per job per week in a French city (LET 2002). Although specific studies for the Paris territory are still missing (they are on-going but not yet available), it is generally admitted that the ratio for Paris should be slightly higher, due to the concentration of small retail businesses with high freight generation ratios in Paris.

Commercial traffic in Paris accounts for about 12% of all traffic. Road usage in Paris is split on the following basis : 70% of traffic is private cars, 11% bikes and bicycles, 6% taxis, 1.5% buses, 2.5% lorries and 9% vans (Mairie de Paris 2003). On the peripherique

corridor (the internal highway which is on the boundary of Paris and the inner circle of boulevards), vans make up 12% of total traffic, and lorries 6%. See **Table 1**. In recent years, commercial traffic has tended to decrease in relative as well as absolute terms. In 1993, there were 59 000 lorries and 78 000 vans circulating on the peripherique corridor. The number of lorries has since then decreased steadily (in 2002, they were 46 000). The number of vans on the other hand has increased drastically between 1993 and 1997 (from 60 000 in 1993 to 105 000 in 1997, and has decreased since then (today, 82 000 vans). See **Figure 8**. It is worth noting that only a third of vans circulating in city streets are used for freight transport (including the transport of tools and building materials).

Table 1 Lorry and van traffic in Paris

| | % of vans in total motor traffic in 2001-02 (in 1998-99) | % of lorries in total motor traffic in 2001-02 (in 1998-99) |
|---|---|---|
| Peripherique highway and circular boulevards (2002 and 1999) | 12% (16.5 %) | 6 % (6.5 %) |
| Paris city streets (2001 and 1998) | 9 % (12 %) | 2.1 % (3 %) |

*From Mairie de Paris cordon surveys Mairie de Paris 2003*

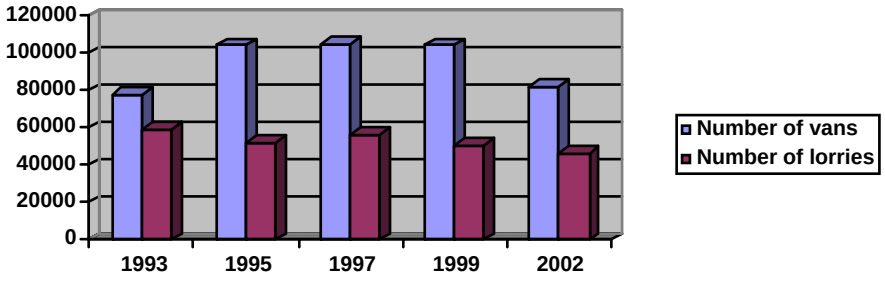


Figure 8 Evolution of lorry and van traffic in Paris peripherique corridor since1993 (average traffic volumes between 7:00 and 19:00)

This decrease of commercial traffic in the city of Paris is not verified for the “petite couronne” area and the A86 highway, although specific traffic cordon surveys are missing for the latter. Likewise, the entire Ile de France region has experienced a strong increase of truck and van traffic.

Compared to other French cities, in Paris a larger share of goods is transported by water. About 2.5 million tonnes are transported every year on the river Seine with destination (67%) or origin (33%) Paris. Most of this traffic is composed of building materials. Waterborne transport in the Paris region represents a growing traffic today, contrary to rail transport which has been continuously decreasing over the past 20 years. Freight rail traffic coming to or leaving the city of Paris represents only 1 million tonnes a year. This traffic mostly goes through 2 freight railway stations, Bercy in the south-east and Chapelle in the north. There are active talks today with SNCF and its parcel transport subsidiary, Sernam, to increase the use of these freight railway stations within Paris (see section 5).

Rail freight traffic in the “petite couronne” area is rather important. Local traffic has decreased, due to the de-industrialisation in many municipalities surrounding Paris and the closure of many private rail connections, but transit rail traffic has increased. Some of the

main rail freight lines (called the rail "big belt") of France cross the "petite couronne" area.

Another notable statistic for the city of Paris is the growing traffic of goods generated by home deliveries, especially *grocery* products : a survey carried out in 2001 (CREDOC 2001) revealed that more than 12% of Paris households used home delivery services on a regular basis for their grocery shopping. One third of this traffic was generated by on line shopping and two thirds by people who shopped in local supermarkets but had their bags delivered home by specialised services.

Another characteristic of freight in Paris is the growing importance of the "mono activity" (or specialised) districts, which produce very specific patterns of freight traffic and generate very specific, and considerable traffic problems. The examples are the Garment district (the Sentier) in the 2nd arrondissement, or the computer retail sector in the 12th arrondissement.

Paris is a commercial as well as a service and administrative city but industrial activities have not yet deserted the inner city. For example, in the transport sector, there are still 2000 third account transport companies located within the city of Paris, although most of them are very small SMEs. This data does not look at corporate headquarters but at actual business units. In addition, naturally, Paris remains the main location for the headquarters of large transport and logistic French companies or French branches of foreign transport companies.

## 3. Political framework

### *The new Governance in London*

The Greater London Authority (GLA) was created by the Greater London Authority Act 1999. The GLA covers the area of 33 London boroughs, including the Corporation of London. It is made up of a directly elected executive Mayor and a separately elected Assembly, which primarily exercises scrutiny functions. The first mayoral elections took place in May 2000 and the second mayoral elections will take place in June 2004.

The GLA Act identified the principal purposes of the GLA as promoting London's economic and social development, wealth creation, and environmental improvement. The Act requires the development of eight statutory Mayoral strategies, which have now been produced. The Mayor's Transport Strategy, published in July 2001, is one of these strategies.

The GLA is made up of four functional bodies: London Development Agency, London Fire and Emergency Planning Authority, Metropolitan Police Authority and Transport for London (TfL). This is illustrated in **Figure 9.**

Transport for London is responsible for the London Underground, the Strategic Road Network, Docklands Light Railway, London Bus services, Traffic Control Systems, and London River services. It is responsible for developing and implementing the central London Congestion Charge scheme and runs the London Traffic Control Centre, which is developing real time traffic management packages for London. TfL is an executive body with a budget of £ 4 billion (€ 5.6 bn) in 2003/04 financial year, and reports to the TfL Board which is chaired by the Mayor.

The Strategic Rail Authority (SRA), which oversees the franchises operations, also sets the strategy for the railways. TfL works closely with SRA both on passenger transport and freight. Although TfL operates the river passenger services on the Thames, the freight responsibility for the Thames lies with the Port of London Authority, and for River Lee, with the British Waterways Board. TfL and GLA work closely with these authorities to increase the share of waterborne freight.

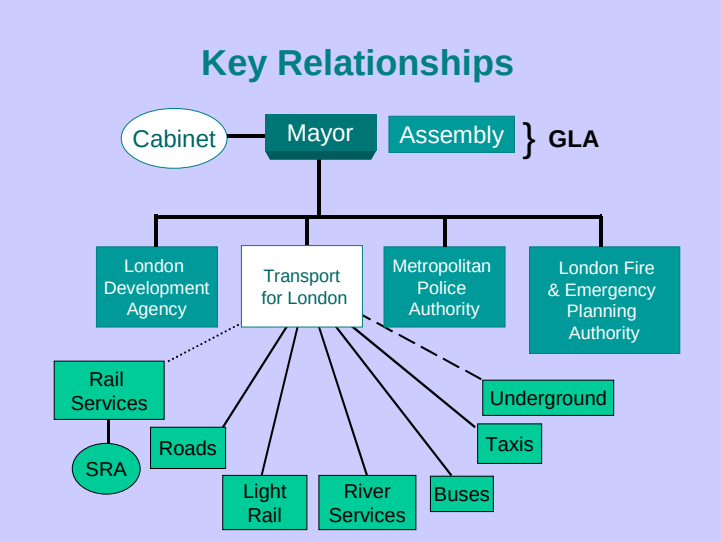


Figure 9 GLA and its functional bodies

***A recently decentralised transport management in Paris***

Transport management in the Ile-de-France region and Paris is rather specific compared to other French large cities. The City of Paris does not control most elements of its public transport system, which is organised at a regional level (for the underground, fast regional trains and for buses, even in the Paris city streets). Furthermore, the national government has traditionally dominated the management of the region's public transport system, although this will be changing soon[3]. The City of Paris has had full control of street management and traffic control systems for a long time, but specific regulations on traffic and parking have been transferred to the Paris municipal administration only recently (it was the Prefecture of Police, a State body, which controlled it before 2002).

To improve the coordination of Paris transport and mobility policies, an "Agency of Mobility" was set up in 2003 to act as a strategic body for the Road space and Transport department of the City[4] (this department represents about 2000 agents, and the Agency of Mobility about 50). In this agency, 2 persons are in charge of freight on a full time basis.

On a total municipal budget of €4.55 billion in 2003, 675 millions are devoted to transport (15% of the City's budget), of which 70% go to mobility and street management and 30% represent the Paris contribution to the operation of the regional transport system.

The City of Paris has now a complete set of tools to manage traffic and parking activities, including commercial transport : access regulations, parking regulations, layout of on street delivery bays, urban planning design standards for off street delivery bays. Rail and water transport infrastructure on the other hand depend on separate administrations (Port of Paris, Waterways of France, Rail Network of France). The City can suggest some policies but does not control their actual enforcement. See **Figure 10**. The national state controls even rail freight activities, as SNCF, which is publicly owned, is still the dominant freight rail operator in France despite recent liberalisation.

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[3] The Regional Council of Ile de France should gain the presidency of the institutional organization managing the region's transport system (the STIF), of which the City of Paris is a member. This change should occur in 2004 (a decentralization bill is now being discussed in Parliament).

[4] Direction de la Voirie et des Deplacements (DVD).

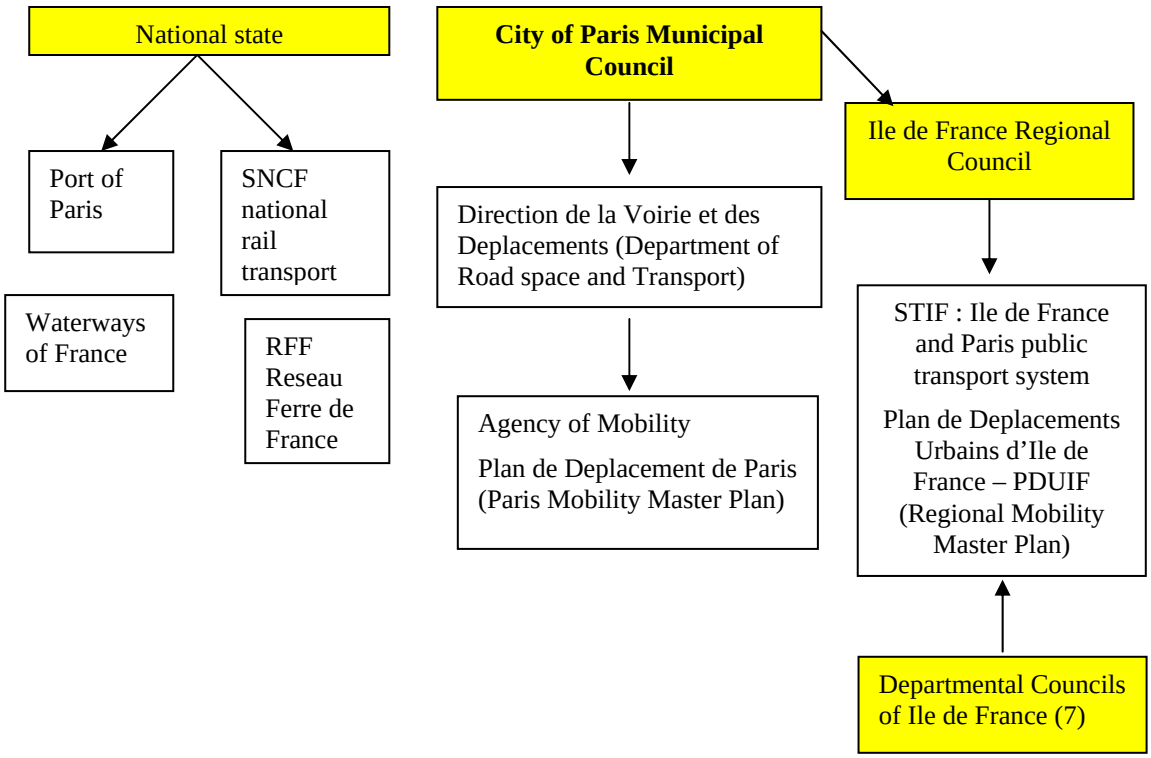


Figure 10 Transport institutional organisation in the Paris area

Contrary to Greater London, the high number of municipalities within the Paris region's dense area also means that traffic, parking and delivery orders are still poorly coordinated region-wide.

## 4. Transport strategy and policies

***The Mayor's Transport strategy and freight policies in London***

The fundamental policy direction of the Mayor's Transport Strategy (as with the Mayor's other strategies), is to support investment in public infrastructure to accommodate London's growing population and economic activity.

As we stated in the Introduction to this paper, London is a World City. The Mayor's Transport Strategy aims to respond to the challenges that a World City brings - the needs of the citizens; growth in population; growth in the economic sector; mobility and the environment. The Transport Strategy is closely linked to other strategies produced by the Mayor, but in particular, to the Spatial Development Strategy, called the London Plan, and the Economic Development Strategy.

Achieving an efficient and sustainable distribution system for goods and services is one of the greatest challenges facing London. The Government's Sustainable Distribution Strategy published in 1998 provides an overall policy framework, emphasising the twin goals of increased efficiency and reduced environmental impacts. The Mayor's Transport Strategy builds on these national objectives in London, and grasps the new opportunities offered by the creation of the GLA, in giving leadership within the context of a holistic, partnership driven approach.

One of the main mechanisms that the Mayor has put in place in order to bring about the above aims was the creation of the London Sustainable Distribution Partnership (LSDP). The LSDP, which in effect is a Freight Quality Partnership and a Logistics Platform, was

established in early 2002. The objectives of the LSDP are encapsulated in the Mayor's Transport Strategy. Policy 4K.1 states:

*The Mayor and Transport for London will work with the London boroughs, business and the freight, distribution and servicing industries, and other relevant organisations to ensure the needs of business and Londoners for the movement of goods (including waste) and services are met, whilst minimising congestion and environmental impacts in accordance with the objectives of the Mayor's Transport, Air Quality, Waste and Noise Strategies.*

These objectives are being achieved through the joint working of the partners under the umbrella of the LSDP. The members of the LSDP are drawn from a diverse group but all with an interest in freight and its commercial and environmental impacts. The value of such a diverse group is to bring expertise, knowledge and examples of good practice to deliveries, distribution and servicing in London. Members of the LSDP include the industry and local government umbrella groups; the GLA family; transport and amenity groups.

A second level of Freight Quality Partnership (FQP) is the sub-regional FQPs. For this purpose London is divided into 6 sub-regions- central, west, north, south east, south west and east. Currently the West London and North London FQPs are emerging as the most effective partnerships. LSDP's role has been to support these partnerships and encourage local initiatives which may translate into London-wide solutions.

***Paris Transport Master Plan and a new allocation of street space for public transport***

In October 2001, it was decided to establish the Paris Mobility Master Plan (Plan de deplacements de Paris or PDP), as a local materialization of the regional transport master plan (Plan de Deplacements Urbains of Ile de France) which had been adopted at the same time on a regional level (www.pduif.org). Its main objective is "to restore a true quality of urban life in many neighbourhoods seriously damaged by automobile traffic pressure". To do so, the PDP aims at looking at all transport issues, including freight. Four working groups have been established : traffic and parking, large infrastructure investments planning, mobility of people, and mobility of freight. There are about 50 people in each working group. The freight group includes the City of Paris, the Departments, the Region, the SNCF, the Port of Paris, the Chamber of Commerce and the regional branches of the two main French transport organisations[5], as well as various environmental or consumer groups.

Today, the PDP is its final phase of preparation and should be approved at a political level in the first months of 2004. One of its main strategies is to increase the use of public transport and decrease the use of private cars by increasing the city road space dedicated to surface public transport.

Consequently, one of the most remarked – and criticized by many – actions taken by the new administration was the decision to create dedicated and physically protected bus lanes on the main boulevards of Paris. The decision was taken in the middle of summer 2001 and a few weeks later works for the first bus lanes were already in progress. In this context, the location, design and layout of delivery bays were probably the more important issues generated from the creation of the bus lanes. The first decisions on delivery bays generated a considerable outcry from transport companies and their organisations due to a lack of information or discussion with transport practitioners on where deliveries were supposed to be made on the boulevards.

[5] Federation Nationale du Transport Routier (FNTR) and Federation des entreprises de Transport et Logistique de France (TLF)

Although initially it was considered very "brutal" by some, this policy actually placed freight deliveries on the public agenda, as well as forcing transport practitioners and their organizations to go and talk with local politicians, which they seldom did before. It is now generally accepted that, this initial conflict with transport practitioners "brought the wolf out of the wood" (according to a transport journalist) and ultimately forced Parisian freight stakeholders to constitute partnerships. The current discussions over the development of a circular tramway line in Paris are benefiting from previous debates on other bus corridors.

## 5. Current freight issues and initiatives

The freight issues affecting distribution and deliveries are common to most European cities. Both London and Paris are members of the urban transport network groups IMPACTS and POLIS, where these common topical issues are discussed. London and Paris are also involved in the EC sponsored project **Frederic**[6]- *Freight Delivery Rationalisation in Cities*. The objective of this project is to address freight delivery and professional use of vehicles – commercial and public services - in urban areas. A successful outcome of this programme (due for completion in 2004) will be realistic project ideas for a harmonised solution in large cities. It is also the intention of the Frederic group to take an overview of the urban mobility challenges and to draw a recommendation for actions to be carried out in the new Framework Programme.

Most activities in London and Paris ultimately require the collection and delivery of goods and the provision of services. Industries such as manufacturing, construction and retailing are particularly dependent on the physical movement of goods. Although the key financial and business services sector does not generate regular bulk movement, it is dependent on the prompt delivery of office supplies, documentation, services and personnel. Moreover, the retail industry is again taking on more of the responsibility for the carriage of goods with increasing home delivery. Hospitals and other public services are similarly dependent on the efficient delivery of goods and services, and all premises need efficient, timely maintenance services that involve transporting materials and equipment.

### *London issues and initiatives*

In London, it is generally agreed that, the key to a successful freight and servicing strategy is balancing needs against impacts. Customers want goods and services to be provided at an acceptable cost, at convenient times and places, and with the flexibility to meet needs, which may vary widely, at short notice. Operators want to be able to plan their work with a reasonable degree of certainty, and to make the most efficient use of assets. All those who live and do business in London want the environmental and congestion impacts of road freight to be minimised.

The challenge for LSDP and the sub-regional FQPs is to produce solutions that will satisfy a number of agencies and individuals- the freight sector, public transport operators, local authorities, other road users and the amenity groups, to name a few. However, there is a limit to the influence and resources of these agencies and some solutions will come from other quarters, primarily the central Government. The issues and initiatives discussed below give a flavour of the challenges being tackled by various agencies in London.

***Freight Issues***- There are a number of existing regulations which govern the movement of goods, and deliveries in London. These are:

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[6] FREDERIC- Funded through the 5th EU Framework Programme under the key-action 'City of tomorrow and cultural heritage'.

- London Lorry Control Scheme which restricts the movement of lorries above 18 tonnes, gross vehicle weight (GVW) at night and at weekends;
- Local Traffic Orders which restrict the movement of lorries above 7.5tonnes GVW at particular times of the day;
- Local Traffic Orders controlling kerbside loading/delivery access;
- Planning conditions restricting delivery hours, normally after 9pm, and
- Local Traffic Orders restricting kerbside waiting.

As London is fast becoming a 24hour a day, 7-day a week city, some of these restrictions are being challenged by the freight industry. There are a number of initiatives being promoted by LSDP and other FQPs, which are discussed below.

***Review of the London Lorry Control scheme (LLCS)-*** The former Greater London Council (GLC) introduced restrictions to stop unnecessary heavy lorry movements through London, to protect the amenity of its residents. LLCS came into force in 1986. It is now administered by the Association of London Government on behalf of the London boroughs. LLCS applies to lorries over 18 tonnes gross vehicle weight. The scheme includes all roads in London except a defined network, called "exempt network" which is designed to prevent through movements. The controlled periods for lorry movements are between 21.00 and 07.00 on Mondays to Fridays inclusive; between 00.00 and 07.00 and between 13.00 and 23.59 on Saturdays; at any time on Sundays.

Any goods vehicle over 18 tonnes gross vehicle weight that wishes to use a road that is part of the London Lorry Ban during the controlled hours must be covered by an exemption permit. These permits are available to vehicles that can demonstrate a need to use restricted streets at controlled times.

A review of the scheme was raised in the Transport Strategy, starting with the exempt road network and access to it. This is the Stage One, and was commissioned by LSDP, at the end of 2001.The study considered changes to the network which could bring benefits both to the industry and the residents. The study has reported recently and made recommendations for changes to the Exempt Road Network, which will be put to consultation this year.

Stage Two will be a more fundamental review and look at the Scheme in the light of the changes to vehicle design and new policy measures in London and the country.

***Night-time deliveries initiative-*** Night-time ban on deliveries applies to many stores in London. The ban is imposed by local authorities, through the planning act or noise abatement orders, with the aim of protecting the amenity of local residents. LSDP and Department of Transport, as well as the freight organisations would like to carry out pilot schemes in London to gauge the benefits of the relaxation of the ban. It is proposed that this relaxation will be in exchange for improved delivery methods, which will include the use of quiet vehicles and delivery techniques. Working with distributors and a prominent food retailer, LSDP has identified seven sites in London which are suitable for the experiment. These stores are chosen because of the benefits of a change in delivery times to increased efficiency and sales; and contribution to reduced morning peak period congestion. All or some of these pilot schemes will be implemented during 2004.

***Other issues-*** In addition to the above issues and initiatives, there are other factors which affect the movement of goods by road. These are congestion; road works by utility companies, and the growth in the introduction of bus lanes. There are a number of schemes and proposals to deal with these issues, as discussed below.

***Central London Congestion Charge-*** Transport for London introduced the Congestion Charge scheme on the 17$^{th}$ February 2003, in accordance with the Mayor's Transport Strategy policies to reduce congestion in central London. This is an area-based scheme, and not a cordon charge, for vehicles, which are in the charge area between 7:00 and

18:30hrs. The charge area is approximately 5 km from east to west and 4 km from north to south. The charge is £5 (€7). Goods and service vehicles working in central London are subject to the charge but there are exemptions and discounts. The Mayor is also using the charge to encourage the vehicles that serve London to be "cleaner". Heavy Goods Vehicles which meet the Euro III standards are eligible for 100% discount. Lighter goods vehicles are benefiting from similar discount, if they are 40% cleaner than Euro IV standards in nitrogen oxide and hydrocarbon emissions. Electric vehicles also receive the same discount. Motorbikes, mopeds and cycles are exempt from the charge and do not have to be registered. A Fleet Scheme operates for companies with more than 25 vehicles.

There is more information on the Congestion Charge scheme on TFL's website, www.tfl.gov.uk. A summary of the results of the first six monthly monitoring is given below : traffic delays inside the charging zone have reduced by about 30%, journey times to, from and across the charging zone have decreased by an average of 14%. Journey time reliability has improved by an average of 30%.

About 60,000 fewer car movements per day now come into the charging zone. Car movements have reduced by about 30%. Van and lorry movements have reduced by about 10%; somewhat higher than TfL had expected.

Concerns over charging having a detrimental impact on economic activity appear to be misplaced. There have been fewer people coming to central London in the summer of 2003, but this is for a variety of reasons, mainly reflected in a fall in people coming in by Underground. Nevertheless, a debate on the impact of the congestion charging on the department stores in the West End continues. So far, the freight industry has not acknowledged any benefits from reduced congestion in central London. TfL is carrying out short and long term monitoring into the impacts of the Charge and there will be more on the economic impacts in the Annual Report which is due out in April 2004. However, some impacts will take longer to separate from trends and this is likely to be one of them.

In the meantime, work is proceeding on the western extension of the charging zone to Kensington and Chelsea. There is also an investigation into the use of GPS based tracking systems instead of the vehicle recognition cameras.

***The new Traffic Management Parliamentary Bill-*** Having a proper control over the digging up of roads by utility companies for laying cables and pipes, and the closure of roads for maintenance, has always been difficult. These activities can cause congestion and delays to all road users. In recent years the local authorities have acquired more powers to control the activities of the utility companies but this has not produced consistent good results. Since the privatisation of utilities in the 80s, the number of companies allowed to dig up the roads has gone up from 5 to 53.

TfL, in 2003, created a Streetworks Task Force and introduced a GIS based system to co-ordinate these activities on the strategic road network and local roads. It is too soon to assess its success. The Government, following a consultation in July 2003, is introducing a country-wide parliamentary Bill, with the aim of reducing delays on roads. The Bill will give powers to the Highways Agency (a government department responsible for Trunk Roads which are under government control) and local authorities, to better tackle congestion. At local level, each authority is expected to appoint a traffic manager, responsible for keeping traffic flowing. The Bill will also introduce a permit system for utility companies' works and give highway authorities more effective control over these works. The Bill will come into force towards the middle of 2004.

***Bus lanes and Priority Lanes***- As indicated earlier, the increased investment in bus services has resulted in better services, new buses and increased patronage. Some of this investment has gone into bus priority measures, the main measure being bus lanes. Although bus lanes are introduced following extensive consultations with the frontages,

the hours of operation, which can be for 12 or 24 hours, has caused concerns to the industry. Intensified bus lanes, which are now being developed, will further increase priority for buses. One concern is over the deliveries in bus lanes and reduced window for this activity. LSDP working with London Buses (part of TfL) has commissioned a study to develop loading and servicing proposal guidelines appropriate to enhanced/intensive bus priority. The Road Plan, which is also in development stage, will define the relative roles and balances between all categories of road users and the essential functions of the road network.

Freight industry is interested in making use of some bus lanes for lorries. Freight Transport Association has produced a list of roads where they would like to see this happen. This has been taken up by the LSDP and London Buses, and a study has been carried out into the operation of two existing 'priority lanes', which lorries above 7.5tonne GVW are allowed to use. As a result of this work, it is intended to produce a set of criteria for priority lanes, based on bus and lorry flows and general traffic flows, which may enable the introduction of more priority lanes on suitable roads.

The Mayor's Transport Strategy encourages the use of more sustainable modes for transporting freight and also the use of 'cleaner fuels' to reduce pollution. Issues arising from these policies and new initiatives are discussed below.

***The use of rail for freight***- In section two it was indicated that rail has a very small share of freight lifted in London- around 4%, although rail freight has been growing since the mid 90's. This is partly due to the incentives introduced by the Strategic Rail Authority, SRA. The Government's 10 year plan for transport published in 2001 stipulates a target of 80% growth nationally, London's share being 16-17%. London's railways currently carry aggregate, building materials, waste, and consumer goods on the Channel Tunnel trains. The capacity on the railways is restricted, and the major schemes to relieve them from through traffic are some way off. Although the need for at least 3 major rail freight terminals around London has been accepted by SRA, the land for this purpose has not been identified and a proposal by a development company to build a multi-modal terminal near Heathrow was turned down by the Government.

In view of these obstacles and in order to make progress, albeit at a smaller scale, LSDP commissioned a study from Arup. Arup looked at the existing facilities, factors affecting their use and institutional issues. Their recommendations are both for the short and long term. Some of the initial key actions are: TfL to understand London rail and road freight better through collection of more meaningful statistics, and enhanced monitoring; upgrade key parts of the London rail network to take more freight; promote at least one major rail inter-modal terminal and safeguard sites for others; engage more effectively with the PLA to ensure promotion of rail freight opportunities to and from the Port's terminals, and continue to promote opportunities for movement of waste by rail. These recommendations are now being put into a work programme by LSDP and will involve a number of different agencies in implementation.

***Waterborne freight initiatives***- TfL and GLA are working closely with the Port of London Authority and the British Waterways Board to increase the freight use of the two rivers. The type of cargo is similar to that carried on the railways. GLA has carried out several studies into the safeguarding and use of wharves on private land along the Thames and produced an Annex to the draft London Plan. TfL, through LSDP, is funding a study into the use of the Lee for freight. The study will aim to establish demand, user and stakeholder opinions and effect on road traffic. In the 1950s, over 2million tonnes of freight was transported on the River Lee in a year. BWB are confident that freight used can be increased from the current levels. This would help reduce road traffic in the area, as illustrated with the following example: there is a waste incinerator on the Lee in North

London. If the three boroughs within close proximity of the incinerator, and with access to the Lee were to use the river for waste transportation, this could result in a saving of almost 1.5million lorry-kms a year.

***Cleaner energy and the environment-*** The 100% discount given by the Congestion Charge scheme to the specified vehicles which run on cleaner fuels is a clear indication of the Mayor's wish to reduce pollution and improve air quality in London. The Mayor's Air Quality Strategy has identified geographical areas and transport sectors where action should be taken. A feasibility study into Low Emission Zones has been completed and the proposal is to introduce, initially, a GLA wide scheme; targeting lorries, bus and coaches with emission levels exceeding Euro 2 standards. The scheme is expected to be introduced towards the end of 2006. Nationally, the Energy Saving Trust, (EST) set up by the government, provides grants towards the purchase of 'clean vehicles'. The eligible vehicles are powered by LPG, CNG, electric and hybrid, biofuels and fuel cells. The grant is up to 75% of the difference of the cost of purchasing or leasing a clean vehicle. In 2003/04 financial year the Trust expects to have funded 8 000 vehicles, which is up by 60% from the previous year.

LSDP is working with the private sector to capitalise on the availability of these grants, to develop a fleet of hybrid vehicles for deliveries in London. Discussions have commenced with major vehicle manufacturers and freight companies who wish to trial hybrid vehicle technology on freight applications in the Capital. The intention is to develop three different size vehicles for this purpose- 3.5-4 T; 7.5-12T and 12-20T. In the pilot scheme, six vehicles from each group would be made available to logistics companies to be used in different parts of London. The project is at concept stage at present, but with EST grants and financial contributions from other partners, it could be implemented within 15 months.

***Looking ahead-*** The policies in the Mayor's Transport Strategy have guided work on freight in London for the past three years. There is now a move towards defining a Freight Strategy for the capital. This strategy will embrace the new thinking on topics such as, data capture through a partnership with the industry; sectoral approach to freight issues; use of web-based information systems; implications of distance based tolling; land use and freight, and a greater concern over the environment.

***Freight issues and initiatives in Paris***

The previous city government had gradually started to take freight traffic into account in its transport policies. However, the only tangible initiative was the participation to a consultation by the Prefecture of Police on a general Delivery Order which was taken in 1999. This ordinance was based on the following principles :

- large lorries are accepted in the city only during night time (contrary to London Lorry Ban). 2 categories of lorries are defined : above 16 m2 and above 24 m2. The smaller a lorry is, the longest delivery hours it can get during the day.
- deliveries can be made in bus lanes during non peak hours.
- a large effort is made on the provision of kerbside bays for loading and unloading (today, there are nearly 10 000 of these places).

The new administration which arrived in 2001 made a breakthrough in terms of goods movement policies. One of the most apparent signs of this change was the hiring of two freight experts on a full time basis. This freight team was given a specific budget (€ 300 000 for year 2002 and 2003) to launch studies and experiments on freight deliveries.

Since then, the City of Paris has been working in four general directions with regards to freight transport and deliveries : 1. Enhancing knowledge on freight activities 2.

establishing partnerships (especially with transport organizations on the one side, and the railway state company on the other ), 3. promoting experimental schemes, and 4. defining freight policy objectives for the future.

***Increased knowledge and improvement of the city database on freight-*** A series of qualitative as well as quantitative studies on urban freight have been launched and financed by the City of Paris. One of these studies was focused on the notion of "filiere logistique" (sectoral logistic chain). The main logistic chains generating important urban goods movements within Paris were thus identified (GERARDIN, 2003). Another study, not yet available, was made on "mono activity districts" (specialized commercial districts in Paris) identifying four neighborhoods where one economic activity is the dominant feature : textile import/export in the 2nd and 11th arrondissements, computer retail stores in the 12th arrondissement, jewelry and leather import/export in the 3rd arrondissement. These mono activities generate very specific delivery and street management problems. Finally, FRETURB[7], a descriptive and simulation model for urban freight generation which has been widely used by large French cities since 2000, has been tried out in the Paris territory. Detailed data on Paris urban goods movement will soon be available and will be compared to similar data from other large urban areas in France.

***New partnerships with transport organisations-*** This is taking place especially on delivery bay design. As a result of the outcry generated by the introduction in 2001 of protected bus lanes in major Paris arteries, transport organizations have been invited to participate in several working groups, or in more formal gatherings, to discuss urban freight and delivery issues. A series of 7 specific studies has been decided and co financed by a joint committee of City of Paris and TLF, one of the two main transport organizations in France. These studies include : Delivery bay design; Redefining the 1999 Delivery Ordinance; European cities' best practice on urban freight, and Delivery workers' working conditions. This policy of systematic consultation has led to the current preparation of an "Urban Freight Charter" which should be signed by all interested parties in 2004. This Charter (or "partnership") should include respective commitments such as a better enforcement of delivery hours from the practitioners and a better design and a more efficient control of delivery bays from the city administration.

***"Logistic Hotel" and rail transport initiatives-*** The attempt to re-use railway areas for logistic activities in Paris has been a specific focus of the Paris freight administration. Contacts have been made with interested parties, mainly the freight rail company SNCF and its parcel transport subsidiary (Sernam), the national owner of French rail infrastructures (RFF) and the City's own Urban Planning Department and its Environment Department. On three specific sites (Batignolles in the west, Bercy in the south east and Chapelle in the north), detailed planning is currently being discussed. The master plan should include areas dedicated to the accommodation of some logistic activities (with rail based supplying or exporting of products and raw materials). In the longer term, a market study has been commissioned on the "logistic hotel" concept. In this concept, three to four storey high buildings would be modified to serve as logistic sites in the basement and on first floors (warehousing, packaging, etc.), whereas industrial production activities would take place in the upper stories. These buildings would be located in rail connected sites so as to be supplied by trains instead of lorries. So far, these initiatives have proved rather disappointing due to the huge difficulties faced by SNCF with its freight activities. However, a 10 year Strategic Plan has been developed by the City, SNCF and RFF. Its main points are the preservation of logistic areas in all rail plots of land, and the launching

[7] FRETURB has been developed by the Laboratoire d'Economie des Transports of Lyon with the financial help of the French Ministry of Transport. www.transports-marchandises-en-ville.org

of one or two experiments to demonstrate the feasibility of rail based freight transport within Paris.

***Water transport initiatives-*** These are being progressed with the Port of Paris and the French agency for Environment (ADEME). Five economic sectors were identified as being potential users of waterborne goods transport services: building and public works, car manufacturing, express transport, domestic and industrial wastes, some secondary raw materials. Specific services for these water transport chains were then defined. There is a strong political as well as commercial will to develop these initiatives, in the context of waterborne transport growth in France in the last four years[8].

***Experiments : electric tricycles delivery service, pick up points for home deliveries-***In 2002 in central Paris was inaugurated a home/business delivery service using electric powered tricycles. The City of Paris has participated in the experiment by offering subsidised rental rates for the use of the service premises. The service has met with great success since its opening and should be extended to other areas of Paris. Clients using it include Fed Ex, DHL and several "e-tailers" many of whom are based in the provinces. Another experiment is planned to be launched this year regarding a series of drop off points accessible to all companies and transport operators as an alternative to home deliveries. This network would be operated by KIALA company, which already operates such services in Belgium. The City of Paris would be charging rent below market rates.

***Promotion of clean delivery vehicles and the inclusion of Euro emission standards in Paris delivery ordinance-*** The City of Paris is currently considering changing its access and parking rules for transport operators. Today, the 1999 ordinance which organises truck access limits large lorries to strict delivery hours. In the future, it is planned to favour "clean" delivery vehicles instead of "small" delivery vehicles. Euro III, electric and CNG vehicles for example would be offered larger delivery hours than the other lorries. Very old lorries would be banned from the city streets. This project is currently under discussion with transport organisations.

In November 2003, the City and ADEME organised jointly a one-day event on electric and CNG delivery vehicles, including an exhibition of all currently available vehicles right in front of City Hall. With active promotion from the City and with financial support from ADEME[9], innovative delivery lorries have been recently developped : Electricity of France proposes an electric 10 tonne GVW lorry[10], which is being experimented today in the Paris city streets by Gefco for L'Oreal ; Gas of France proposes a 19 tonne GVW CNG lorry, which is being experimented in Paris by TNT for Carrefour and by Geodis for Monoprix. The active support of the City of Paris for clean delivery vehicles has been crucial in attracting such large companies in these experiments.

## 6. Conclusion

In this paper we have compared two city authority areas with different demographic characteristics- the City of Paris with a population of 2 million, and Greater London with its 7.4 million inhabitants. This is the reason for the difference in the scale of freight movements in the two cities, although there are similarities in the trends observed, which are documented in this paper. We have chosen to compare Paris and London, because they

[8] Year 2003 however, showed a decrease of water borne transport in France, due to a decrease in international waterborne traffic, whereas national and local traffic have continued to increase.
[9] It should be noted that contrary to the British Energy Saving Trust, the French ADEME provides grants of only 30% of the difference of the cost of purchasing or leasing a clean vehicle.
[10] Manufactured by PVI from a Renault Trucks vehicle.

have shown remarkable similarities with regards to freight planning and strategies in the last three to four years.

Both cities today, recognise the economic importance of the efficient distribution of goods but they are also aware of the environmental implications. The common issues are the growing concentration of regional, national and international freight traffic and logistic activities in their area; traffic congestion; competition for road and kerb space; growth in the number of inner city deliveries, including night deliveries, and a high dependence on road based freight.

Challenged by this situation, both cities have launched specific actions to raise the awareness of freight issues in the professional and public arena. They have expressed their commitment to identify clear freight strategies in formal documents, such as the Mayor's Transport Strategy in London and Plan de Deplacements in Paris. Another converging policy is the use of cleaner energy in vans and lorries. Both cities are supporting and financing experimental schemes for clean delivery vehicles. Similarly, both cities support programmes to bring about a mode shift, by increasing the use of railways and water for freight.

Political choices remain similar but processes or technical options may be quite different in Paris and London. Both cities recognise that there is a severe shortage of data on the movement of goods and the need to collect better data. Paris has already developed and financed a specific set of actions whereas London has not moved so quickly, although a data identification and collection exercise is currently underway. Another example which illustrates different approaches to problems is in the use of information systems. London has readily embraced sophisticated techniques to enforce its objective of motor traffic reduction. Paris, on the other hand, has chosen to strictly limit the use of information systems and to favour more traditional policies, such as the reduction of public space given to private automobile, and the extension of paid parking bays. In the near future, London is looking at GPS for the enforcement of its congestion charging scheme and distance based lorry tolling schemes. Paris is not yet ready to take this step even though feasibility studies have been carried out.

In London as well as in Paris, the outcome of these freight policies are not yet easy to identify. They are still evolving and will inevitably change with trends. One of the most pressing issues is the modal share of road based freight traffic. Paris faces important difficulties in enforcing rail freight strategies. Rail freight activity is declining, and rail operators seem to be reluctant to develop their activities in urban areas. Rail freight, although small compared with road freight, has benefited from grants and other inducements in the UK, and growth is expected in London. It is interesting to note that some hauliers are now considering road and rail as complementary modes rather than modes in competition.

In Paris, water transport seems to be able to find new niches of activity which could help alleviate congestion due to specific traffic, such as waste. There is also growing emphasis in London on the use of waterways and this will be encouraged through sectoral approach to freight transportation.

Another major problem for Paris freight traffic management is the lack of regional co-ordination on traffic and parking matters. Although some efforts have been made recently to better coordinate municipal delivery ordinances in the Ile de France region (DREIF-CRIF 2003), with the participation of the Paris administration, there still exists more than 50 different delivery orders in the 123 municipalities surrounding Paris, making the daily enforcement of the rules very difficult for delivery operators. London, on the other hand, benefits from the creation of the Greater London Authority.

On the positive side, one of the most visible changes resulting from Paris and London urban goods policies is the development or consolidation of partnerships with transport operators and their representative bodies. As we have shown, in Paris, the initial lack of consultation in 2001 later on led to frank, open and fruitful co-operation. Consultation and co-operation is more developed in London - not only does the city consult with freight organisations but it also "negotiates" with them on very sensitive proposals, such as the level of the congestion charge for transport operators.

Very soon, both administrations will go through the local (London, June 2004) or regional (Ile de France, March 2004) elections where transport issues will be among the most important ones to be debated. And freight, which has long been considered the "Cinderella" of transport strategies, will hopefully be debated alongside the other prominent transport issues.

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