

Goods transport in large European cities: Difficult to organize, difficult to modernize

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Abstract

In this article, I wish to present three characteristics of urban goods movements in major European cities: (1) Goods movements are largely indifferent to the internal structure of cities. (2) Urban policies targeted on freight mobility appear to be quite inefficient. (3) The provision of appropriate urban logistic services is slow in emerging despite growing needs. These features have been observed over the last five or six years through working with large metropolitan transport authorities, as well as with the French national research program on “Goods in Cities” and the “Best Urban Freight Solutions” European network. These observations draw a picture of the urban freight industry, which can appear quite critical. Indeed, many initiatives have emerged to make this industry less routine and more efficient, especially regarding its environmental impacts as well as its level of quality of service. However, changes are slow, and on the whole, it appears as though none of the stakeholders are willing to make fast progress: on the one side, city governments expect business to set up new logistic services fit to the emerging needs of the customers and retailers as well as beneficial to the environment; on the other side, logisticians are waiting for municipalities to initiate (and subsidize) new services before starting businesses which could prove poorly profitable and highly risky. Despite this tendency for status quo in the urban freight industry, some solutions can be identified, which I present in the concluding chapter of this paper.

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0. Introduction

A large number of different types of freight flows constantly cross an urban environment, including consumer goods, building materials, waste products, postal mail and others. These flows occupy about one fourth

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of the street traffic of a typical city.¹ Further, freight materials require loading/unloading, storage, conditioning and packaging, which demand even greater use of urban space.

All these urban goods movements are the result of logistic decisions, i.e., of the processes required to organize the movement of goods in an efficient manner within the goods production system. These logistic decisions are based on the demands of the production and distribution sectors, themselves dependent on the behaviours of economic agents such as households and firms. These interactions give complex characteristics to the urban mobility of goods. In this paper, I wish to present three of these characteristics. First, goods movements are largely indifferent to the internal structure of cities. Second, urban policies regarding freight mobility are inefficient. And third, the provision of appropriate logistic services is slow in emerging despite growing needs in urban areas.

This paper is both a synthesis of field work completed over the past six years and a personal analysis hopefully contributing to providing useful solutions to city practitioners. I have been working with large metropolitan transport authorities since 1999. As a result, I have been able to compare my informal research with those of my colleagues from the French national research program on “Goods in Cities” initiated by the ministry of transport and the agency for the environment (ADEME), as well as from the BESTUFS (best urban freight solutions) European network.

1. Urban goods movements are independent of local urban characteristics

A simple ratio can help explain the nature of urban freight movements in a large French metropolitan area, on average, every job generates one delivery (or pick up) per week. It is not so much the number in itself, which is important rather than its very existence (only a few years ago, these statistics did not even exist), and its relative invariance. More precisely, each activity (commercial, service, industrial, administrative, etc.) taking place in an urban environment can be associated to a specific profile of freight generation, which is constant from one city to another. From a logistic point of view, a drugstore (or a bakery, a bank, a warehouse, etc.) operates in the same way whether located in the centre of a very large metropolis or at the outskirts of a medium size city.

Goods movement, which represent between 20% and 30% of vehicle kilometer and between 16% and 50% (depending on the pollutant considered) of the emission of air pollutants by transport activities in a city (LET – *Aria Technologies*, 2006), is determined by a large set of strategic decisions taken within each economic sector at a regional, national or supra national level. For medium and small cities, the driving forces behind goods movement are even more disconnected. In these cities, carriers (especially parcel transport) do not even use a terminal in the vicinity. Delivery rounds are organized from terminals which are often located at more than 50 or 100 miles from the city centre.

Therefore, what is taking place is a sort of “neutralisation” of the urban territory. By this, I mean that whatever the city (its geography, its regulations, etc.), deliveries will be made in a more or less similar way and no specific logistic will be designed for a specific city. Generally speaking, logistic decisions are closely related to land issues, when a logistic developer is willing to locate a terminal or warehouse, they have to take into account the accessibility of the area (by road, rail, canal, etc.), its distance to large economic centres, as well as the availability of adequate land. However, within cities, the land is not an issue anymore. Urban land simply does not exist anymore for logistic activities. Because a city is a complex, costly and constrained space, in most cases it is only a space of circulation and unloading and loading. Very few permanent logistic installations are located in an urban territory, and freight operators penetrating in a city centre do so only for the time needed to accomplish their delivery. They do not act and feel as if they belonged to the urban environment they work in.

¹ Unless otherwise specified, these data and all the following quantitative information given in this paper come from surveys made by the Laboratoire d'Economie des Transports (Lyon, France) with the support of the French national research program on *Goods in Cities*. This program was launched in 1993 in France, opening the way to the realisation of studies, data collection and modelling activities. The web site www.mv.transports.equipement.gouv.fr presents the main results of these studies. Several publications in English are also available on www.docapolis.com.

Other than its indifference towards city local conditions, urban freight transport presents another specific feature. Cities tend to concentrate many negative characteristics of the freight road transport industry. For example, people tend not to comply with social and working regulations in urban areas. There even still exists a certain amount of illegal work, when these behaviours have nearly disappeared in non-urban road transport. Vehicles circulating within cities tend to be older (therefore much more polluting) than the general fleet of the truck industry. This concentration of dysfunctions in the urban space is actually easy to understand. Transport is no more than an adjusting variable in a more global system in which clients and consumers have to be served at the right time and place. It forces the deliveryman to adjust to the city environment and its many constraints (congestion, narrow streets, physical obstacles of all sorts, etc.). The trucking industry is an extremely competitive business, especially for small and medium size firms operating in cities, and to stay in business, many operators will choose to reduce their cost by increasing the life duration of their vehicles or the working hours they can devote to their job.

Of course, many final trips for the urban distribution of goods are made in satisfactory conditions, and numerous sub contracting agreements between large carriers and small urban operators are equitable² (and therefore do not lead to situations where the sub contractor has to overwork or disregard local regulations in order to remain in business). However, generally speaking, one has to keep in mind that between the terminals located on the urban fringes and the city centres, many freight flows circulate in conditions that are much degraded compared to the long distance trips.

2. Local governments do not know how to organize freight

Because of the impacts of freight on the urban environment, local governments are aware that they should control goods transport activities, but most do not know how. City managers do not impact freight operations, for the reasons explained above. Whatever the regulations put in place to organize the traffic of delivery trucks, freight will reach the final receiver in the place and time which resulted from the logistic decision making process. One would need extremely tight (and strictly enforced) legal access restrictions to oblige a truck driver to reorganize its deliveries. These restrictions, in any case, may be contrary to constitutional principles of freedom of circulation and freedom of trade. A truck driver always follows what the parcels' receiver wants: rescheduling a delivery round, increasing delivery prices, decreasing the number of deliveries made to the same shop every week, etc., all these decisions may look quite reasonable when gasoline prices go up or city congestion increases, but in reality they are extremely uncommon.

On the whole, local public policies regarding freight are scarce and out-of-date. Most cities plan and regulate freight activities the way they did it 20 years ago, by ways of municipal ordinances identifying maximum size or weight of trucks authorized to deliver in city centres. To these physical rules, many cities add delivery time windows (mostly between 7 and 11 a.m.). Actually, most cities view truck traffic as something they should ban or at least strictly regulate, and few of them consider freight activities as a service they should help organize in a more efficient manner. Furthermore, these policies are generally very local and can be conflicting with the undertakings of adjacent municipalities. In a single French metropolitan area, as many as 30 different rules on trucks' weight and size can exist, obliging truck drivers to decide which rules they will comply with, and which ones they will disregard (Dablanc, 1998).

Some comprehensive freight planning strategies have been attempted. In France, a common process for urban transport master planning has been implemented for all cities over 100,000 inhabitants, which must integrate freight transport. In these plans, specific objectives for freight policies have been imposed. Transport plans must optimise freight urban delivery, harmonize local truck regulations, provide sufficient and adequate delivery on-street bay areas, plan the provision of urban logistic spaces, particularly those related to rail and

² The conditions for operating a business in the light truck industry (companies operating only vehicles of 3.5 tons or under), which is dominant in cities, have recently been subject to European Union and national regulations. For example, in France, following a 1999 law, all third party truck companies operating with light vehicles have to register to a specific transport register, and to comply with "uprightness" as well as professional and financial capacity requirements. This regulation has cleared the profession from many illegal activities.

waterborne transport.³ However, while most master transport plans have considered all these issues, very few have led to actual implementation. French metropolitan governments in charge of designing these plans do not have the budgets, the personnel, or the political authority to implement these types of policies.

The situation is somewhat different in other European cities. Some examples show that initiatives can be taken to overpass the inherent difficulties in managing urban freight activities (GART, 2004). In the United Kingdom, in many cities in general and in London in particular, it has been a common practice for many years to discuss and negotiate with transport and logistics professional organizations. The two biggest carriers' organizations, the freight transport association and the road haulage association, discuss the practical details of delivery organization with transport for London representatives on a regular basis. These partnerships tend to become genuine negotiations, leading to compromises. For example, the level of the congestion pricing tax assigned to delivery trucks (£5 a day, the same as for car drivers) was a result of two (sometimes very conflicting) years of discussion. Truck companies wanted the tax to be waived, on the grounds that no alternative other than road transport was available for the transport of goods; the municipality wanted commercial vehicles to pay two or three times higher than cars, because of the severe road impacts caused by trucks.

In Barcelona, Spain, a global policy on freight has led to interesting results. In the city's largest commercial area (the Ensanche), a "freight motor squad" consisting of 40 agents circulating with a motorbike has been organized to control the existing 5000 on street loading/unloading zones. This has strongly dissuaded illegal long term parking and made these zones available to delivery truck drivers. The city has also created an innovative organization of some of its main boulevards, by devoting the two lateral lanes to traffic in the peak hours, deliveries during off peak hours, and residential parking during the night. Furthermore, in Barcelona, all new bars and restaurants are asked to build a storage area (with a minimal size of 5 m²) within their premises, so that the restaurant does not need bottles and beverages to be delivered daily. A third example of innovative freight policies is given by some northern European cities (Amsterdam, Copenhagen, Stockholm, Goteborg), which apply truck access restrictions based on environmental criteria. In these regulations, only recent trucks, or fully loaded trucks, are permitted to enter the city centre. These new standards tend to replace former weight and size restrictions, which are now considered quite irrelevant.

These examples do not necessarily stand as models. Even though they are more innovative than the others, these cities continue to suffer the same substantial conditions for urban goods movements as they are elsewhere, i.e., leading to a significant proportion of freight delivery operations which are rather routine and inefficient, as well as environmentally unsound.

3. The provision of urban logistic services is poor and inappropriate to the demand

Urban freight transport can also be characterized by an important discrepancy between the behaviours and needs of urban economic agents such as households, consumers and businesses on the one hand, and transport and logistic business response on the other.

Consuming behaviours have changed rapidly in the past few years, and they have transformed the way people travel for shopping. In 2000 already, for a very specific product category (food and grocery), a French survey (CREDOC, 2001) showed that home deliveries were not marginal anymore. At that time, already 12% of Paris households had their groceries delivered at home on a regular basis. A third of them did it after on line shopping (on web sites such as www.telemarket.fr), the rest having their groceries delivered after shopping in the shop premises. Five years later, Internet shopping for all kinds of goods has become mainstream, even in countries such as France where it tended to be somewhat behind. With a total value of €8.7 billion in 2005, ecommerce represents now one fourth of all mail order modes in France (as against 4% in 2000).⁴

This growth in distance shopping, notably through the Internet, has to be considered within a more general trend towards the diversification of consumers' choices for the places they go shopping. People today shop in a growing number of places, including local shops, local supermarkets, large supermarkets, malls and the Internet at the same time (and in the same week). This "volatility" tends to make shopping trips more complicated

³ Article 28-1 of the LOTI (domestic transport orientation law).

⁴ Figures from FEVAD-CREDOC.

(using more transport modes, coupling shopping with other trip purposes). It also tends to generate a demand for new logistic and transport services (Patier, 2002), among them home deliveries or deliveries at the office or in pick up points.⁵

Businesses, particularly retailers, also have growing demands for new logistic services, which could well modify urban logistic organizations. A survey was done in 2002 (Samarcande, 2002) on retailers located in Lille and Tours, two large French cities. The results showed that 15% of retailers were interested in (and willing to pay for) inner city storage space. The same proportion of shopkeepers was interested in a service providing for deliveries to their customers' home. About 8% of them were interested in a dedicated area for the reception of their deliveries. More than a third expressed a need for specialized services for the pick up of pallets and cardboards.

In response to these demands, the number of initiatives taken by the logistic sector is surprisingly low. Most of the services mentioned in the survey described above do not exist today, at least in a way specific to urban conditions. There is no such thing as the emergence of "urban logistics". Urban logistics can be defined as *any service provision contributing to an optimised management of the movement of goods in cities*. As such, it remains scarce, and even the enormous growth of ecommerce has not yet led to specialized urban logisticians. Traditional post and parcel services (dominated by the German, Dutch, French and British post groups) remain the main players for the home delivery market in Europe, as many transport companies are reluctant to serve households. They consider home deliveries to be a difficult market, because of a high dispersal of delivery points, a high proportion of missed appointments, difficult delivery schedules, and a large number of upper floor deliveries. Despite these difficulties, some urban logistics initiatives do exist. In the transport sector, the company Star Services (1000 employees) has become the main partner for French grocery ecommerce companies. It is a very modern company (with all its trucks equipped with GPS and delivery route optimisation). In the pick up point management sector, Kiala has become a leader in Europe. This company groups and delivers about 50,000 parcels everyday in France (about 5% of the total parcels delivered to private homes by La Poste). The management of its 4000 pick up points is highly computerized and professional. In Germany, the Deutsche Post/DHL group has been active in implementing its network of "packstations", or automated pick up points. Another logistic activity is emerging in some European cities: professional storage. Shurgard, for example, is a company, which has started by renting storage space to private households, and is now trying to develop storage services for retailers and other businesses located in city centres.

4. Conclusion

For most cities, existing freight policies do not appear to measure up to the important changes which have taken place in the production, distribution and consumption sectors. Space dedicated to logistic activities (major freight railways, urban ports, warehouses) is disappearing from cities, and few municipalities are promoting the development of new modern logistic areas (Boudouin, 2006). A few years ago, many European cities have tried to develop urban shared use freight terminals where shipments to the city centre could be consolidated (Dablanc, 1998). The costs associated to these terminals have been evaluated as being too high for these experiments to continue. In France in recent years, only the city of Paris has really tried to set up logistic areas in its zoning ordinances (Baybars and Dablanc, 2004). A few other cities have developed small logistic areas, such as Bordeaux where on street parking space has been allocated to accommodate delivery truck drivers with additional services, providing them with safe parking and handling equipment. La Rochelle is also famous for its shared use freight terminal, or urban distribution platform, using electric delivery vehicles,⁶ which is rather successful (but at a high financial cost for the municipality). These few examples aside, the large majority of cities have not yet found adequate solutions to help optimise the urban movements of goods. Actually, it seems that all players are expecting initiatives to come from the other side. On the one hand, city governments expect businesses to set up new logistic services fit to the emerging needs of the customers and

⁵ Pick up points are places where parcels ordered by consumers via mail or the Internet are delivered. They are generally located within traditional retailers' premises (flower shops, gas stations, etc.).

⁶ www.tmv.transports.equipement.gouv.fr.org

retailers. On the other hand, logisticians are waiting for municipalities to initiate (and subsidize) new services before starting a business, which could prove poorly profitable and highly risky.

This is why many truck operators today believe that the only policy cities will continue to take is to tighten truck access restrictions, disregarding a more global and innovative urban freight management. This would certainly be detrimental, but what are the other ways by which a municipality can influence freight operations effectively?

Some alternatives to the status quo may be suggested, however. As a conclusion to this paper, I propose the two following actions to be taken by local transport practitioners interested in improving the way freight is included into urban policies and planning. These actions are far from being the only ones available, but they seem to me simple and, at the same time, largely disregarded by (French) local governments. The first step to take is from the “inside”: transport practitioners have to identify the means by which they can work closer together with the planning departments of the city for whom they work. No zoning ordinance should be designed prior to a consultation with the transport department regarding the need for the provision of logistic areas and on street and off street delivery bays. When a commercial or industrial building permit is being reviewed, the generation of freight flows expected from the new development, as well as the provision of adequate delivery bays, should be carefully taken into consideration. The second step to be taken is to establish a process by which a clear, simple and stable regulation on city access provisions for delivery trucks can be adopted and actually enforced. I advise to submit a detailed first draft to the transport and business community leaders, from which they can react and negotiate. This is a good way to make sure they will actively participate in the decision making process. I also believe that it is time for cities to abandon access criteria based on trucks’ weight and size, and to adopt criteria based on their age or any other indicator of their environmental performance. This is a simple way both to enhance the quality of cities’ air and to modernize the fleet and improve the efficiency of urban truck operations.

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