

URBAN FREIGHT MOVEMENTS AND PUBLIC-PRIVATE PARTNERSHIPS

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ABSTRACT

This paper reviews the increase in public-private partnerships (PPPs) in urban distribution in recent years. A discussion of various approaches to PPP is included, together with consideration of the forms that participation can take. The ways in which PPPs have been applied to urban distribution is considered, with detailed examination of several strategies and policies.

INTRODUCTION

Public-private partnership (PPP) has become a popular concept in the public sector in many countries during the last decade. This has manifest itself in two forms: (i) particular projects in which the public and private sector have shared interests and objectives and where there is often an element of shared risk and reward, and (ii) initiatives between the public and private sector that involves information dissemination, communication, co-operation or joint working. The former (narrower) type of PPP helps to increase the amount of long-term private sector involvement in public sector businesses and projects that the public sector has responsibility for. The latter (broader) type of PPP is becoming more widespread and is favoured by

government as it ensures stakeholder participation in policy decision-making, and thereby, it is hoped, results in greater success in the implementation of new initiatives.

Both approaches to PPP can be seen within the field of urban freight transport, especially the broader type. This is explained by the fact that urban freight comprises many different stakeholders with diverse interest (including retailers, wholesaler, carriers, warehousing, residents, shoppers and workers). The global movement of people, goods and information has further accelerated the extent of diversification, which makes our lives exciting, for example, by offering the consumer many choices. However, public decision-making has required more efforts to coordinate these activities to ensure that they function efficiently, while at the same time minimising the social and environmental impacts associated with them. In order to attempt to reach democratic decisions that will achieve these objectives, policy makers have been working closely with stakeholders on a range of urban freight issues.

This paper discusses both types of PPP, and considers how PPPs have been applied to urban freight transport.

First, we define the terms ‘partnerships’ and ‘public-private partnerships’.

Second, we consider the application of PPPs in the field of urban distribution, both in terms of narrow and broad PPPs. The range of stakeholders in urban distribution is discussed as this raises issues concerning PPP organisation and success. Strategies and measures relating to both the public and private sector are presented and the potential for collaboration discussed.

Specific policy measures and strategies that involve PPPs are then examined in some detail using examples. These include urban transshipment centres, intermodal centres, alternative power vehicles, Freight Quality Partnerships, intelligent transport systems, Low Emission Zones and congestion charging.

PUBLIC-PRIVATE PARTNERSHIPS

Partnerships

Partnership has become a very commonly used word in government planning and policy in the last few years. This is reflected in the first definition of the word taken from the Oxford English Dictionary shown below:

“1. The fact or condition of being a partner; association or participation. Now esp. of relationships in industry and politics. 2.a. An association of two or more persons for

the carrying on of a business, of which they share the expenses, profit, and loss. b. The persons collectively composing such a business association. 3. The rule or method for the calculation of a partner's share of gain or loss in proportion to his share of the capital or other determining conditions.”

When used in relation to public-private sector initiatives it is sometimes used in a narrow sense relating to sharing expenses, profit, and loss, but it is often used in a broader sense to mean information dissemination, communication, co-operation or joint working by the public sector and other organisations and individuals.

As Lowndes (2001) noted, “*Partnership* refers to a variety of arrangements with different purposes, time-scales, structures, operating procedures and members. A partnership may simply be a means of ‘getting people together’ to begin a debate or share information, or it may be a policy-making forum, or even a contractually-based arrangement for service delivery.”

Lowndes (2001) put forward three reasons for the increased use of partnership by policy-makers (see Box 1).

Box 1 Reasons for the increased use of partnership by policymakers

- “Efficiency – Multi-agency partnerships can be a way of making better use of existing resources through reducing duplication and sharing overheads among different local agencies (as in social care); they can also ‘add value’ by bringing in new providers and fostering innovation (as in education); and they can be a means of leveraging in new resources through gaining access to grant regimes requiring collaboration.”
- Integration - Multi-agency partnerships can be a way of securing greater integration within an increasingly fragmented organisational landscape. Partnership arrangements can work to ‘join up’ dispersed service providers, whilst also harnessing the distinct contributions that different agencies can make to meeting diverse and complex local needs, and to tackling social exclusion.”
- Accountability – In the context of declining turn-out in local elections and low levels of interest in local politics, partnerships arrangements can be a means of securing new forms of accountability for public services. Where community groups and business interests are involved in crime prevention partnerships (for instance), they are better able to hold local service providers to account, and to communicate their own views and experiences to decision-makers.”

Source: Lowndes, 2001

Public-Private Partnerships

A great variety of meanings are attached to the phrase ‘Public-Private Partnerships’ (PPPs). Sometimes PPP is used in a very narrow way that is concerned with particular projects in which the public and private sector have shared interests and objectives and where there is often an element of shared risk and reward. These partnership schemes were introduced by certain governments in the 1990s for the purpose of increasing the amount of long-term private sector involvement in public sector businesses and projects that the public sector has responsibility for. The UK government’s definition of this type of PPP is shown in Box 2.

Box 2 The narrow meaning of Public-Private Partnerships in the UK

“Public-Private Partnerships bring public and private sectors together in long term partnership for mutual benefit. The PPP label covers a wide range of different types of partnership, including:

- the introduction of private sector ownership into state-owned businesses, using the full range of possible structures (whether by flotation or the introduction of a strategic partner), with sales of either a majority or a minority stake;
- the Private Finance Initiative (PFI) and other arrangements where the public sector contracts to purchase quality services on a long-term basis so as to take advantage of private sector management skills incentivised by having private finance at risk. This includes concessions and franchises, where a private sector partner takes on the responsibility for providing a public service, including maintaining, enhancing or constructing the necessary infrastructure; and
- selling Government services into wider markets and other partnership arrangements where private sector expertise and finance are used to exploit the commercial potential of Government assets.”

Source: HM Treasury, 2000.

Transport projects funded in the UK as part of PPPs include:

- river crossings
- road constructions
- rail extensions
- tramway construction

Similar PPP arrangements have been used in other European countries:

- In France, PPPs have been used to supply community services and road building (Erlach, 2002)

- In Austria, PPPs have provided communal infrastructure such as ASFINAG, the government-owned motorway development and management company, the Ebelsberg bypass in Linz, and the combined cargo traffic in Werndorf (Erlach, 2002)
- In Italy, the planned logistics intermodal terminal in Parma (Sardi, 2002).

The Canadian Council for Public-Private Partnerships has adopted the following definition in an attempt to clarify what is meant by the PPP concept:

“[a] co-operative venture between the public and private sectors, built on the expertise of each partner, that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards.”

However, the term PPP is also regularly used in a much broader sense to mean any initiative between the public and private sector that involves information dissemination, communication, co-operation or joint working joint. In the UK, for example, the Prime Minister, Tony Blair (1998), has stated that:

“The days of the all-purpose (local) authority that planned and delivered everything are gone. They are finished. It is in partnership with others – public agencies, private companies, community groups and voluntary organisations – that local government’s future lies. Local authorities will deliver some services but their distinctive leadership role will be to weave and knit together the contribution of the various local stakeholders”.

Erlach (2002) has distinguished the key differences between these two types of PPP (i.e. those with a narrow meaning and those with a broad meaning). The distinction between these two forms is that narrow PPPs are based on formal co-operation, whereas broad PPPs are based on informal co-operation. The differences are further illustrated in Table 1.

Table 1 Differences between narrow and broad PPPs

Narrow definition of PPP	Broad definition of PPP
<ul style="list-style-type: none"> • Formalised co-operation in a joint venture 	<ul style="list-style-type: none"> • Relationship between partners is only partly formalised or not at all formalised
<ul style="list-style-type: none"> • Resources made available by both partners put at disposal of joint venture 	<ul style="list-style-type: none"> • Partners retain control of the resources they provide
<ul style="list-style-type: none"> • Risk and reward sharing 	<ul style="list-style-type: none"> • Information sharing
<ul style="list-style-type: none"> • Co-ordination through joint venture hierarchy 	<ul style="list-style-type: none"> • Co-ordination through network structures
<ul style="list-style-type: none"> • Applies mainly in the 'doing' phase 	<ul style="list-style-type: none"> • Applies mainly in the 'planning' phase

Source: based on Erlach (2002).

A narrow PPP is intended to involve the private sector in public projects. A broad PPP involves the public sector's intervention into private practices and operations, as well as consultation and dialogue in public decision-making. Though having different backgrounds, both types of PPPs can provide opportunities for the private and public sectors to benefit by sharing information and working towards common objectives. It should also be noted that a specific, narrowly defined PPP project could make use of a broadly defined PPP process during its planning stages to ensure a range of views and opinions are taken into account.

PUBLIC-PRIVATE PARTNERSHIPS IN URBAN DISTRIBUTION

The Rationale for a PPP Approach in Urban Freight Transport

Logistics activities are primarily performed by private companies. However, government (local and national) is expected to play a responsible role for many reasons – for example:

- coping with negative externalities such as road congestion and air pollution;
- necessary co-ordination with other public purposes such as city planning, regional economic development, environmental management, etc.;
- cross-border administrative issues with relation to international Supply Chain Management.

As discussed in the previous section, PPP can involve a range of interactions between public and private actors. In the field of urban freight transport PPP can take a variety of forms – for example:

- private sector development of public infrastructure projects;

- operational agreements between parties (e.g. vehicle routeings, delivery times, etc.);
- consultation based on one party requesting the others views in written form (i.e. not a conversation but feedback to ideas, comments on a proposal etc.);
- two-way open conversation and dialogue about existing and future policies.

In some cases private companies are simply informed by policymakers about regulations. This type of interaction between the public and private sectors is not really based on partnership.

National and local governments do not have a very good track record in involving urban distribution actors in decision-making in recent decades. Instead participation of such groups in policy-making has been often kept to a limited consultation exercise at best. However, this has begun to change in the last few years as interest in urban distribution has grown among policymakers and they have decided that a more inclusive approach is likely to result in more efficient and sustainable outcomes.

For example, after perhaps twenty years of receiving little research or policy consideration in the UK, urban freight transport and distribution has recently begun to be recognised as an important activity by policy makers. During this period the UK central government published or said little about freight transport in general, and in particular about *urban* freight transport.

However, this situation is now changing in the UK. Renewed interest in urban distribution issues among policy makers has been indicated by the establishment of a Freight Distribution and Logistics Unit in the Department for Transport, and the publication of the 1998 Transport White Paper “A New Deal for Transport: Better for Everyone” (DETR, 1998) and the daughter document to the White Paper entitled “Sustainable Distribution” (DETR, 1999). These documents outlined the UK government's determination to recognise and address the problems both faced and caused by distribution activity including those specifically concerned with urban freight movement.

The urban freight transport and distribution considerations of local authorities in the UK have traditionally tended to take place as a reaction to problems, usually arising from complaints made by residents and other road users. Most local authorities with an urban remit have not developed coherent freight transport policies to the same extent that they have their public transport policies. However, local authorities are now being encouraged by central Government to focus greater attention on freight transport and to include consideration of urban distribution and its sustainability in their Local Transport Plans (LTPs).

Similarly, during the last decade in the Netherlands, governments have become aware that co-operation of the private sector is very important in order to implement public policies. Government now seeks co-operation with the private sector and develops policies in full

consultation with the private sector, in order to create win-win situations. This has meant that instead of regulation, local, regional and national governments now sign covenants with organisations representing business or directly with businesses. In these covenants the private sector agrees to behave in a particular way, while the public sector either provides facilities, finance, or reassesses and alters regulations.

Platform Stedelijke Distributie (PSD or the Forum for Physical Distribution in Urban Areas) in the Netherlands is an example of this type of approach (see Box 3). Other examples include local government making arrangements with local retailers or transport companies. The policy agenda of PSD is developed in co-operation with both the public and private sector. The implementation of the policy requires the public and private sector to work together in a partnership. The projects carried out by PSD are all examples of how this works.

Box 3 Public Private Partnerships in the Netherlands: The example of PSD

PSD is helping to form partnerships within the Netherlands in order to address the following issues related freight transport in cities:

- Deteriorating accessibility
- Increasing environmental demands
- Municipalities are autonomous
- Logistics are (often) organised at a national level (increasingly perhaps internationally)
- Shopping and living environments have a local focus
- Regional competition between municipalities
- No (limited) public private co-operation
- State intervention in a liberalised market

The PSD Mission Statement is ‘to develop physical transport as integral and uniform component of municipal policies and foster business-to-business and business-to-government co-operation.’

This goal is to be achieved by bringing together public and private sector actors (see below).

The PSD Network

Organisations	Municipalities
TLN en 5 regionale afdeling EVO en 4 regionale afdeling KNV RND en lokale vertegenwoordigers MKB-Nederland en regionale afdelingen VROM en 4 regionale inspecties EZ en 4 regionale vestigingen V&W en 10 RWS regionaal IPO en 12 provincies VNG en 504 gemeenten NVG en verschillende branches Kamers van Koophandel Hoofdbedrijfshap Detailhandel Stichting Binnenstadsmanagers VNO-NCW IVBN NEPROM NDL NOVEM ICES-KIS projecten (m.n. Connekt,Klict) Vereniging Deltametropool Platform Agro Logistiek Platform Stedelijke Distributie	Alkmaar e.o. Oost Friesland, Leeuwarden e.o., Groningen e.o., Assen e.o. Zwolle e.o. en Flevoland oost, Twente, Knooppunt Arnhem-Nijmegen, Venlo e.o., Maastricht e.o., Eindhoven e.o., ‘S-Hertogenbosch e.o., Utrecht e.o. Tilburg e.o., Zeeland, Breda e.o. Dordrecht e.o. Rotterdam e.o., Haaglanden, Leiden e.o., Haarlem e.o. Amsterdam en Flevoland West.

Within the network PSD functions as: Discussion body, Facilitator, Communicator, Project Manager, Knowledge Body for Industry and Public Authorities. Within the PSD Network there are 1100 participant decision makers and PSD has direct reach to approximately 40,000 people.

PSD has developed an approach based on a number of steps to achieve a successful PPP. These steps include: joint problem solving, focus on co-operation, the necessity to share ideas and information, and creating an atmosphere of greater trust between public and private partners.

Source: Bockel (2002)

The Japanese national government authorised a set of policies for freight transport entitled ‘The New Comprehensive Program of Logistics Policies’ in 2001, which was the revised version of the former program, first launched in 1997. Urban freight transport is considered an important area in which to achieve efficient and environmentally friendly logistics systems in Japan. Two quantitative targets were set on ‘the load factor of trucks’ and ‘peak-hour average

travel speed' in three major metropolitan areas; from the current 45 percent to a target of 50 percent, and from the current 21 km per hour to a target of 25 km per hour, respectively.

In order to realise these targets, the program highlights the importance of co-ordination between public and private sectors, and between national and local governmental agencies, among others. This is why the program requested the local agencies to establish an independent organisation to plan local logistics policies, and new round tables to exchange information on local logistics policies inviting private representatives from the associations of carriers, retailers, etc.

It can therefore be seen that participation plays an important role in these broad PPPs in urban distribution.

The complexity of urban distribution can make it difficult to develop broad PPPs based on high levels of participation. Ogden (1992) argues that the urban freight system is far more complex and heterogeneous than urban passenger transport. This complexity and heterogeneity are driven by certain key features of urban goods movement, one of which is the range of participants involved in urban freight and the range of perceptions they hold of the "urban freight problem". Some are concerned with demand and most with some aspect of supply, they include numerous shippers, receivers, forwarders, freight and logistics companies, truck drivers, service companies, terminal operators, road and traffic authorities, government, and those living and working in urban areas who are affected by freight transport. Such complexity makes successful participation difficult to achieve.

Comparing the Features of PPPs in Urban Freight Movement

Private companies (retail, wholesale or transport companies) carry out urban freight transport operations. The public sector is responsible for regulating and facilitating urban freight transport. Therefore a distinction has to be made between private and public strategies or measures. Table 2 shows a classification of strategies or measures. Public measures are actions taken by public authorities and are intended to bring about behavioural changes in the private sector. The public sector can involve the private sector in the creation and development of these measures through consultation and dialogue. Private strategies, such as voluntary co-operation between companies, are initiated by the private sector without public sector involvement. Some strategies and measures involve the direct participation of both the public and private sectors. Technology improvement in fields such as road and traffic information, and the development of new vehicle standards are examples of public-private measures and strategies.

Table 2 Classification of public and private measures (examples)

<i>Policy measures and instruments</i>	<i>Public</i>			<i>Private</i>	<i>Public and private</i>	
Applied on ↓	<i>Licensing and regulations</i>	<i>Pricing</i>	<i>Financial support</i>	<i>Voluntary co-operation</i>	<i>Technology improvement</i>	<i>Information systems</i>
Land use	Zoning for logistics activities or transport intensive retail	Land use pricing	Subsidies for land use prices	Concentrate businesses on one location	--	--
Logistics operation	Minimal load-factor	--	Subsidising intermodal transport	Load exchange	New load-units	Cargo information systems
Networks	Truck routes, vehicle and time restrictions	Road pricing	New infrastructures for freight	--	Road construction	Real time traffic information
Terminals	Urban distribution centre	--	Terminal exploitation	Operation of terminals	Transshipment and storage	--
Loading/unloading	Loading time	Differentiated parking charges	Facility support	Sharing unloading facilities	Off-street unloading facilities	Reservation system of parking lots
Vehicles	Emission standards	Fuel taxes	Subsidies for low emission trucks	Share of vehicle fleet	Electric vehicles, handling equipment	Vehicle tracking systems

Source: Visser, Binsbergen and Nemoto (1999)

An important aspect of measures concerns the problem of adoption. The adoption of measures can be supported by making the desired behaviour more attractive (financial support and licensing) or by discouraging other behaviour (pricing and regulation).

EXAMPLES OF URBAN FREIGHT INITIATIVES THAT MAY INVOLVE PPPs

The following section examines several of the PPPs in urban freight that were highlighted in Table 2 in greater detail. Firstly urban transshipment centres and intermodal centres are discussed, followed by alternative power vehicles, Freight Quality Partnerships, intelligent transport systems, Low Emission Zones and congestion charging.

Urban Transshipment and Consolidation Centres

Transshipment centres are frequently suggested as a solution to the environmental problems caused by lorry traffic in urban areas. In such an approach, freight destined for urban areas is unloaded at a depot on the periphery and transhipped into small vans for final consolidated delivery. These vans also collect consignments from city centre premises. Proposals may envisage compulsory use of such facilities, with all other lorries banned from a designated area, or they may be more voluntary in nature. In the latter case various incentives may be employed to promote their use. In addition, operators choosing not to use the facilities may face severe time-of-day or vehicle size restrictions imposed by local authorities within the urban area (Ogden, 1992).

Proposals were developed in the 1990s to establish transshipment systems in a number of Dutch towns and cities following consultancy studies of their potential use and cost effectiveness. Experimental schemes were proposed in four cities. The first such experiment eventually got under way in Maastricht in the early 1990s but the volumes going through the depot were low. Progress on schemes for other cities was hampered by problems in agreeing the precise nature of these schemes. Who should own the facilities - the public sector or private enterprise? Should their use be voluntary or compulsory? What sort of licensing system should be put in place for operators involved in the collection and delivery work in the area concerned? What restrictions should be placed on vehicle size, type and hours of operation for operators remaining outside the scheme?

Despite these problems there is still interest in transshipment centres as a potential solution. Several UK local authorities have investigated their feasibility in recent years, though none has progressed beyond the initial investigation stage. In France, a scheme got under way in 2001 in the historic town of La Rochelle, where narrow cobbled streets in the town centre are not

suitable for large vehicles (BESTUFS, 2002). The most significant problems facing such schemes appear to be the relatively high costs of the transshipment operation and the loss of control suffered by the shippers of the goods.

Historic city and town centres are clear examples where there may be an argument to develop a consolidation centre. However, there are other experiments that are also relevant. For example, the development of a consolidation centre at Heathrow airport was stimulated by the desire of the airport operator (BAA) to reduce the number of goods vehicles entering the airport to deliver to the extensive terminal retail businesses. The consolidation centre has resulted in significant reductions in goods vehicle movements within the terminal area and also had beneficial environmental impacts (Department for Transport, 2002).

In Japan four public distribution centres were built in the outskirts of downtown Tokyo in the 1960s by a national government-affiliated corporation. Each centre, approximately 100 hectares in size, consists of truck terminals, container depots, warehouses, wholesale markets, and shops for carriers and wholesalers. They had a number of rules to control the usage of the centres' space, which discouraged the carriers from locating their facilities there. As a result, the carriers built their own centres independently on sites that were not always suitable for that purpose because of environmental impacts on residential areas. In 1985 this corporation was fully revitalized in order to meet rapidly changing carriers' requirements efficiently. This was achieved through a legal change of status although more than 25 percent of the stock of the corporation is still held by the local government. This reflects the growing recognition that logistics policies are required to meet both public and private interests in a flexible and intelligent way.

Intermodal Centres

In addition to the transshipment centres discussed above, some freight centres have wider objectives than simply transferring goods from one type of road-based vehicle to another for final delivery in the urban area. Freight centres can also be intended to boost the regional economy, and enhance international trade. Such freight centres will be equipped with modal interchange facilities (e.g. road-rail, road-rail-sea, etc.) and often also include stockholding facilities. Various terms exist to describe these types of centres including 'freight villages', 'special logistics areas', and 'logistics parks'. Some of these intermodal centres are located in large-scale industrial and business parks, providing services to the companies based there.

For example, Gilterverkehrscentrums (GVZ's or Cargo Traffic Centres) have been developed in Germany since the early 1990s. These centres are intended to create inter-regional networks between conurbations. This is an initiative taken by the national government, and the objective is to develop 30 GVZ locations that are capable of shifting traffic from roads to rail and ship.

GVZs have already been developed in Bremen, Augsburg, Dorpen, Dortmund, Hannover, Leipzig, Milrichen, Neurenberg, Rostock and Trier.

Given the size and infrastructure requirements of intermodal centres, at the very least their development involves close contact and planning between the public and private sectors. In some cases these centres are either owned by, or the development is financially supported by national, regional and local authorities.

Alternative Power Vehicles

One potentially significant advantage of transshipment centres (discussed above) is that they can be used in conjunction with other measures to generate wider benefits. Sites adjacent to railway lines and waterways may be chosen to maximise the scope for inter-modal operations, for example. transshipment strategies can also be linked to relatively severe time-of-day or lorry weight restrictions in city centres, as explained above. Perhaps their most important advantage is that because the fleet of vehicles based at the centre is dedicated to urban collection and delivery work, such vehicles can be specified most appropriately for the town or city concerned. Attention can be paid to the most suitable vehicle size, and more environmentally friendly vehicles, perhaps with quieter engines or powered by gas or electricity, can be used. Assessment of electric powered small delivery vehicles is in fact one of the objectives of the La Rochelle scheme outlined above.

There seems little doubt that the use of environmentally friendly vehicles will increase, particularly if tax inducements for alternative fuels and for cleaner and quieter engines are stepped up and if alternative fuels are made more readily available.

At present, technologies for alternative fuels and quieter operation are relatively new and vehicles incorporating such technologies are comparatively rare. As a result, they are more expensive to buy. In the UK, the highly competitive nature of the transport and logistics industry may be holding back the introduction of such vehicles, given their high prices at present. Operators need to be reassured that lower fuel prices due to tax concessions will be maintained into the future, to allow payback on their capital outlay. Operators might be also be more easily persuaded to change fuels if there was more guidance available on which of the various alternative technologies (electric, gas, fuel cell, biomass etc) are likely to become generally adopted in the future.

A UK example well publicised a few years ago is the use of natural gas powered vehicles by BOC Distribution Services (now part of Gist) on their dedicated contract to supply Marks and Spencer outlets in central London (Distribution, 1997).

There appears to have been more interest in environmentally friendly urban freight vehicles on mainland Europe than in the UK. Some Scandinavian and German cities have experimented with low noise and low emissions vehicles, for example in Heidelberg. ELCIDIS, an EC THERMIE project, has established demonstration sites in three large European cities (Rotterdam, Stockholm and Milan) as well as three smaller cities (Erlangen and Stavanger in addition to the case of La Rochelle mentioned earlier) for the trialling of electric powered distribution vehicles. Interest in the UK is likely to increase, however. Air quality is routinely monitored in UK cities, and in London, where air quality is the worst in the UK, the feasibility of a Low Emission Zone is under investigation. Whilst such a zone will not be implemented until 2005 at the earliest, such proposals will encourage operators to seek out and evaluate low emissions technologies.

Following on from the arguments set out in previous sections, it is more likely that operators will specify environmentally friendly vehicles if such vehicles can be dedicated to urban work.

Freight Quality Partnerships

Freight Quality Partnerships (FQPs) are an approach launched by the Freight Transport Association (FTA) in 1996. The FTA initiative brought together industry, local government and representatives of local and environmental interest groups to pursue the following agenda (FTA, 1998):

- To identify problems perceived by each interest group relating to the movement and delivery of goods in their city;
- To identify measures within the group's competence to resolve or alleviate such problems;
- To identify best practice measures and principles for action by local government and industry to promote environmentally sensitive, economic and efficient delivery of goods in towns and cities.

The FQP initiative was tested in four UK urban areas in 1996: Aberdeen, Birmingham, Chester and Southampton.

The UK Government has been promoting FQPs since 1999 (DETR, 1999). FQPs can facilitate improved dialogue about urban freight transport issues between local authorities, freight transport companies, retailers, manufacturers and other businesses, local residents and other interested parties. This can lead on to more efficient, less harmful operations. In their guidance document the government state that, "Freight Quality Partnerships provide local authorities with a means to formalise the consultation and development work undertaken in their

sustainable distribution strategy. Authorities have an integral role to play in helping industry, through developing partnerships to progress and develop best practice in sustainable distribution systems, and to find solutions to the issues of greatest concern. For example, freight quality partnerships provide a good means of delivering air quality and noise benefits while removing peak hour traffic and improving the efficiency of deliveries at the same time. Companies can be given improved access to premises and extended delivery hours, including night time deliveries, in return for agreeing to use cleaner, quieter vehicles and agreeing a night time code of practice" (DETR, 2000).

Approximately 50 local authorities referred to the development of FQPs or similar schemes under a different name in their Local Transport Plans (LTPs). However, study of the LTPs that mention FQPs shows that there are significant differences in how these local authorities are choosing to define FQPs, and some are still in the process of working towards the introduction of FQPs rather than setting them up now. The LTPs indicate that approximately 30 local authorities have already put in place formal agreements and arrangements for a FQP. These authorities include: Hampshire, Southampton City, Surrey (FQP established in Guildford), Kent (FQP in Canterbury), Ripon, Northamptonshire, the West Midlands, Leicestershire, and Nottinghamshire.

FQPs have been established for a number of purposes ranging from Regional Strategic Partnerships, to city- or town-specific partnerships, to micro-level partnerships (maybe concerned with a few streets), to issue specific partnerships.

UK Government guidance suggests that FQPs should try to involve representation from logistics companies, retailers, manufacturers, service providers, rail operators and the local airport or sea port. In addition, the government suggests that other potential representatives include the Chamber of Commerce, the police, environmental groups and resident groups (Department for Transport, 2002).

FQPs should help ensure freight and service transport receives level of attention it deserves, providing recognition of fundamental role played by freight and service vehicles in the functioning of towns and cities. FQPs should play an important role in finding a suitable balance between economic and environmental pressures in UK urban areas. However, there are several unresolved issues concerning FQPs. These include:

- How to include freight and service companies not based in urban area;
- How to involve a significant proportion of all relevant companies;
- The level of public funding available for policy measures, initiatives and enforcement;
- How to ensure compatibility between policymaking at the local, regional and national levels.

Use of Intelligent Transport Systems

There is significant scope to improve the efficiency of logistics operations through the greater use of information technology. Transport modelling work reported in Taniguchi, Thompson, Yamada and Van Duin (2001) has demonstrated that effective use of dynamic vehicle routing and scheduling systems can produce significant benefits in terms of both economy and the environment. In-cab information systems and mobile data systems allow operators to save time and money by advising drivers on how to avoid congestion. Electronic proof of delivery systems, as used increasingly by express parcels companies, can reduce the time parked outside customers' premises.

Information technology may also facilitate voluntary consolidation schemes. Operators willing to co-operate on the German 'city logistics' model could use real-time information systems to track consignments destined for the city centre, identify operators with spare capacity to handle such consignments and route them accordingly. Electronic tagging and scanning of consignments facilitates traceability throughout the supply chain, which may allay shippers' fears over the loss of control at transshipment centres.

An interesting experiment has been conducted in Osaka in western Japan using electric vans and intelligent transport systems (Taniguchi and Nemoto, 2003). The experiment involved 79 companies that participated voluntarily. These companies can use 28 small electric vans that they book through the Internet in advance. The vans are kept in eight parking places ready to be picked up. The users can return the vans to any of these parking places after using them, so that the users can avoid driving the empty vans on the congested roads and instead can take a subway when they come back to their offices.

Each van is equipped with a mobile data-communication system and GPS (Global Positioning System) to identify the vehicle location. These systems allow the Centre to control the vans including; booking and renting vehicles, operation and route guidance, and management of the balance of electricity.

The experiment has been conducted successfully without any serious technical problems. A questionnaire survey for frequent users shows that benefits of reduced travel time were limited to 33 percent of them, partly because they often return the vans to the same parking places, contrary to the study team's expectation. It is interesting that 31 percent said that they enjoyed the reduction of travel time using car navigation systems. About half of the users were willing to pay 300-600 yen per hour, which was too low as compared with costs for operating the system. Subsidies are required to make the system economically feasible at present.

Low Emission Zones

The aim of a Low Emission Zone (LEZ)/ Environmental Zone is to improve air quality by excluding older, high-polluting vehicles from specific urban areas and encouraging the faster take up of more modern, cleaner vehicles.

Environmental zones were implemented in the central areas of Stockholm, Göteborg, Malmö, and Lund in 1996. Diesel driven trucks and buses with a gross vehicle weight of over 3.5 tonnes are only allowed to enter these environmental zones if their engines is less than 8 years old or achieves specified emissions standards (Municipality of Stockholm et al, 2002). A similar scheme exists in central Amsterdam in which vehicles over 7.5 tonnes gross weight are only allowed to enter if they meet specified emissions and size criteria and also have a load consolidation of at least 80% (PSD, 2002).

A feasibility study for the introduction of a LEZ in London has recently been carried out (ALG/GLA, 2002). This was jointly commissioned by the Mayor of London, the Association of London Government and two central government departments to investigate ways of improving the quality of air in London. This is in response to recent UK and European legislation that has introduced target levels for air quality in forthcoming years. If the London authorities decided to go ahead with an LEZ for London the earliest possible date it is likely to be implemented is 2005.

An important part of the London feasibility study was to consider how the introduction of an LEZ in London would affect the businesses, organisations and communities that live and work in the London area and to ensure that any scheme would be publicly acceptable. The study team therefore contacted more than 500 stakeholders and interviewed approximately 100 stakeholders including business representatives, local and central government, freight industry associations, bus and coach organisations, taxis representatives, and environmental and transport NGOs to get their opinions on the LEZ concept and their views on implementation the enforcement strategies. Interviews were also held with goods vehicle operators in order to obtain their views on the LEZ concept, their likely behavioural responses, and the likely impact on their distribution operations and costs when working in London.

The Mayor of London, the Association of London Government and the two central government departments that commissioned the research are currently considering the findings of the feasibility study and deciding the appropriate action to take with respect to a London LEZ, taking into account the views expressed by stakeholders.

Congestion Charging

Congestion charging refers to a scheme in which vehicle drivers (or the companies responsible for the vehicles) have to pay a charge in order to enter a particular geographical area at a particular time. The aim of such a scheme is to reduce road traffic levels in the urban area and also to reduce traffic pollutant emissions. Such a scheme may also generate a profit which can be used to provide improved public transport services.

Congestion charging was implemented in London in February 2003. In the scheme drivers will pay £5 per day to enter central London between 07:00 and 18:30 from Monday to Friday.

Goods and service vehicles working in central London are all subject to this charge. The Mayor of London anticipates that the congestion charge will reduce traffic levels in London, and that freight and service companies will benefit in terms of shorter and more reliable journey times.

It was originally proposed in the London scheme that goods vehicles should pay £15 per day. The freight industry was critical of this charge. The proposed charge was subsequently reduced to £5 per day for all vehicles.

Prior to the introduction of the scheme, Transport for London anticipated that congestion charging would result in 10-15% reductions in traffic levels, with speed improvements of 10-15% inside the zone (TfL, 2002).

Clearly, reductions in traffic could lead to greater reliability for the journey times of goods vehicles. Increased reliability would off-set some or all of the additional costs but there remains some uncertainty about the likely impacts. In addition, while it is argued that traffic would fall in the congestion charging area it has also been claimed that congestion would be worse around the edge of the zone. This in turn would reduce the level of benefits to be expected from more reliable delivery and service trips in the central area.

Consultation with stakeholders and the general public took place at several stages during the development of the congestion charging scheme. This began in 2000, when the Mayor, Ken Livingstone, set out his initial ideas in a document and sent this to key stakeholders including local councils, businesses and road user representatives to better understand their views on congestion charging and transport issues in London. The comments provided by these stakeholders helped shape the Mayor's draft Transport Strategy, published on 11 January 2001.

Public consultation on the congestion charging scheme took place between July and September 2001. This involved the following activities (TfL, 2002):

- A public exhibition;

- A 12 page public information leaflet was produced;
- Two large public meetings were held;
- A call centre was in operation throughout the duration of the consultation (it received over 2,500 calls from individual members of the public);
- Information about the congestion charging scheme was placed on the TfL Street Management website;
- Advertisements were placed in newspapers and on the radio to inform Londoners of the consultation.

Analysis of responses was carried out and some scheme modifications were proposed as a result of this consultation process. TfL produced an information pack outlining these proposed modifications. This pack was made available for public inspection at the offices of TfL Street Management and at eight London Boroughs. In addition, the pack was also sent to 500 key stakeholders and TfL arranged a series of consultation meetings with key stakeholders.

The Mayor had the power to decide whether or not to hold a public inquiry into the congestion charging scheme. He chose not to hold an inquiry. The consultation process that took place as part of the congestion charging scheme was a traditional approach to consultation, providing companies, organisations and individuals with an opportunity to submit their opinions but with no commitment from the Mayor to include them in the decision-making process.

In June 2001, Tokyo Metropolitan Government (TMG) released a report to advocate the introduction of road pricing in central Tokyo (Tokyo Metropolitan Government, 2001). Four alternative charging areas were proposed based on combining major ring roads, rivers and railways as the cordon line. A car crossing the line into the area has to pay the charge. A promising alternative area covers 72 km², which is larger than central London (21 km²). The charging period proposed was from 07:00 to 19:00 on weekdays.

In order to clarify the effects of road pricing, TMG conducted two surveys to interview passenger-car drivers and managers of trucking firms. Assuming 500 yen and 1,000 yen charges for small and large vehicles respectively, 17 percent of small commercial trucks and 10 percent of large commercial trucks showed that they would reduce truck use by improving the utilisation ratio of their fleet and the loading ratio of each truck. This would be achieved with more efficient fleet management and co-operative delivery system. The results indicated that road pricing would affect private (own-account) trucks with relatively low lading factors most significantly, with 30 percent of these respondents answering that they would change their truck use. It implies that cargo would shift from the private trucks to the commercial (third-party) ones to some extent.

Though road pricing has social objectives to reduce road congestion and to improve environmental situation, it would also affect the stakeholders differently. In order to introduce the scheme successfully with public acceptance, TMG has started consultation with stakeholders and the general public since 2002. TMG's consultation efforts, however, are not as intensive as those in London. For the Mayor of London, road pricing was an important campaign issue and this has been reflected in the rapid development and initiation of the scheme. The TMG Governor Ishihara, by contrast, appears to have stepped back without any clear message on road pricing in the recent re-election campaign in May 2003. It would appear that, from a political perspective, road pricing seemed unlikely to increase his support. It is clear that in order to make major changes to urban transport, strong leadership is an important factor in the successful implementation of schemes involving broad PPPs.

CONCLUSIONS

It is too early to evaluate the success of narrow financially-driven PPPs (i.e. particular projects in which the public and private sector have shared interests and objectives and where there is often an element of shared risk and reward). The benefits of this approach are that it reduces public sector capital investment and makes use of private sector expertise and project management skills. It has also been argued that this approach provides financial incentives to finish work on time and in budget and to achieve stated targets.

However, there is currently uncertainty about whether these narrow PPPs offer good value for money (i.e. whether they cost taxpayers more in the long-term than straightforward public sector investment). It is argued that the government could borrow the capital more cheaply on the private capital markets itself.

In terms of broad PPPs (i.e. urban distribution initiatives between the public and private sector that involves information dissemination, communication, co-operation or joint working) this approach should help to ensure that freight transport receives the level of attention that it deserves in urban areas. While traffic levels and their impacts in towns and cities have received growing attention in recent years, much of this has been directed at public transport and private car traffic with relatively little consideration paid to road freight transport. The goal is to find a suitable balance between economic and environmental pressures.

There are several issues concerned with broad PPPs that have still to be resolved. These include how best to include freight transport companies that are not based in the urban area but operate vehicles in the area in discussion and consultation processes (for example, this has proved difficult to achieve in the FQPs being developed in the UK).

Another concern is ensuring that different towns and cities do not implement local measures that, although efficient at a local level, are inefficient at a regional or national level - for example different types of vehicle requirements and restrictions in different towns and cities may increase total fleet requirements and trip numbers. Hopefully involvement of larger freight transport companies that operate in many different urban areas should help to prevent this, together with co-ordination between different levels of the public sector.

As the examples reviewed in this paper indicate, it is important to bear in mind that effective broad PPPs take some time to establish and they also take time before they begin to yield results. “Effective solutions to most freight transport problems..... require substantial co-operation between the private sector, where goods are moved, and the public sector, which provides and maintains the roadway system infrastructure. That’s easy enough to say, but in reality such co-operation requires a degree of credibility and trust which takes time and effort to build” (Millendorf, 1989).

Bearing this in mind, policy makers need to be clear about the issues they want to engage the private sector in consultation and joint working on, and to decide how best to use the time and efforts of the private sector in these initiatives. Focusing on the key issues and outcomes will help to engage and retain the private sector’s involvement in such initiatives.

Given the wide range of stakeholders involved in freight transport considerations in urban areas (including retailers, wholesaler, carriers, warehousing, residents, shoppers and workers) it will undoubtedly prove difficult to both engage and please everyone. However, if the focus remains on ensuring that the delivery and collection of goods in urban areas takes place as in an efficient manner, while imposing as few social and environmental impacts as possible there are clearly benefits to be achieved through the use of a broad PPP approach.

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