



# Urban freight logistics in the European Union

Thomas H. Zunder<sup>1\*</sup>, J. Nicolas Ibanez<sup>2</sup>

<sup>1</sup>*Newrail, University of Newcastle upon Tyne (UK)*

<sup>2</sup>*AICIA (Association of Research and Industrial Cooperation of Andalucía)  
Universidad de Sevilla (SPAIN)*

---

## Abstract

The paper recalls the main challenges of the European urban freight policy: the environment, the need for sustainable growth and quality of urban life. These are then interpreted by the member states. Some states have a top down prescriptive approach some others do not. The BESTUFS project, promoted by the EC, collects and disseminates best practice across the EU. It has identified a deep weakness at a local level, whilst also a wide range of pilots and successful exceptions.

*Keywords:* Urban freight logistics; BESTUF project; Best practices.

---

## 1. EC goals and objectives

### *1.1 Kyoto and Gulliver*

In the twenty five member states of the European Union (EU-25), the commitment to the Kyoto treaty drives Energy and Transport policy and practice. Kyoto gave prime motivation to the European Commission (EC), the executive arm of the EU. This is combined with the 'Gulliver' effect, a scenario of an EU giant held down by its reliance on imported energy; 49% in 1998, forecasted to rise to 71% by 2030 without intervention [1]. These two key arms of energy policy lead to derived transport policies that affect cities and freight.

In May 2004 the EU enlarged to 25 member states, taking in much of Eastern Europe. With associated and candidate states, the EU is now the economic and political confederation of most of continental Europe. Energy and Transport policy is handled by the Directorate for Energy and Transport (DGTREN) and is already spoken of in terms of the EU-30.

---

\* Corresponding author: Thomas H. Zunder (tom.zunder@ncl.ac.uk)

### *1.2 Energy and CO2*

The EU is committed to reducing emissions of six greenhouse gases to the 1990 base level, less 8% by 2008-2012 [1]. Without intervention the EU will fail to meet its Kyoto obligations, especially in the area of CO<sub>2</sub> emissions where the same sources show emissions by 2030 at +22% higher than the 1990 base.

Various policies are either in place, being discussed or being reviewed. Primarily for transport these are the promotion of renewable energy from 6% to 12% of total energy sources used, particularly to 20% of fuel sources for transport [2], and decoupling transport growth and economic growth.

### *1.3 Clean urban transport*

In the longer term the EC is investing research and development funding to promote the hydrogen economy, a world where clean pollutant-free hydrogen fuel cells will power transport. In the shorter term it is promoting Clean Urban Transport through the objectives of achieving 20% of transport fuel as renewable by 2010.

Through the CIVITAS [2] initiative DGTREN is promoting a variety of measures for sustainable urban transport. It is, however, very passenger biased. Only recently has it explicitly developed the objective: "New concepts for the distribution of goods by means of introducing innovative logistics services using clean and energy efficient vehicle fleets, dedicated infrastructure and information services".

CIVITAS is energy focussed but this drives demand management such as congestion charging, promotion of public transport, and modal shift. It has recently been very much in favour of renewable energy such as biogas, bio diesel, and natural gas and rather opposed to funding measures for electric vehicles.

### *1.4 Decoupling*

Transport accounts for 28% of all CO<sub>2</sub> emissions in the EU, and 84% of that is attributable to road transport. Although trucks account for only 10% of all transport operations in urban areas, they produce over 40% of pollution and noise. Forecasts show that in the EU-15 heavy goods vehicle (HGV) traffic will increase by 50% by 2010, without intervention. In the new member states, despite previously having planned economies that biased transport to rail, rail haulage decreased by 43.5% from 1990-1998 and road haulage increased by 19.4%.

The European single market and competition policies have progressively liberalised and deregulated road freight for over a decade, and economic growth has been matched and exceeded by transport growth. As Europe has moved from a 'stock economy' to a 'flow economy' of JIT, kanban, lean manufacturing and increasingly centralised distribution, haulage transport growth is outstripping economic growth.

Sustainable development is a key EU mantra, and as such it is a key policy of DGTREN to decouple economic growth and transport growth. It is how to achieve this that is an interesting area of policy and measures.

### *1.5 Economic importance and congestion*

Transport is one of the essential drivers of industry, trade and integration in the EU. It accounts for some €1,000 billion annually, generates 10% of the Union's GDP and employs some 10 million people [3]. However, the move to a single market and deregulation has been imbalanced, with road transport outpacing the state monopolies of the railways. In the EU rail freight accounts for 8% of the market share, compared to circa 40% in the USA.

The economic importance of transport is being impacted as road traffic increases. Some 10% of the road network suffers daily traffic jams, 20% of the railway network is classified as bottlenecks. It is estimated that 6% of all fuel consumption is directly related to congestion. It is believed that 0.5% of the Community GDP is being spent on congestion and that by 2010 this will rise to 1% [3].

Combined with a chronic failure to invest in new infrastructure (public investment in infrastructure fell from 1.5% in the 1980s to 1% in the 1990s), this has led to two top level strategies being developed:

- Infrastructure and/or Congestion Charging, to discourage congestion and pollution whilst funding infrastructure;
- Modal shift and Intermodality, to shift back to a greater rail share, seen as more efficient and less polluting.

It is not the focus of this paper to discuss these further, but they are key parts in the jigsaw that is EC activity in urban logistics.

### *1.6 Cities of tomorrow*

Europe is the most urbanised continent in the world, with 80% of the population living in towns and cities:

- 20% live in conurbations of more than 250 000 inhabitants (London and Paris are the only two European agglomerations with around 10 million inhabitants);
- 20% live in medium-sized cities (50 000 to 250 000 inhabitants);
- 40% live in towns with 10 000 to 50 000 inhabitants [4].

To this end, the EU developed the European Urban Forum and the City of Tomorrow and Cultural Heritage projects. Whilst it has been rumoured that these have been sidelined since 2000, it has generated both projects in urban land use and transport research. Little of these have approached the issue of urban logistics, although one project, CITYFREIGHT, is funded by the latter.

It does mean, however, that there is a quality of life dimension to urban policy in the EU that intertwines with the environmental and economic aspects.

## **2. But, what about the trucks?**

### *2.1 States rights*

The EU is a confederation of sovereign states. It has yet to have a constitution and just to mention the word ‘federalist’ in some states is enough to be harangued as a modern day Napoleon or Hitler. To that end, the EC can agree policy with Member States and the comparatively weak European Parliament, but actual action is carried out at the state level. Until we have our own ‘virtual Gettysburg’ there can be a significant disconnection between EC policy and member states.

In the arena of urban freight, itself a niche caught between the environmental concerns, quality of life concerns and that of economic competitiveness, there is often a yawning void. In this void logistics companies compete tooth and nail to meet ever rising customer needs, city governments react with ignorance to a transport group that is widely disliked, and national governments devolve responsibility to cities that have few ideas of the nature of the problems let alone how to solve them.

Some countries have addressed the issue. The UK has a sustainable distribution policy document as a daughter paper to the UK transport White Paper. It is largely focussed on carbon reduction through training, benchmarking, fleet modernisation and co-operative policy setting. The French have a requirement for a distribution strategy in each of the seventy ‘plan de déplacements urbains’ (PDU) that local government has to produce. Maybe seven of those are actually a freight strategy of any worth. Germany adopted a bottom up approach, with a surge of enthusiasm for ‘city logistics’ in the 80s and 90s. Others, such as Italy or Spain have no modern urban freight policy at a national or local level.

A questionnaire by BESTUFS showed that once city government is reached, 25% of cities have no-one in charge of freight policy, and 44% have less than half a full-time employee working on the subject. Most resources at the local level are focussed on public transport and then cars. Whilst half of cities reported that they met regularly with freight actors, half said they had no freight policy or planning at all. Since the sample that answered was self-selecting we must assume that the numbers with no policy or plans are actually a far greater majority [5].

### *2.1 BESTUFS*

Best Urban Freight Solutions (BESTUFS) is a Thematic Network funded by DGTREN under the Fifth Framework Programme. It is co-ordinated by PTV, with core partners ARRC, NEA, Rapp Trans, and more recently, CDV and Transman. It is not a research action, but a network through which practitioners, experts, academics and policy makers can share best practice in the arena of urban freight.

These interest groups include:

- Commercial interest groups (shippers, receivers and transport service providers).
- City administrations and policy enforcement agencies.

- Civic interest groups, individuals, user groups.
- On-going projects including demonstrations already involved directly or indirectly at national and European levels.
- Relevant national and European level directorates for city planning, transport facilities and services.
- Relevant systems and technology providers.

It started with the year 2000 and ends with the year 2003. In 2003 it was extended to cover the new states that will join on 1<sup>st</sup> May 2004. BESTUFS II followed in 2004, extending through to 2008.

Although not a research activity in EC terms, it performs a secondary research role. It hosts workshops on urban freight themes, publishes the presentations, writes best practice handbooks, makes recommendations and has compiled clustering reports of EU research and demonstration into this area at local, national and EU level.

To date BESTUFS has hosted 14 workshops, 5 conferences, published 17 newsletters, 4 best practice guides, 3 research clustering guides and maintains a website of all this material at: [www.bestuufs.net](http://www.bestuufs.net).

### 2.3 Areas and activities.

At the first BESTUFS workshop the key themes of relevance to urban freight were identified (see *Table*). They were, in no order of importance:

Table1: Key themes to Urban Freight.

<i>No.</i>	<i>THEMES OF RELEVANCE TO URBAN FREIGHT TRANSPORT</i>
1	Urban freight platforms.
2	Traffic planning and policy.
3	Access restrictions.
4	Weights and dimensions.
5	Transport units.
6	Unusual transport modes.
7	Tolls and heavy vehicle fees.
8	Intermodal urban freight aspects.
9	E-commerce.
10	Door-to-door freight transport aspects.
11	Telematics for urban goods transport.
12	Environmentally friendly vehicles.
13	Co-operation of transport operators.
14	Interfaces between public and goods transport.
15	Improvement of Public Private Partnerships (PPPs).
16	Economic improvements.
17	Environmental improvements.
18	Improvements for citizens/inhabitants.
19	Win-win situations.

2.4 Workshops and conferences

From this the network has held the following workshops and conferences:

Table 2: Workshops and conferences held and connection with BESTUFS key themes.

BESTUFS Key Themes	Workshops and conferences																		
	Urban freight platforms	Traffic planning and policy	Access restrictions	Weights and dimensions	Transport units	Unusual transport modes	Tolls and heavy vehicle fees	Intermodal urban freight aspects	E-commerce	Door-to-door freight transport	Telematics for urban goods transport	Environmentally friendly vehicles	Co-operation of transport operators	Interfaces between public and goods transport	Improvement of Public Private Partnerships	Economic improvements	Environmental improvements	Improvements for citizens	Win-win situations
Intelligent Transport Systems and Urban Freight	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Night delivery: a further option in urban distribution	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Successful private public partnership enhancing urban goods transport	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Land Use Planning and Business Models for urban Distribution Centres	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
City Access Fees and urban Pricing: What are the Consequences for urban Freight Transport?	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Rail based Transport: A disappearing Opportunity or a Challenge for urban Areas	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Changing urban Transport due to E-commerce and E-Logistics	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Optimised City Distribution Vehicles as demanded by Transport Operators and Cities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
City Access, Parking Regulations and Access, Access Time Restrictions, Enforcement Support	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Identification of thematic network priority themes	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Urban Freight and the Environment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Freight Policy, Laissez-faire or Planned?	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

Three Best Practice handbooks have been published electronically:

- Statistical data and city access.
- E-commerce and urban freight distribution.
- Road pricing and urban freight platforms.

Whilst many of the themes and areas explored by BESTUFS are of great interest to any logistician or policy maker, we have chosen Urban Freight Platforms to focus on in this paper, both within and without the classical German ‘city logistics’ concept.

### **3. Urban freight platforms**

#### *3.1 City logistics*

In the 1980s Germany was awash with ‘city logistics’ plans whereby the city and business would co-operate to form an integrated urban freight scheme. Routing systems would work with shared user urban freight platforms. The objective was to reduce trips, increase utilisation and rationalise urban freight. In 1985 the ‘Logistik Heute’ magazine reported more than eighty projects.

At an EU level the concept was taken up by other governments and the EC. Projects such as the ELCIDIS freight platform in La Rochelle were trialling the delivery of consolidated freight in the historic centre. Cities such as Nuremburg and others trialled combined recycling and freight consolidation.

#### *3.2 Doubts*

Others showed more caution. Trials in the UK and a survey published by the University of Huddersfield [6] led many to suggest that this model was deeply flawed. The authors, and others, believe that a publicly owned or initiated urban freight platform is doomed. It is anti-competitive; it allows equal access to all players and therefore removes competitive advantage. Public bodies are empirically shown to be poor operators of competitive activities; and they will also tend to sell on the project, making it partial and a competitor to other logistics operators. Private enterprise already has urban distribution centres, suited to the network of the company; it is likely that public hubs will not be optimally placed to suit commercial players. Where a hub is not logistically tenable then the platform may well introduce a delay into delivery.

These doubts seem borne out. Of the eighty or more German schemes in 1985, only fifteen survived into 2002. The ELCIDIS project added a day to every delivery, and despite harsh access restrictions, they only captured 50% of the targeted volumes. Operators preferred to deliver fast using their own networks. Many urban freight platforms collapsed as competitors chose to move to their own facilities, or as public bodies sold the platform to one partner or another, thus leading to an exodus of the other actors. Research by STRATEC in Belgium showed that the core concept was often flawed, that by forcing large trucks to offload at a hub, which then distributed by small vans, the total trips and congestion was actually greater not lower!

#### *3.3 Successes*

Some examples of the urban distribution centre have worked. The ‘baulog’ concept, which is one of a distribution platform consolidating logistics flows into a large building project worked well with the rebuilding of Potsdamer Platz in Berlin and the Hammarby Sjostad building programme in Stockholm. Here a developer can impose a top down solution and force compliance, with the added benefit to contractors that the centre also was secure and site thefts fell.

Another successful example is at Heathrow airport where a consolidation centre accepts all deliveries to the franchises around the airport and then delivers to the shops. This works, again, because the franchisee is also the airport owner, and effectively controls the entire supply chain from door to counter. A delivery reduction of 66% trips was achieved and the logistics provider is trialling it at other shopping malls around the UK.

It does seem that urban freight platforms are a top down solution, and thus they can only yield true benefits in a controlled supply chain with a single player able to set the agenda. Cities, for all the wishes of some planners and greens, are not such a place.

#### 4. Conclusions

European urban freight policy is driven by the environment, the need for sustainable growth and quality of urban life. This is then interpreted by the member states. Some states have a top down prescriptive approach such as France, others have a localised pragmatic approach, such as the UK. Many have no national approach at all, such as Italy.

The BESTUFS project has been an EC project to collect and disseminate best practice across the EU. It has identified a deep weakness at a local level, whilst also a wide range of pilots and successful exceptions.

The 'boom' subject of the 80s and 90s; city logistics and urban freight platforms has proven a conceptual failure. It has succeeded only in controlled environments where its conflict with free market competition is irrelevant.

#### *References*

- European Commission (2001) *Green Paper: Towards a European strategy for the security of energy supply*. Luxembourg: Office for the Official Publications of the European Communities.
- European Commission (2003) *Civitas Initiative Website*.
- European Commission (2001) *White Paper: European transport policy for 2010: time to decide*. Luxembourg: Office for the Official Publications of the European Communities.
- European Commission (1997) *Towards an urban agenda in the European Union*.
- Ruesch, M. and C. Gluecker (2001) *City Inquiry: European Survey on Transport and Delivery of Goods in Urban Areas*. RAPP AG: Zurich.
- Whiteing, A. E. (1996) *Freight in Urban Areas: A European Comparative Study of the Potential for Urban Freight Trans-shipment Facilities*. University of Huddersfield, Huddersfield.