Topic: Freight and city logistics

Submission date: 2006

Name of measure/service etc:

City Ports

Location: Regione Emilia-Romagna, Italia

Initiator and partners:

The City Ports project has been implemented in the cities of Emilia-Romagna. In particular the cities (more than 50,000 inhabitants) involved are: Piacenza; Parma; Reggio Emilia; Modena; Sassuolo; Bologna; Imola; Ferrara; Faenza; Ravenna; Forlì; Cesena; and Rimini.

Short description of the activity:

Within the context of the Accordo Quadro sulla qualità dell'aria e sulla mobilità sostenibile (Framework agreement on air quality and sustainable mobility), signed by Regione Emilia-Romagna, regional Provinces and Municipalities, the Regione Emilia-Romagna designed a financing measure for the improvement of city logistics. The measure covers actions aimed at both improving environmental sustainability and transport efficiency of goods transport vehicles and creating new infrastructures for the reorganisation of freight distribution in urban areas.

Background and objectives:

The Project concerns cities of small/average size with historical city centres characterised by problems such as:

- Air pollution, mainly caused by vehicles' emissions, with particular reference to vehicles destined to goods transport,
- Traffic congestion,
- Freight distribution within the urban area.

The Project aims at better rationalising goods transport in urban areas with a view to sustainable mobility. This means reducing air and noise pollution as well as traffic congestion in the cities. Actions financed within the framework of the Project shall also respond to criteria of stability and duration over time. In particular, once implementing and starting phases are over, new infrastructures (such as the creation of a Goods Distribution Centre in the city area) must be financially self-sufficient.

The project has the following concrete objectives to be achieved:

- Promote the devising and carrying out of city logistics measures in the cities participating in the project,
- Provide Public Administrations with an instrument for planning and verifying reconnaissance activities as well as assessing the viability and efficiency of alternative solutions,

- Coordinate the work and disseminate the experiences of the cities participating in the project so that synergies can be created and resources shared and optimised,
- Reduce the number of goods transport vehicles entering city historical centres,
- Create a common database containing information about the freight mobility in urban areas,
- Simulate goods transport processes also in areas not directly under investigation,
- Develop a system for analysing the goods transport flows in urban areas. Such system shall be capable of optimally drawing from and processing censual data, helping reducing projects' costs at a minimum, being easily applied over time and outside the regional context.

Implementation:

With a view to implementing 'on the field' actions, based on commonly shared and comparable approaches, the first step was to devise a common methodology for all the cities, that is a set of instruments of analysis and evaluating procedures capable of assessing the feasibility of a logistics measure.

This methodology is based on three key concepts:

- A good city logistics measure shall take into account the specificities of a given urban context,
- Cities are open systems; this means that any given solution shall not take into account 'technical aspects' only,
- A good solution shall consider the issue of costs; this means that costs as well as subjects who bear them shall be pre-determined. Costs in particular shall also be sustainable in the medium-long period.

On the basis of this methodology, cities participating in the project carried out feasibility studies aimed at implementing actions/measures in three priority areas:

- Development of regulation policies concerning all aspects of goods transport
- Logistics and technologies applied to logistics
- Organisation and participation of stakeholders (retailers, shipping agents, transport operators etc).

The Regione Emilia-Romagna has also developed an application tool for supporting the systematic description and analysis of goods transport modalities in different urban areas (the CityGoods Model). This model or chain of correlated models helps assessing the main effects of specific government/support actions in the field of city logistics at a local level. In this way the Regione Emilia-Romagna has effectively achieved the goal of harmonising and directing local policies towards integrated solutions at a regional level.

As a further development, the CityGoods model could be integrated with the Consumers' Shopping Mobility' model that generates and studies shopping-related mobility processes. Input data for this model can derive from statistics or sample surveys.

<u>Project development</u>

1. *Development of a methodology* to describe processes regulating city logistics and define modelling criteria.

Through the application of this methodology, city logistics is analysed through its two main components:

- City areas (with their specific economic and urban features)
- Logistics chains (with their specific constraints and specificities)

The solutions devised thus result suited to the area where they are implemented and to the kinds of logistics chains existing in that area.

2. *Analysis*: detailed surveys of their urban context are carried out by the cities using for this purpose a common survey methodology. Three questionnaires were compiled and distributed to city logistics actors (transport and logistics operators mainly).
Through the questionnaires data were collected about:

- Type of activity, type of business, type of vehicles used, number of people employed, type of distribution chain…
- Type of equipment, warehouse, surface occupied…
- Weight, type, number of parcels…
- Vehicles loading factor…
- Number of stops, duration, distance from delivery place…
- Number of generated movements, time, day…
- Use of the Internet…
- Etc.

About 6,000 questionnaires were collected. Information deriving from the analysis of questionnaires allowed each city to understand the mechanisms of city logistics and recreate freight movement within urban areas.

3. *Feasibility studies*. Cities participating in the project prepared cost-benefit feasibility studies. This step was crucial in order to identify which actions/measures were economically sustainable. 12 feasibility studies were developed.

4. *Construction of the CityGoods Model.* The region monitored (during testing and operational phases) the effects of a given measure/action and to assess its effectiveness and possible application to different contexts. And consequently, the CityGoods Model was defined consisting of generation, distribution and assignment models.
The integration between the generation model and the distribution and assignment models allowed the construction of O/D matrixes describing average freight movements of freight flows along a given transport network.

5. *Drawing up and approval of operational projects*. Cities participating in the project have already conducted feasibility studies of measures/actions aimed at reorganising freight distribution in urban areas. Such actions and their implementation are currently being examined by and negotiated with all the stakeholders involved.

Conclusions:

Regione Emilia-Romagna succeeded in minimising costs while maximising results. This allowed cities to access a number of useful information and instruments to better address local issues and assure comparison and harmonisation between different data and solutions. This also guaranteed precision and transparency in the implementation of local and regional measures and resulted in an advantageous context of cooperation as well as in a common pool of knowledge and experience.
The project also stimulated an intense activity of harmonisation and negotiation between local authorities, professional associations and transport operators.

Regional coordination made it possible to collect data about freight transport in urban areas in a homogeneous way and subsequently to build up an information database without precedents at a national level.
One of the main difficulties was the coordination and follow-up of the different projects developed in the many cities of the region. Moreover, negotiations between cities and stakeholders delayed projects' scheduling.

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