D11.8 – Planning for Freight and Logistics Measures

August 2010
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1. Introduction

1.1 Background CIVITAS

CIVITAS - cleaner and better transport in cities - stands for CIty-VITAlity-Sustainability. With the CIVITAS Initiative, the EC aims to generate a decisive breakthrough by supporting and evaluating the implementation of ambitious integrated sustainable urban transport strategies that should make a real difference for the welfare of the European citizen.

CIVITAS I started in early 2002 (within the 5th Framework Research Programme); CIVITAS II started in early 2005 (within the 6th Framework Research Programme) and CIVITAS PLUS started in late 2008 (within the 7th Framework Research Programme).

The objective of CIVITAS-Plus is to test and increase the understanding of the frameworks, processes and packaging required to successfully introduce bold, integrated and innovative strategies for clean and sustainable urban transport that address concerns related to energy-efficiency, transport policy and road safety, alternative fuels and the environment.

Within CIVITAS I (2002-2006) there were 19 cities clustered in 4 demonstration projects, within CIVITAS II (2005-2009) 17 cities in 4 demonstration projects, whilst within CIVITAS PLUS (2008-2012) 25 cities in 5 demonstration projects are taking part. These demonstration cities all over Europe are funded by the European Commission.

Objectives:

- to promote and implement sustainable, clean and (energy) efficient urban transport measures
- to implement integrated packages of technology and policy measures in the field of energy and transport in 8 categories of measures
- to build up critical mass and markets for innovation

Horizontal projects support the CIVITAS demonstration projects & cities by:

- Cross-site evaluation and Europe wide dissemination in co-operation with the demonstration projects
- The organisation of the annual meeting of CIVITAS Forum members
- Providing the Secretariat for the Political Advisory Committee (PAC)
- Development of policy recommendations for a long-term multiplier effect of CIVITAS

Key elements of CIVITAS

- CIVITAS is co-ordinated by cities: it is a programme “of cities for cities”
- Cities are in the heart of local public private partnerships
- Political commitment is a basic requirement
- Cities are living ‘Laboratories’ for learning and evaluating
1.2 Background ARCHIMEDES

ARCHIMEDES is an integrating project, bringing together 6 European cities to address problems and opportunities for creating environmentally sustainable, safe and energy efficient transport systems in medium sized urban areas.

The objective of ARCHIMEDES is to introduce innovative, integrated and ambitious strategies for clean, energy-efficient, sustainable urban transport to achieve significant impacts in the policy fields of energy, transport, and environmental sustainability. An ambitious blend of policy tools and measures will increase energy-efficiency in transport, provide safer and more convenient travel for all, using a higher share of clean engine technology and fuels, resulting in an enhanced urban environment (including reduced noise and air pollution). Visible and measurable impacts will result from significantly sized measures in specific innovation areas. Demonstrations of innovative transport technologies, policy measures and partnership working, combined with targeted research, will verify the best frameworks, processes and packaging required to successfully transfer the strategies to other cities.

2 Participant Cities

The ARCHIMEDES project focuses on activities in specific innovation areas of each city, known as the ARCHIMEDES corridor or zone (depending on shape and geography). These innovation areas extend to the peri-urban fringe and the administrative boundaries of regional authorities and neighbouring administrations.

The two Learning cities, to which experience and best-practice will be transferred, are Monza (Italy) and Ústí nad Labem (Czech Republic). The strategy for the project is to ensure that the tools and measures developed have the widest application throughout Europe, tested via the Learning Cities’ activities and interaction with the Lead City partners.

2.1 Leading City Innovation Areas

The four Leading cities in the ARCHIMEDES project are:

- Aalborg (Denmark);
- Brighton & Hove (UK);
- Donostia-San Sebastián (Spain); and
- Iasi (Romania).

Together the Lead Cities in ARCHIMEDES cover different geographic parts of Europe. They have the full support of the relevant political representatives for the project, and are well able to implement the innovative range of demonstration activities.

The Lead Cities are joined in their local projects by a small number of key partners that show a high level of commitment to the project objectives of energy-efficient urban transportation. In all cases the public transport company features as a partner in the proposed project.

The following sections provide a brief introduction to all the ARCHIMEDES cities, although the specific topic of this report may only have been addressed in some of them.
### 2.2 Aalborg

The City of Aalborg, with extensive experience of European cooperation and having previously participated in CIVITAS I (VIVALDI) as a ‘follower’ city, is coordinating the consortium and ensures high quality management of the project. The City has the regional public transport authority (NT) as a local partner, and framework agreements with various stakeholder organisations.

Aalborg operates in a corridor implementing eight different categories of measures ranging from changing fuels in vehicles to promoting and marketing the use of soft measures. The city of Aalborg has successfully developed similar tools and measures through various initiatives, like the CIVITAS-VIVALDI and MIDAS projects. In ARCHIMEDES, Aalborg aims to build on this work, tackling innovative subjects and combining with what has been learned from other cities in Europe. The result is an increased understanding and experience, for sharing with other Leading cities and Learning cities.

Aalborg has recently expanded its size by the inclusion of neighbouring municipalities outside the peri-urban fringe. The Municipality of Aalborg has a population of some 194,149, and the urban area a population of some 121,540. The ARCHIMEDES corridor runs from the city centre to the eastern urban areas of the municipality and forms an ideal trial area for demonstrating how to deal with traffic and mobility issues in inner urban areas and outskirts of the municipality. University faculties are situated at 3 sites in the corridor (including the main university site). The area covers about 53 square kilometres, which is approximately 5 % of the total area of the municipality of Aalborg. The innovation corridor includes different aspects of transport in the urban environment, including schools, public transport, commuting, goods distribution and traffic safety. The implementation of measures and tools fit into the framework of the urban transport Plan adopted by the Municipality.

![Figure 1: The Archimedes Corridor in Aalborg](image)

### 2.3 Brighton & Hove

Brighton & Hove is an historic city, in the south-east of England, known internationally for its abundant Regency and Victorian architecture. It is also a seaside tourist destination, with over 11km of seafront attracting eight million visitors a year.
In addition, it is a leading European Conference destination; home to two leading universities, a major regional shopping centre, and home to some of the area’s major employers. All of this, especially when set against the background of continuing economic growth, major developments across the city and a growing population, has led the city council to adopt a vision for the city as a place with a co-ordinated transport system that balances the needs of all users and minimises damage to the environment.

The sustainable transport strategy that will help deliver this vision has been developed within the framework of a Local Transport Plan, following national UK guidelines. The ARCHIMEDES measures also support the vision, which enables the city to propose innovative tools and approaches to increase the energy-efficiency and reduce the environmental impact of urban transport.

### 2.4 Donostia - San Sebastián

The city of Donostia-San Sebastian overlooks the sea and, with a little more than 180,000 inhabitants, keeps a human scale. Some people consider the balanced combination of small mountains, manor buildings, and sea as the setting for one of the most beautiful cities in the world. We have a tradition in favouring pedestrians, cyclists and public transport.

For about twenty years, the city has been enforcing a strong integrated policy in favour of pedestrians, bicycles and public transport. Considering walking and cycling as modes of transport, has led to the development of a non-motorised transport network for promoting this type of mobility around the city.

Likewise, the city has extended its network of bus lanes. The city holds one of the higher bus-riding rates, with around 150 trips per person per year.

The CIVITAS project is being used as the perfect opportunity to expand Donostia-San Sebastian’s Sustainable Urban Transport Strategy. With the package of CIVITAS measures Donostia-San Sebastian will:

- Increase the number of public transport users
- Decrease the number of cars entering in the city centre
- Increase the use of the bicycle as a normal mode of transport
- Maintain the high modal share of walking
- Reduce the number of fatal accidents and accidents with heavy injuries
- Reduce the use of fossil fuels in public transport.

### 2.5 Iasi

The City of Iasi is located in north-eastern Romania and is the second largest Romanian city, after Bucharest, with a population of 366,000 inhabitants. It is also the centre of a metropolitan area, which occupies a surface of 787.87 square kilometres, encompassing a total population of 398,000 inhabitants.

The city seeks to develop possibilities for habitation, recreation and relaxation for all citizens in the region, business opportunities and provide opportunities for more consistent investments.
The city has five universities with approximately 50,000 students, the second largest in Romania. The universities and their campuses are located in the central and semi-central area of the city. In the same area, there are also a large number of kindergartens, schools and high schools with approximately 10,000 pupils. This creates a large number of routes along the main corridor, served by the public transport service number "8" (Complex Tudor Vladimirescu - Copou) with an approximate length of 10 km. The City of Iasi will implement its integrated measures in this area to be known as the “CIVITAS+ Corridor”.

The city’s objectives in CIVITAS - ARCHIMEDES are based on the existing plans related to transport, Local Agenda 21, approved in 2002, and the Sustainable Social-Economic Development Strategy for City of Iasi. The CIVITAS Plus objectives will be integrated in the Strategy for metropolitan development to be finalized in May 2009.

2.6 Monza

Monza is a city on the river Lambro, a tributary of the Po, in the Lombardy region of Italy, some 15km north-northeast of Milan. It is the third-largest city of Lombardy and the most important economic, industrial and administrative centre of the Brianza area, supporting a textile industry and a publishing trade. It is best known for its Grand Prix.

The City of Monza, with approximately 121,000 inhabitants, is located 15 km north of Milan, which is the centre of the Lombardia area. This area is one of the engines of the Italian economy; the number of companies is 58,500, i.e. a company for every 13 inhabitants.

Monza is affected by a huge amount of traffic that crosses the city to reach Milan and the highways nodes located between Monza and Milan. It is also an important node in the Railways network, crossed by routes connecting Milan with Como and Switzerland, Lecco and Sondrio, Bergamo and Brianza. "Regione Lombardia", which in the new devolution framework started in 1998, has full responsibility for establishing the Local Public Transportation System (trains, coaches and buses) and has created a new approach for urban rail routes using an approach similar to the German S-Line or Paris RER.

Monza has recently become the head of the new "Monza and Brianza" province, with approximately 750,000 inhabitants, and gained the full range of administration functions in 2009. Plan-making responsibilities and an influence over peri-urban areas will require the city to develop new competencies.

In this context, the objective of the City of Monza in participating in CIVITAS as a Learning City is to set up an Urban Mobility System where the impact of private traffic can be reduced, creating a new mobility offer, where alternative modes become increasingly significant, leading to improvements to the urban environment and a reduction in energy consumption (and concurrent pollution).

2.7 Ústí nad Labem

Ústí nad Labem is situated in the north of the Czech Republic, about 20 km from the German border. Thanks to its location in the beautiful valley of the largest Czech river Labe (Elbe) and the surrounding Central Bohemian Massive, it is sometimes called ‘the Gateway to Bohemia’. Ústí is an industrial, business and cultural centre of the Ústí region.
Ústí nad Labem is an important industrial centre of north-west Bohemia. The city’s population is 93,859, living in an area of 93.95km². The city is also home to the Jan Evangelista Purkyně University with eight faculties and large student population. The city used to be a base for a large range of heavy industry, causing damage to the natural environment. This is now a major focus for improvement and care.

The Transport Master Plan, to be adopted in its first form in 2007, will be the basic transport document for the development of a new urban plan (2011), which must be developed by the City subject to the provisions of the newly adopted Building Act. This will characterise the development of transport in the city for the next 15 years, and so the opportunity to integrate Sustainable Urban Transport Planning best practices into plan development during the project means an ideal match of timing between city policy frameworks and the ARCHIMEDES project.

The projects main objective is to propose transport organisation in the city, depending on the urban form, transport intensity, development of public transport, and the need for access. The process, running until 2011, will include improving the digital model of city transport that Ústí currently has at its disposal. The plan will have to deal with the fact (and mitigate against unwanted effects that could otherwise arise), that from 2010, the city will be fully connected to the D8 motorway, running from Prague to Dresden.

3. Background to the Deliverable

This deliverable summarises the work activities conducted on Planning for freight and Logistic measures within the context of workpackage 11 of the CIVITAS ARCHIMEDES project – Research and technical development.

3.1 Summary Description of the Tasks

Research and planning into freight and logistics measures has been formally conducted in three of the ARCHIMEDES cities, namely Brighton, Donostia-San Sebastian and Iasi, as part of three specific tasks: 11.7.1, 11.7.2 and 11.7.3. These tasks are introduced in the following sections.

The results from these tasks are reported in detail in deliverables R64.1, R65.1 and R66.1. This deliverable draws together the content of the individual deliverables and presents the common issues and any conclusions that can be drawn at the workpackage level.

Task 11.7.1 Freight Quality Partnership (FQP)

To guide the project this research has reviewed best practice in implementation and operation of Freight Quality Partnerships based on information from established FQPs in the UK and other urban freight transport experiences from the rest of Europe.

The results of task 11.7.1 have been used to inform the approach that Brighton and Hove City Council (BHCC) will be following in the next phase of work to promote energy-efficient freight logistics and new concepts for goods distribution.
Task 11.7.2 Study of Consolidation Possibilities

A feasibility study was undertaken into freight consolidation in Donostia-San Sebastian. In preparation for the demonstration an inventory was be made of the volumes of goods and number of freight trips made in the central areas. Possible legal barriers to the implementation were also investigated.

The two main options investigated and discussed during the design phase were:

1. The introduction of a Freight Consolidation Centre in the surroundings of the historic city centre. From this centre the “last delivery mile” to the shops, will be carried out by small, silent and clean vehicles.
2. The use of telematics to improve communication between shopkeepers and transport companies including communication with the municipal police and the possibility of reserving loading and un-loading zones.

Task 11.7.3 Strategic Goods Distribution Plan

This study was intended to inform the development of a strategic goods distribution plan in Iasi and was formed of the following parts that will form the design and subsequent implementation:

- a detailed analysis of requirements and behaviour of the stakeholders (mainly businesses), together with a best practice review
- results from stakeholder consultation will help formulate and agree a strategic goods distribution plan
- an impact assessment scheme on environmental factors

The result will be the creation of specific regulations to legalise the proposed access control as part of the strategic goods distribution plan.

4. Summary of the Freight and Logistics Research Actions

4.1 Deliverable R64.1

Brighton & Hove have a vision to be a city with co-ordinated transport system that balances the needs of all users and minimises damage to the environment. Today high number of pedestrian and shopping area in the city exceed air quality thresholds set out in the local Air Quality Action Plan.

This is the background for the three tasks in the measure for Brighton & Hove:

- Review of best practices on development of Freight Quality Partnership (FQP)
- Discussion with key stakeholder about establishing a FQP and looking at options for energy-efficient freight logistics and new concepts for goods distribution within the CIVITAS Plus corridor.
- Environmental zone (LEZ)

The deliverable describes the first task and is based on meetings with stakeholders, analysis of the freight distribution in Brighton& Hove together with best practice identified in other cities in the UK and Europe.
4.1.1 Review of Best Practice - Freight Quality Partnerships

Freight Quality partnerships (FQPs) provide a forum to achieve best practice in environmentally sensitive, economic, safe and efficient freight transport. They are the UK Government’s preferred mechanism for delivering freight projects.

The more focused an FQP is, the easier it is to obtain commitment from businesses to participate. At their best, FQPs allow business to better understand community concerns and communities to understand business needs.

The most successful FQPs are driven and funded by the local authority partners, and have a budget which allows the FQP to hold meetings, commission studies and produce materials.

Interventions that are delivered by FQPs included lorry maps, improved signage, assessing on-street unloading provision, freight vehicle activity studies, disseminating information on best/good practice and organising stakeholder events.

It is important for Freight Quality Partnerships to maintain momentum by delivering tangible projects, particularly focusing on some quick wins, so that enthusiasm is not lost in the early stages. To achieve this it can help:

- to have a clear timetable from the start,
- managing expectations,
- promote the FQP’s initiatives,
- monitor and evaluate the performance of the FQP,
- provide regular feedback to FQP members.

In the context of Brighton, an FQP could be created to consider: a local distribution strategy, a location specific issue, or a specific issue (e.g. promotion of no/low emission vehicles).

Freight Quality Partnerships can implement different measures. Some of those are listed below:

- **Access Restrictions**, which can be divided in two types of restrictions
  - Vehicle weight restriction measures
  - Time of day restriction measure.

The deliverable range different advantages and disadvantages towards access restrictions but concludes that it can be seen as one tool among other measures. Prague has successfully restricted heavy vehicles in the dense part of the city so that now only vehicles less than 3.5 tonnes are allowed.

- **Low emission zone (LEZ)**
  The purpose of an LEZ is to reduce the overall levels of vehicle emissions in a specific area. LEZ has been tried with success in different cities but has implications for the operators - in particular the cost to smaller companies with few vehicles. Introducing an LEZ can be provided together with other measures.
• **Delivery/Collection Point**
  Goods are left at a specific point and the recipients collect the goods. There will be a concentration of delivery vehicles at the point but the delivery drops could be made all through the day and the narrow streets will obtain less traffic.

• **Consolidated deliveries/collections**
  Deliveries in Brighton city centre are made as part of a multi-drop schedule and consolidation focused on the city centre could generate more trips and increase handling costs. However, using larger vehicles for decreasing the numbers of vehicles would not be suitable for the narrow streets in some parts of Brighton & Hove. In Stockholm consolidation of supplies to restaurants on low emission vehicle is a success.

• **Consolidation Centres**
  Implementing consolidation centres have been successfully trialled e.g. Bristol, Heathrow Airport, Sheffield and London. What these have in common is that they have a large amount of retailers in a specific area. In the Bristol scheme the delivery is carried out using electric powered goods vehicles. In Bristol the centre has reduced the delivery movements by 80% and in London the number was reduced by 70%.

• **Alternative fuels and Alternative modes**
  The use of alternative powered vehicles can be encouraged by local authorities by using measures such as Low Emission Zones or priority access to areas.

Different companies have already made commitments to use alternatives forms of fuel. In particular parcel delivery companies are suitable for the alternative fuels, while e.g. electrical vehicles are not suitable for delivery of large goods because they have a lower capacity limit.

• **Operators Best Practice Scheme**
  Some schemes implement new practices on goods delivery by the use of voluntary basis. The Freight Operator Recognition Scheme (FORS) in London use a rewarding scheme and educates, encourages and incentivises operators to follow best practice. Finally they promote sustainability. A similar scheme is ECO Stars, which is a free, voluntary scheme designed to provide recognition, guidance and advice to organisations that operate goods vehicles, buses and coaches from bases in or to/from locations in South Yorkshire.

### 4.1.2 FQP Development in Brighton & Hove

The industrial areas of Brighton & Hove are primarily placed at larger roads leading to A27 and can be accessed without significant impact on the local communities. Based on information from freight generators and the City Council the major freight issue is concentrated to the central retail areas. Some other areas have problems but not concentrated like in the central areas.

A number of meetings were held with officials from Brighton and Hove City Council together with meeting with representatives of the local traders and site visits. Specific places with problems have been detected and some problems are common for different places.

• **Some conflicts with bus lanes**
Cleaner and better transport in cities

- Pedestrian areas and narrow roads (e.g. long time to deliver makes it difficult to pass and larger vehicles delivering results in congestion)
- Lack of suitable delivery bays (e.g. private car use the delivery bays for parking)
- Traffic management could be improved
- Impact on residential areas
- Collection of waste

The review shows FQPs have been generally set up to provide a framework in which a variety or type of measure can be considered for an area. The focus of the freight study will be the area of North Laines and The Lanes.
Figure 2: Map of retail areas and target area for freight measures in Brighton & Hove
(Source: R64.1, PBA, 2009 and Local View, 2010)
For Brighton and Hove it is recommended that a less formal and resource intensive approach is taken instead of implementing a FQP. Experience from West Sussex west of Brighton was that an informal approach worked better at the local level. Barriers related to Freight Quality Partnership according to maintain funding and attract interested businesses can result in that the good will and the potentials for solving logistic problems will be lost in a more formal process.

The partnership idea is good, but a less formal approach with a voluntary partnership is recommended to be implemented. This partnership idea can be used to take forward actions to involve local businesses, delivery companies, and local communities. Through a Freight Forum Workshop a range of suitable measures can be discussed. A local approach is likely to include:

- Developing a remote consolidation centre with final delivery to The Lanes and North Laine in very low emission vehicles
- Developing a more local delivery location which can act as a collection / delivery point
- Combining these options with delivery restrictions or clear zone.

The future work also undertakes to obtain data on the present extent of goods delivery operations and collect data to produce a baseline that is currently lacking.

### 4.2 Deliverable R65.1

Donostia-San Sebastian aims to design and implement new measures for efficient goods distribution in the Old Centre (Parte Vieja) and Ensanche area, in close co-operation with stakeholders within a freight quality partnership.

The two main options investigated are:

- Introduction of a Freight Consolidation Centre. From this centre the “last delivery mile” to the shops, will be carried out by small, silent and clean vehicles.
- Use of telematics to improve communication between shopkeepers and transport companies.

The deliverable contains results from analysis of a questionnaire and observations of delivery and servicing activity.

#### Shopping habits

The project has analysed the shopping habits in Donostia-San Sebastian with focus on shopping in the local area and shopping in major retail outlets. Also the habits according to how often the citizens shop and types of businesses in the shopping areas. In Figure 3 the share of shopping locally and in major retail centres is shown.
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![Shopping in Donostia San Sebastian](image)

**Figure 3 Shopping in Donostia - San Sebastian according to shopping locally and in retail outlets**

62.5% of the respondents shop weekly and 37.5% shop daily. 64.6% of the respondent do not use a vehicle while shopping and 83.3% do not use home delivery.

51% of the commercial outlets in CIVITAS-Donostia are textiles, clothes, shoes or catering. In the pedestrian area Parte Vieja 31% is hotel or catering, while in the city centre the textile shops dominates with 28% of the commercial outlets.

80% of the shops close in the middle of the days. This means long opening hours in the evening. 26% closes after 20.00.

**Delivering**

The project has analysed terms and difficulties according to delivering of goods in Donostia- San Sebastian.

The goods deliverers have reported difficulties in accessing shops. 64% have no equipment to help load or unload.

The majority of the shops in CIVITAS-Donostia zone receive goods seasonally e.g. textiles outlets who receive the summer and winther collection. Only 26.8% receive goods daily and the majority of the goods are delivered by a delivering company.

In the CIVITAS-Donostia zone 44 loading bays can be used while unloading goods. The deliverers claim that private cars use the loading bays, while the private car users claim the opposite. A visual analysis shows that 57% of the vehicles in the delivery bays were private cars. The local police and Mobility Agents try to minimise the incidents.

The deliverers have reported difficulties in getting around. 66.7% of drivers have committed some parking offence as a result. Most parked illegally (either double parked or parked on the pavement) at some stage. The time period when delivery vehicles are allowed, from 7.00-11.30, is also considered hard to respect. To make it on time they try to park as close to the shop as possible. But lack of loading bays in the narrow streets makes it difficult.

In the city centre as well as in the pedestrian areas the narrow streets are the biggest challenge. The textile shops have already started to use night time delivery but the large catering business need daily delivery.
Suggested recommendations:

- Paid parking for private vehicles, ½ hour free for unloading
- Freight Consolidation centre. In the questionnaire the deliverers was very sceptical - they fear for their job. Information and campaigns shall help make the deliverers accept the solution.
- Increased control by the local police
- Delimitation traffic directions
- Camera control
- Ecological last mile transport to the city centre
- Night distribution is used in the textile outlets which can be extrapolated to other commercial outlets.

These recommendations are considered and some have been implemented in subsequent actions within Donostia- San Sebastian.

4.3 Deliverable R66.1

The vision for the project in Iasi is to enable economic growth without compromising environmental targets in particularly those for particulate matter and energy consumption. Iasi wishes to stimulate the development of an FQP in order to make city goods distribution more efficient.

The measure contains two tasks:

- a study resulting in a Strategic Goods Distribution Plan
- Implementing the Strategic Goods Distribution Plan aiming to reduce HGV traffic and emissions in the city centre by implementing FQP together with key stakeholders.

**Strategic Goods Distribution Plan**

A study of the present-day situation has been conducted in order to determine:

- the development trend of companies located on the CIVITAS corridor
- goods supply and distribution schedule within Iasi County
- to identify problems that companies face
- to establish whether companies are intending to change the hours of receiving/distributing goods by the business located on the CIVITAS corridor.

In total 171 companies out of 699 companies participated in the study. The sample represents 104 small companies (who have less than 10 employees), 49 medium sized companies (with 11-100 employees) and 14 large companies (employing more than 100 employees). The results are as follows:

- 76% of the firms only receive goods.
- 3% of the firms only distribute goods.
- 19% of the firms both receive and distribute goods.
- 2% of the firms have no activities at all.

Of those companies that receive goods Table 1 shows at what time they receive goods.
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*Table 1 Receiving hours of goods*

Companies receiving goods later than 18.00 are characteristic other than retailers and other companies offering public services.

Parking is restricted to ½ hour at 62% of the firms receiving goods. 37% of those receiving goods need more than the allowed parking time to be able to receive the goods. The conclusion for the goods receivers is that the distributors need parking facilities with time restrictions exceeding ½ hour.

Table 2 shows when the distributors distribute the goods in Iasi. The goods is primarily distribute in the middle of the day while night time delivery after 18.00 is done by only 11% of the distributors. 60% of the goods distributors use over ½ hour when parking.

<table>
<thead>
<tr>
<th>Distribute goods</th>
<th>Distributing hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>33%</td>
<td>6.00-9.00</td>
</tr>
<tr>
<td>75%</td>
<td>9.00-12.00</td>
</tr>
<tr>
<td>53%</td>
<td>12.00-18.00</td>
</tr>
<tr>
<td>11%</td>
<td>18.00-22.00</td>
</tr>
<tr>
<td></td>
<td>22.00-6.00</td>
</tr>
</tbody>
</table>

*Table 2 Distributing hours of goods.*

Willingness to change behaviour

Only 16% (26) of the firms receiving goods are willing to change receiving hours to 18.00-6.00 and they are not willing to change to night delivery.

The study also showed that companies prefer to have exemption/reduction of fees and taxes and receiving free access to existing parking for supplying/distribution vehicles in return for shifting to night hours.

Other facilities that would motivate the shift in behavior are

- design of parking facilities,
- exemption from paying penalties when parking in forbidden areas,
- rewarding the night-shifts.

Of all the Companies surveyed, 90% acknowledge problems relating to receiving and distributing goods in the corridor, but only 30% reported they would accept supply/distribution activities from 18.00-6.00 in exchange for incentives.

Future Plans

The research study has given the municipality a lot of information about the goods delivery In Iasi. They have decided to follow up the study by taking the following actions leading to implementation:
• The Municipality has as a result of the study suggested to change parking arrangements on one side of the corridor and to try to construct access ramps and additional parking places in other areas.
• Modify supply/distribution hours primarily to 18:00-22:00
• Negotiation with the firms to explain the importance of making changes to goods delivery practices
• Have had dedicated meetings with company representatives from the corridor.
• Round table talks with representative from Public Transportation Government Business Enterprise to discuss changes to delivery hours
• Elaboration of incentives, such as exemption/reduction of fees and taxes, This strategy is intended for those companies that showed high reluctance towards the schedule proposed for those companies that showed high reluctance
• Elaboration of a Public-Private partnership e.g. parking places or the accessing roads for the companies on the corridor;

5. Conclusions and Recommendations

5.1 Main Outcomes
Brighton & Hove, the City of Iasi and the City of Donostia-San Sebastian have analysed freight and logistic issues in the local context and now have a good picture of challenges and possibilities towards improving the local freight distribution. Common to the local analysis is reluctance from those making and receiving deliveries towards changing to night delivery together with implementing time limits and challenges to make space for the loading/unloading process in narrow streets and pedestrian areas.

Furthermore, Brighton & Hove has collected data from other UK and European cities on Best Practice about Freight Quality Partnerships (FQP) and other Freight Logistic measures. These are to be included in a partnership or implemented as self-contained projects.

The main conclusion is that a traditional FQP approach is a very formal approach to handle the type of problems that stakeholders identified in Brighton & Hove. FQPs could be implemented as a part of the project but should not be seen as the objective in their own right, but rather as a means to delivering practical outcomes. The local analysis shows reluctance from those making and receiving deliveries to join a formal FQP, while a less binding measure would be more seen as more acceptable.

5.2 Problems Identified
Different implementation barriers have been identified in the deliverable from Brighton & Hove. The most important barriers are:
• Attract interest from the local business
• Maintaining momentum in the forum
• Higher costs
• User acceptance
• Funds for actions
5.3 Position of Freight and Logistics in the Broader Context of Research and technical development

5.3.1 Common Challenges

The studies and analysis in Brighton & Hove, Donostia-San Sebastian and Iasi shows with different angles how to approach the challenges related to delivering goods in central areas of medium sized cities. Common for all three contributions are the involvement of the stakeholders in freight matters. A common challenge for the cities is to join the stakeholder’s different interests and demands and develop initiatives which can solve freight and logistic.

The analyses show that both deliverers and receivers of goods are reluctant to make any changes. The deliverers see consolidation centres as a threat to their job and think that changing to night delivery will change the working conditions for the worse.

Lack of dedicated space for deliveries is perceived to conflict with both design and construction of the city together and the visions of planners about inspiring cities and providing a ‘good environment’ for the pedestrians in the trading area. Those making deliveries want easy access while local businesses want an inspiring environment where citizens want to shop and tend to overlook the means by which goods actually reach their premises.

The municipality wants to minimise environmental damage and the delivers and shopkeepers want a healthy business.

These opposing views need to be joined into initiatives which address the challenges around freight and logistics.

5.3.2 Common Solutions

The challenge for the cities is to gather the different stakeholders together and encourage them to realise that freight and logistics is a common challenge to be solved by common initiatives. Two concepts for solving the challenges towards Freight Logistic in a city centre are described below, Concept 1; ‘The Carrot’ and Concept 2; “The carrot combined with a stick”

For both concepts an initiating measure is a workshop with stakeholders as a base for introducing a range of measures to solve problems with delivering goods in the central retail areas. A joint site visit with the different stakeholders would be a good base for the work to be done. The stakeholders and the municipality will be able to discuss challenges and possible solutions on site and see the challenges from the different angels.

A way to force changes is for the ARCHIMEDES project to initiate some changes which benefit key stakeholders. This way the stakeholders can see that changes can be fruitful and thereby make them interested to cooperate in other initiatives.

It is recommended to start with those companies willing to make changes instead of starting with the most reluctant of the companies when arranging workshops and organising incentives. Raising the profile of success stories so other companies can see the advantages of changing behaviour is another useful solution.
Cleaner and better transport in cities

Concept 1 "The carrot"
The implementation of this would consist of:

1. Workshop with site visit and discussion about challenges and solutions. Thereby everybody can hear and understand problems from different angles.
2. The Municipality implements unloading zones with ramps to help deliverers accessing recipients.
3. Parking space reserved for freight deliverers in a specified time window
4. Parking control.
5. Use of success stories so other companies can see the advantages of changing behaviour. These companies would become pioneers in goods delivery and become a force for change for others to join voluntarily.
6. Trials with different measures in a given period e.g. night delivery, joint delivery, sustainable vehicle solutions etc.
7. The Municipality initiate a discussion about increased use of intelligent traffic solutions in the chosen local freight solution. The Municipality can support existing fleet systems with information about congestion, road work etc.

These measures would, it is thought, help to initiate the process. It is hoped that stakeholders would be inspired to seek their own local solutions.

After this initiation process the next step could be introducing an FQP or a Consolidation Centre.

Concept 2 "The carrot combined with a stick"
The implementation of this would consist of:

1. Workshop with site visit and discussion about challenges and solutions. Thereby everybody can hear and understand problems from different angles.
2. The Municipality implements unloading zones together with time limit for accessing recipients.
3. Paid parking for all but unloading free for half an hour all day.
4. Control by the local police or parking attendant (offence by the parking regulations and time limit in a specific area)
5. Night delivery (18.00-06.00)
6. Exemption/reduction of fees and taxes if delivering from 18.00-06.00
7. Low emission zone
8. The municipality initiate a discussion around increased use of intelligent traffic solutions in the chosen local freight solution. The municipality can support existing fleet systems with information about congestion, road work etc. The service would be in return of e.g. consolidation of the vehicles or introducing of a Consolidation Centre.

These measures would, it is thought, help to initiate the process. It is hoped that stakeholders would be inspired to seek their own local solutions.

After this initiation process the next step could be introducing an FQP or a Consolidation Centre, taxes, convert voluntary principles to demands etc.
5.4 Recommendations
Which concept to choose would differ from city to city depending on culture and attitude of interested stakeholders? For both concepts to be successful it is important to listen to the concerns of stakeholders and to involve them in providing the solutions. It is recommended for the Municipality to be open to make investments in access ramps, signs etc. to initiate the process.

When establishing a Consolidation Centre detailed consultation and involvement can reduce any resistance towards the centre and the deliverers also have useful knowledge about the local challenges and possibilities in the city centre and the pedestrian area which can be used in designing the centre.

5.5 Future Plans
For Brighton & Hove it is suggested that future plans should include:

- Partnership with stakeholders
- Developing a remote consolidation centre with final delivery to The Lanes and North Laine in very low emission vehicles
- Developing a more local delivery location which can act as a collection / delivery point
- Combining these options with delivery restrictions or clear zone.

Future work should also involve undertaking a study to obtain data on the present goods delivery operation and collect data to produce a baseline with which future research can be measured against.

For Donostia-San Sebastian it is suggested that future plans should include:

Further analysis of the study and incorporation of the suggested solutions:

- Paid parking for private vehicles, ½ hour free for unloading
- Freight Consolidation centre. Given that deliverers were very sceptical about these it would be useful to provide information and marketing campaigns to help convince the deliverers consolidation centres are a good solution.
- Increase control of use of the loading bays
- Delimitation traffic directions in Parte Vieja
- Camera control of the access to Parte Vieja
- Ecological last mile transport to the city centre
- Consequences and possibilities by night distribution

For Iasi it is suggested that future plans should include:

Follow up to the study and incorporating some of the suggestions:

- The Municipality has as a result of the study suggested to change parking arrangements on one side of the corridor and to try to construct access ramps and additional parking places in other areas.
- Modify supply/distribution hours primarily 18.00-22.00
- Negotiation with the firms
- Dedicated meetings with the representatives from the companies in the corridor.
• Round table talks with representative form Public Transportation Government Business Enterprise
• Elaboration of incentives, such as exemption/reduction of fees and taxes. This strategy is intended for those companies that showed high reluctance towards the schedule proposed
• Elaboration of a Public-Private partnership e.g. parking places or ease of accessing roads for those companies located in the corridor.