

CiViTAS
Cleaner and better transport in cities

ARCHIMEDES

AALBORG • BRIGHTON & HOVE • DONOSTIA - SAN SEBASTIÁN • IAȘI • MONZA • ÚSTÍ NAD LABEM

Donostia – San Sebastian

R 65.1 Study of Consolidation Possibilities Donostia - San Sebastián

Donostia – San Sebastian
Instituto Vasco de Logística (IVL)

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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.

1.3 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.

1.3.1 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.

2. Donostia – San Sebastian

The city of Donostia -San Sebastián overlooks the sea and, with a bit 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 building 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.

2.1 Objectives in CIVITAS

The CIVITAS project is a perfect opportunity to expand our Sustainable Urban Transport Strategy. With the package of CIVITAS measures Donostia-San Sebastián wants to:

- 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.

3. Background to the Deliverable

This deliverable refers to Measure number 65, Efficient Goods Distribution in Donostia-San Sebastián. It aims to design and implement new measures for efficient goods distribution in the Old Centre (Parte Vieja) and Ensanche area, based on a study phase and on close co-operation with stakeholders within a freight quality partnership.

3.1 Summary Description of the Task

Under the coordination of IVL a feasibility study has been undertaken into freight consolidation to satisfy the requirements of Task 11.7.2. IVL has been supported by the city (ADS) and a subcontractor from the freight sector. In preparation for the demonstration an inventory will be made of the volumes of goods and number of freight trips made in the central areas. Possible legal barriers to the implementation will also be investigated.

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

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.

The conclusion from the design phase and recommendations for the demonstration and monitoring are included at the end of this report.

4. Study of Consolidation Possibilities

4.1 Introduction. Origin of the Problem and Objectives of the Study

The Basque Institute of Logistics (IVL), in collaboration with the subcontractor from the freight sector Guitrans, has carried out an analysis of the current situation of how goods are distributed in the CIVITAS-Donostia zone. Various data have been gathered in order to explore the possible alternatives for improving the distribution of goods in the commercial and financial centre of the capital city of Gipuzkoa. This CIVITAS-Donostia zone covers the area between the old quarter of the city, called Parte Vieja, and the Araba Park in Amara.

Although the definitions of types of city differ widely around the world, in the European Union cities that range between 50,000 and 500,000 inhabitants are considered medium-sized (Bellet & Llop, 2000). Hence Donostia-San Sebastian, with approximately 184.000 inhabitants, falls within the category of a medium-sized city.

From a qualitative point of view, medium-sized cities have almost always been seen as a subordinate part of urban hierarchies. Geographical studies have also looked at medium-sized cities in relation to the territory or region that they govern.

This kind of city has traditionally become the regional centre and has acted as an activity centre, producing and more particularly, distributing goods and services, organising the road networks and transport infrastructures and very often forming the provincial capital, as is the case of Donostia-San Sebastian and the majority of other Spanish cities.

Another common feature of medium-sized cities is their lack of infrastructure and logistical equipment, and in some cases their lack of large roads and railways, which can cause problems of road congestion and agility in carrying out short-distance operations. Moreover, traditionally, on a European scale, it is these cities that receive poor public attention when it comes to Urban Goods Distribution.

However, the growing concern of various administrative bodies for improving mobility in cities with sustainability criteria is generating a rush of initiatives aimed at providing the local administrations with the necessary instruments for taking steps towards reconciling the commercial and social life of these cities.

For the design of this study we analysed diverse aspects related to urban goods distribution:

- incidents that occur during loading and unloading operations
- means and infrastructures that shops and transport companies have at their disposal
- emissions and noise related to urban goods transit, consumption of energy and traffic density
- traffic control system

Once we had collected and analysed the data and the perceptions of the various stakeholders involved in goods distribution in CIVITAS-Donostia, we came up with ratios and conclusions that give an overall view of the activity as a whole. They will serve us as a diagnostic tool for later decisions and as an evaluation reference for future scenarios.

Various different activities were carried out to obtain information and analyse the CIVITAS-Donostia area as fully as possible, and with this objective we carried out the following phases.

4.2 Description of the Work Done

4.2.1 PHASE 1: Characterisation and Context of the CIVITAS-Donostia Zone.

In this phase we defined the area of study, and identified and analysed the variables that most affect goods distribution in the CIVITAS-Donostia zone, such as industrial areas, transport infrastructure, traffic density, motorization level, main access roads, inhabitants or by-laws related to loading activities.

The CIVITAS-Donostia Zone has been divided in four sub areas:

- Z1: from Parte Vieja (Old Quarter) to Alameda del Boulevard Street
- Z2: from Alameda del Boulevard to Avenida de la Libertad Street
- Z3: from Avenida de la Libertad to San Martin Street
- Z4: from San Martin to Parque Araba

4.2.2 PHASE 2: Evaluation of Acoustic Impact and Emission of Greenhouse Gases.

Environmental and acoustic impact is one of the problems arising from the use of vehicles in cities and also from goods distribution which requires the adoption of immediate measures.

The gradual reduction of this kind of environmental impact is a prior objective in Sustainable Mobility planning. With reference to acoustic pollution, we used the technical report of the AAC, the Applied Acoustics Centre, carried out for the City Council of Donostia-San Sebastian in 2004 for the creation of a Noise Map of the city.

Regarding the emission of greenhouse effect gases, we extracted data from the 1st Local Plan for Fighting Climate Change 2008-2013, which collects data on emissions by sectors in Donostia-San Sebastian. We also used the method proposed by FACTOR CO₂, a consultancy firm specialised in climate change which works with the Basque Government on the initiative STOP CO₂ Euskadi, supported by the Basque Office for Climate Change.

Tabla 2.1 Calles de la zona Centro que superan en más de 5 dBA el objetivo de calidad

Calle	Conflicto (dBA)
C/ San Martín, C/ Zubieta, Avda. de la Libertad, Pº de Miraconcha, C/ Prim, Plaza de España	> 10
C/ Easo, C/ Urbieta, C/ Fuenterrabia, C/ Bergara, Pº Árbol de Gernika	5-10

Fuente: Informe Técnico realizado por AAC Centro de Acústica Aplicada, S.L.

Inner-city transport carrying merchandise emits 12.123 metric tonnes of CO₂ equivalent or greenhouse gases (GHGs) per day in the zone studied, which covers an area of 0.75 km². If we multiply this quantity by the 300 working days per year, we obtain 3,636.9 metric tonnes of GHGs per year, 1.5% of the total of the GHG emissions due to transport (244,597 metric tonnes of equivalent CO₂) in the whole of Donostialdea (metropolitan area).

4.2.3 PHASE 3: Carrying out Questionnaire Survey, Visual Collection of Data and Analysis

In order to obtain a good diagnosis that fits into the reality of goods distribution in the CIVITAS-Donostia zone, we compiled data, both by carrying out questionnaires and by collecting visual data in the street.

Furthermore, due to define the features and contextualisation of the CIVITAS-Donostia zone, we analysed the statistical data provided by the Donostia-San Sebastian Mobility Department on demographic matters, commercial activity and the resources destined to enabling activities of loading and unloading of goods. In addition, we analysed various documents about the urban structure of the area and about the current bylaws.

With all the obtained data, we carried out a global diagnosis of the current situation for urban goods traffic in the CIVITAS-Donostia zone.

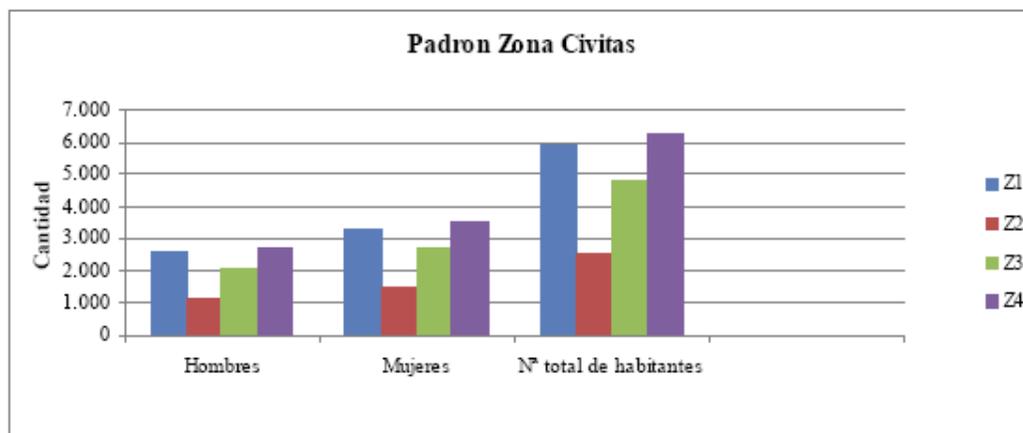
4.2.4 PHASE 4: Summary of the Information Analysed in the Target Area of CIVITAS-Donostia

4.2.4.1. Demographic Data

In the CIVITAS-Donostia zone there are 19,478 inhabitants, of whom 8,519, 44%, are male and 10,959, 56%, are female.

	Hombres	Mujeres	Nº total habitantes
Z1	2.618	3.252	5.870
Z2	1.106	1.462	2.568
Z3	2.094	2.704	4.798
Z4	2.701	3.541	6.242

- The total number of inhabitants in the Old Quarter (Parte Vieja) of the city is 5,870 – 44% male and 56% female–, while in the City Centre the total number of inhabitants is 13,608 –43% male and 57% female.
- Z1, Parte Vieja (Old Quarter), is the most densely populated zone with 547 inhabitants per hectare, while in the City Centre zone the population density is 211 inhabitants per hectare. In the whole CIVITAS-Donostia zone, the population density ratio is 303 inhabitants per hectare.
- Z1, Parte Vieja, and Z4, from San Martín Street to Parque Araba, are the two zones with the greatest number of inhabitants while Z2 and Z3, the zone between the Alameda del Boulevard and San Martin street, which are more shopping areas, make up the are with less population.



- Of particular note is a similar pattern of gender distribution by age in the population graphs for all four zones. Up to age 60 the proportion of women to men is similar and steady with women slightly outnumbering men, but after the age of 60 the proportion of women shoots up, in some cases becoming double the proportion of men.
- The over-60s represent between 31 and 37% in the different zones analysed. The under-20s represent between 12 and 14%, while the population of between 20 and 60, which can be considered the working population, represents between 51 and 56%.

- It is important to take into account the lure of this central and commercial zone of the City. Every day, many people from Gipuzkoa travel to Donostia-San Sebastian, and specifically to the CIVITAS-Donostia zones, to do their shopping or other business, the same as the large number of the 26,578 workers who commute daily to work.

4.2.4.2 Shopping Habits

- In the area comprising CIVITAS-Donostia the average number of surveyed users who do their shopping habitually in local neighbourhood shops is 52.1%, 35.4% shop habitually in major retail outlets, while 12.5% alternate between neighbourhood shops and major retail outlets.
- 62.5% of surveyed users claim that they shop weekly and 37.5% of users shop daily.
- The average number of purchases in a shop is 3.5 per week per person.
- 64.6% of the users never use a vehicle to go shopping; 22.9% use one occasionally and 12.5% always use one.
- 83.3% of those interviewed in CIVITAS-Donostia do not make purchases with home delivery, with 16.7% making purchases with home delivery.

4.2.4.3 Types of Commercial Outlets

- There are a total of 1,464 establishments in CIVITAS-Donostia, 457 in Parte Vieja (the Old Quarter) and 989 in the City Centre.

CENTRO Y PARTE VIEJA	
Tipo de establecimiento	Cantidad
Automoción y carburantes	5
Minorista	20
Comercio mixto	15
Cotidiano alimentario	201
Textil, confección y calzado	384
Equipamiento del hogar	180
Ocio y cultura	108
Otros	17
Droguería, perfumería y farmacia	48
Vending	104
Venta ambulante	4
Restauración	378

- The most numerous types of commercial outlets are textiles, clothes and shoe shops with 384 establishments, and catering establishments with 378 outlets. These two types of commercial outlets comprise 51% of the total of commercial outlets in CIVITAS-Donostia. In the Parte Vieja the predominant activity for establishments is in the catering and hotel sector, which represent 31% of the total of establishments in Parte Vieja, while in the City Centre, the majority are establishments from the textiles sector, with 28% of the total of establishments.
- In Parte Vieja there is one commercial outlet for every 12 inhabitants, while in the City Centre zone there is one for every 13 inhabitants.

- The average surface area of the establishments surveyed is 75 m², of which 33 m² is used for storage, on average. With regard to access to the storage area, 51% have access via stairs, and in relation to equipment in the storage area for loading and unloading operations, 64% have no equipment, and 21% have a hand-truck.
- The average number of employees in CIVITAS-Donostia commercial outlets is 3.

4.2.4.4 Delivery Features

- With regard to merchandise deliveries in CIVITAS-Donostia, 26.8% of the establishments receive merchandise every day, 1.9% 3 or more times a week, 29.9% less than 3 times a week, and the majority, 35.5% receive the merchandise seasonally - 7.2% monthly, 1.5% every two months and 26.8% every quarter. This high percentage of quarterly deliveries can be explained by the large number of commercial textiles outlets which take delivery of merchandise at these intervals.
- In Parte Vieja, the percentage of establishments which receive merchandise daily or more than 3 times a week is noticeably higher than the percentage of establishments receiving merchandise with this frequency in the City Centre: 41% in Parte Vieja and 31% in the City Centre.
- 46% of establishments in CIVITAS-Donostia despatch merchandise and 54% do not. Of particular note is that among those who do despatch, 27% of these do so on a one-off basis as a result of a return of an item or defective merchandise.
- The majority of receipts and despatches of merchandise are carried out by delivery companies, with percentages of 67.7% and 65.8% respectively. Manufacturers supply merchandise for 18.8% of deliveries. If Parte Vieja and the City Centre are taken separately, it can be seen that the proportion of deliveries carried out by manufacturers is greater in Parte Vieja, at 35.5%, than in the City Centre, at 10%.

4.2.4.5 Opening Hours

- With regard to the opening hours of the establishments, 80% of the outlets interviewed in the CIVITAS-DONOSTIA zone had morning and afternoon opening times, while 20% do not close in the middle of the day.
- Parte Vieja is the zone with the most establishments opening through the lunch break, 39%; this is logical bearing in mind the major presence of catering establishments in this zone. The effect of the pedestrian streets and the shopping centres of La Bretxa and San Martin on the opening hours of the establishments should not be forgotten: most of them do not close at midday and / or stay open beyond 8 pm, in order to catch as much passing trade as possible. In the City Centre, only 6% of the establishments surveyed open through the lunch break.
- In the zones making up CIVITAS-Donostia 70% of the establishments surveyed have their opening hours within the 9:00 to 20:00 window, 26% close after 8 pm and 4% open before 9 am. It is in Z1 that more establishments stay open outside the 9:00 to 20:00 window, 61% of the total, to be exact. On the other hand, only 8% of the establishments surveyed in the City Centre have opening times outside the above-mentioned opening time window.

4.2.4.6 Loading Bays: Number and Distribution

- In the CIVITAS-Donostia zone there are a total of 44 loading bays, 6 in Parte Vieja and 38 in the City Centre.
- All these zones provide 835 metres of kerbside available for loading, with different application times linked to the commercial activity:
 - Parte Vieja: 105 metres
 - City Centre 730 metres
- In relation to the total area of each zone, there are 9.7 metres of loading bays per hectare in Parte Vieja, and 11.3 metres per hectare in the City Centre.
- In relation to the number of commercial outlets, there are 0.2 metres of loading bay per commercial outlet in Parte Vieja, and 0.7 metres per outlet in the City Centre.
- The maximum number of establishments counted around loading bays in the four zones coincides at around 25 (the count is carried out along the two sections of pavement, to the right and left of where they are located in relation to the loading bay).

4.2.4.7 Loading and Unloading Operations: Number and Incidents.

- In the visual collection of data, the observation of a total of 117 vehicle movements around the loading bays has been possible in the CIVITAS-Donostia zone during a measuring period of 13 and half hours.
- 4.4% of the vehicles sighted were passenger vehicles, 36.8% were commercial vehicles of less than 3,500 kg., 6% were all vehicles of less than 7,500 Kg, 12% were motorcycles and 0.9% were taxis.
- The average number of operations per hour and per loading bay observed was 10
- 66.7% of the vehicles sighted committed some offence, and 53.2% of them parked without the right to do so in the loading bay, 23% double parked, 14.3% parked on the pavement and the remaining 5.2% parked on a zebra crossing. This situation causes great damage to the traffic, pedestrians etc. That is why, the Local Police and the Mobility Agents are trying to minimise the committed infractions.
- As a complement to the visual collection of data, data on penalty notices issued for offences relating to the occupation of loading bays has been obtained from the Donostia City Council, for the period January to June 2009; in total 190 notices were issued, 23 in Z1, 26 in Z2, 28 in Z3 and 113 in Z4.
- 59.4% of the establishments believe that the loading bays are too far from their respective commercial outlets.
- On this point a separate analysis must be made of Parte Vieja and the City Centre.
- In Parte Vieja, 59.2% of the commercial outlets state that delivery services stop at their door. Since there are no loading bays within Parte Vieja and since they have to stick to a strict timetable, from 7:00 to 11:30 am, the delivery vehicles park as close as possible to

the outlets. 25% of the rest of the outlets in Z1 have loading bays at a distance of more than 5 metres and 15.8% have them at more than 50 metres.

- In the City Centre zone, Z2, Z3, Z4 in contrast, the vehicles do not park at the door of the establishment itself and 58% have loading bays at less than 50 metres and 42% at less than 5 metres.
- 77.6% of the total number of establishments in CIVITAS-Donostia think that the loading bays are incorrectly used by private vehicles.
- Most surveyed users resident in CIVITAS-Donostia say that they do not park in loading bays, at 89.6%, while 6.3% recognise that on some occasions they do so.
- 64.6% of resident users do not know the loading bay usage times and 47.4% of the establishments do not know them either. It is in Parte Vieja where more users and establishments know the loading times.

4.2.4.8 Loading Technical Media and Control

This section has not been analysed separately in each one of the zones, given that there is no itemized information, so the decision has been taken to include it in this summary of the four zones.

90% of the carriers surveyed used auxiliary equipment for their own loading operations. 22% use a platform elevator, 67% use a hand truck and 11% use both.

With regard to the control of loading bays, this is carried out by the Donostia Municipal Police. At the moment when this study was finished, in July 2009, in order to reinforce the effectiveness of mobility regulations, the Donostia-San Sebastian City Council was deploying 60 wardens from the Mobility Forces; these wardens are municipal public servants belonging to the Mobility Department, one of their main objectives is to monitor the meeting of the special rules for driving in Parte Vieja at the authorised timetable established for loading in the morning.

The new Mobility Agents carry out their most intensive tasks in the central zone of the city, which is the object of analysis of this study, although it is true that their responsibility also stretches to the outer neighbourhoods.

4.2.4.9 Regulated parking, Traffic and Parking Regulations system

- There are a total of 13 traffic wardens spread over 13 routes passing through different streets to monitor the entire CIVITAS-Donostia zone; these wardens' functions do not include watching over the loading zones.
- There are 189 paid parking areas in the CIVITAS-Donostia zone, they can be of three types: compulsory payment zones, mixed zones, or residents' zones.
- 2.7% of the parking spaces are compulsory payment, 22.8% are for residents and a high percentage of the 74.6% are mixed use, in other words, parking spaces where residents are not obliged to pay for parking their vehicle.

4.2.4.10 Identification of the streets and zones causing most problems

- In Parte Vieja (Z1) carriers identify Aldamar Street as the point causing most problems for the accomplishment of loading and unloading tasks. (Parte Vieja, Z1, is a pedestrian area, with narrow streets, without spaces available for goods delivery, governed by special regulations, and with restrictions on access. Deliverers can only enter the area from 7.30 am to 11.00 am. Outside of these times all the deliveries are made from the closest street to Z1, which is Aldamar, which is why it is considered a problematic street.)
- In the City Centre zone (Z2, Z3 and Z4) although carriers almost unanimously confirm that, in general, these zones are very difficult to work in, they single out all the pedestrian areas and the closest zones to them, such as Calle Hernani, Calle Urbieta, Calle San Martín, Avenida de la Libertad and Calle Garibai, where all the loading activities cause conflict with traffic.

4.2.5. PHASE 5: Analysis of possible solutions for the improvement of urban goods distribution.

We analysed all suggestions given by users, transport workers and shop owners, and we also looked at activities carried out in other cities in Spain for urban mobility, in particular Barcelona, Malaga, Burgos and Madrid.

4.3 Conclusions

Using all the information collected and the activities carried out, we reached various conclusions about the Urban Goods Distribution in the CIVITAS-Donostia zone.

The inner-city delivery of merchandise in CIVITAS-Donostia is a complex activity, intensely developed in an area of 0.75 km², which, since it is the economic and social centre of the city, must combine these two functions.

It is important not to forget that the objective of this study is to carry out a diagnosis of the situation of inner-city deliveries of merchandise in CIVITAS-Donostia; a series of conclusions is extracted from the data analysed which, in turn, suggest certain lines of future work.

From a territorial point of view CIVITAS-Donostia is the urban centre of a medium sized city, Donostia-San Sebastian; this city concentrates intense commercial and social activity in its central area, and is surrounded on its outskirts by numerous industrial estates which generate a significant flow of goods, vehicles and people towards the centre of the city. The fact that the CIVITAS-Donostia zone attracts 73% (81,939 vehicles on a working day) of the traffic that enters Donostia-San Sebastian through its outer belt, gives an idea of the magnetic effect that it has on the surrounding area.

As with the majority of urban centres, CIVITAS-Donostia was not planned to bear the current intensity of traffic, so it is vital to take measures aimed at encouraging more sustainable mobility, analysing, among other matters, the possibility of taking advantage of the hours when there is less intensity of traffic for certain activities, the setting up of park-and-ride facilities together with the improvement and promotion of public transport.

From an environmental point of view, the fact that there are streets in CIVITAS-Donostia which exceed the decibel level established as a quality objective, points to the need to carry out noise measurements, which are in great part linked to traffic levels,

and, in relation to inner-city deliveries, to monitor the technical characteristics of the vehicles, the auxiliary transport elements and access to establishments, such as blinds and doors, so that the noise they produce is reduced.

With regard to greenhouse gases, using an initial general methodology, it appears that the inner-city goods distribution contributes a proportion of 1.5% of the total emissions generated by transport in Donostialdea (metropolitan area). A follow-up must be made on this volume of emissions.

From a logistical point of view, although the inner-city delivery of merchandise is very difficult in the entire CIVITAS-Donostia zone, two distinct areas can be identified, on the one hand Parte Vieja and on the other the City Centre, which will need specially designed measures.

Parte Vieja, Z1, is a pedestrian area, with a special urban distribution which has many conditioning factors: its structure is one of narrow streets without spaces available for goods delivery, which is also governed by special regulations, and with restrictions on access. The major presence of catering sector establishments (31%), which generally require daily supplies, linked to the complete absence of loading bays within the perimeter of the Quarter, means that during the established delivery hours from 7:00 to 11:30 am, goods delivery vehicles occupy the pedestrian streets in a haphazard fashion, since they have to finish their operations as quickly as possible.

Another aspect to be borne in mind is the opening hours of the catering sector establishments, which in many cases begin at 11:00 am or even later, meaning that those making deliveries have to adapt to this timetable, generating a great concentration of delivery vehicles in a short period of time. With regard to the space devoted to loading bays, the existing value of 0.2 metres per commercial outlet is a long way from the ratio of 1 loading space per 8 establishments considered to be minimum standard (Urban Goods Distribution, Analysis and improvement methodology). This situation points to the necessity of a rearrangement of the logistics activity in Parte Vieja, which would make it possible to rationalize and organize goods delivery with the minimum possible use of road space. In the surveys carried out, Aldamar Street is identified as the street with most conflict from the loading point of view. Both users and commercial outlets in Parte Vieja are very well aware of the problems of goods distribution and show themselves to be both in favour and collaborative when proposing the changes in relation to this activity which are listed in the corresponding section.

The City Centre, in this study Z2, Z3 and Z4, is a zone characterized by tertiary services, with a strong presence of commercial outlets in the textiles sector (28%), which call for periodical and seasonal supply.

The gradual pedestrianization of a zone which has very intense traffic generates specific problems for delivery, since these pedestrian streets have restricted access hours from 8:00 to 11:00 am, and pedestrianization gives rise to greater distances between commercial outlets and loading bays, with the consequential increase in length of stay in these zones, and less rotation. The big commercial textile outlets already use night-time delivery systems effectively, and it would be a positive matter to be able to extrapolate this activity to other commercial outlets. The ratio of space devoted to loading in the City Centre zone is 0.7 metres per establishment, the proportion is more suitable than in Parte Vieja, although more efforts should be made regarding control so that the loading spaces really fulfil their function. The streets identified by those surveyed as causing most problems for inner-city delivery in the City Centre are Calle Hernani, Calle Urbieta,

Calle San Martín, Avenida de la Libertad and Calle Garibai, although a large number of those surveyed insist that the entire City Centre is a problematic zone.

From the surveys carried out it can be deduced, both in Parte Vieja and in the City Centre, that all the involved agents think that there is unsuitable occupation of loading spaces by private vehicles; this opinion is backed up by the visual collection of data, which shows that only 43% of vehicles accessing loading spaces were industrial vehicles. It is vital to reinforce control methods to optimize the use and efficiency of these zones. When carrying out the data collection for the study the 60 Mobility Agents were not yet deployed, so in the future an evaluation will have to be made on the impact of this increase in control resources.

The possibility of setting up a paid parking system for 30 minutes' free loading has been one of the aspects evaluated in the surveys, in general positively, although with insistence on the condition that this should not involve a surcharge for the carrier. As well as controlling the use of the loading bays, this system could be an important source of information for the evaluation of measures to be adopted and to help take future decisions.

The establishment of a Freight Consolidation Centre provoked more doubts for those surveyed, although those surveyed from Parte Vieja are more receptive to this idea than the ones in the City Centre. The professional group of carriers is the most reticent to the idea of setting up of a consolidation centre since they fear that it could put their jobs at risk and increase the cost of the service. In all cases, they recognise that they are not familiar with the scope of the proposed measures. That is why it is important to carry out information campaigns on the measures to be adopted, in order to be able to rely on the collaboration of all the agents involved; this is a vital aspect for the success of the policies and the action to be undertaken.

After analysing the different experiences in inner-city mobility in other cities in Spain, the action taken in Barcelona stands out clearly, with results differing according to the measure in question, but which give evidence of a significant level of commitment to the improvement of mobility in the city. From the experience of action in other cities, it should be noted that the management of inner-city delivery platforms gives rise to greater guarantees of success if they are organized through transport companies, such as in the case of Málaga, rather than as in the case of Barcelona where it works as a public service.

4.4 Problems Identified

No real problems have been detected while conducting this study phase.

We can only comment on the fact that many of the surveyed stakeholders from the freight sector didn't know some of the concepts included in the diagnostic phase, for example, the Freight Consolidation Center.

4.5 Risks and Mitigating Activities

No risks have been detected during the study phase. Once the Freight Consolidation Centre starts to work, there might be some initial reluctance of supermarkets and companies to change their habits. It is supposed that this risk will be overcome once they assess the benefits of the new distribution service (marketing, rates, timetable etc.)

4.6 Future Plans

The objective of this study is to carry out a diagnosis of the situation of inner-city goods distribution in CIVITAS-DONOSTIA; a series of conclusions is extracted from the analysed data and they suggest certain lines of future work:

1. Increasing the control in the use of the loading bays (Mobility Agents)
2. Delimitation of traffic directions in Parte Vieja
3. The possibility of setting up a paid parking system for 30 minutes' free loading
4. Reordering of the parking places in Aldamar Street
5. Cameras for controlling access to Parte Vieja
6. The establishment of a Freight Consolidation Centre
7. Last mile ecological freight distributions
8. Night distribution