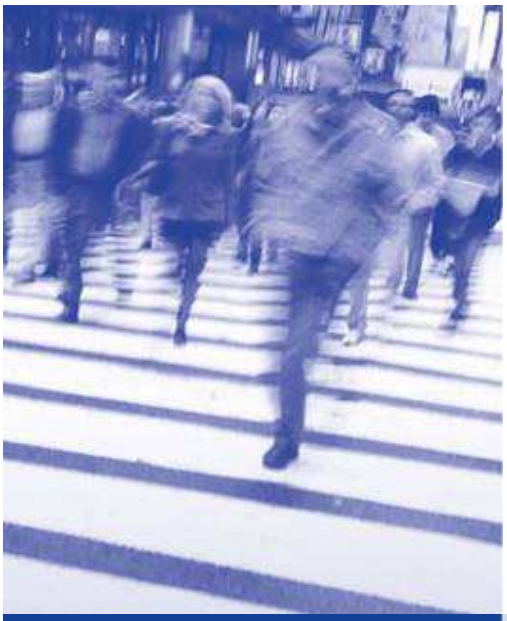

CiViTAS
Cleaner and better transport in cities

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

Donostia – San Sebastian

R 33.2 Study of mobility management for employment areas in Donostia – San Sebastian

Donostia – San Sebastian

February 2011

THE CIVITAS INITIATIVE
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Contents

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 concerns Measure 33, Travel Plans in Donostia – San Sebastián.

Business areas, industrial estates and big workplaces show unique aspects which determine their mobility properties. In the same way, the functional features of those places as well as their location, contribute to overdependence on the private car for those who need to move daily to their workplaces.

The main problem of this set of circumstances is not only limited to the refered business areas, but extends to the general traffic, generating congestion at certain times of the day.This determines the capacity of the adjacent transport and road network to cope with the additional pressure caused by the increase in traffic.

Donostia – San Sebastian is not exempt from this problem and its main business areas, some of them closer to city center than others, contribute to the road traffic saturation, mainly at peak times.

A set of measures is needed to focus on reducing this particular type of congestion so that the use of private vehicles is reduced not only by the the promotion of others means of

transport but also by raising awareness to companies and their employees about benefits and savings which can provide the use of more sustainable means of transport.

3.1 Summary Description of the Task

Within measure 33, there are two tasks relating to sustainable travel to employment areas:

- Task 11.4.3 covers the research conducted by the city of Donostia – San Sebastián prior to implementation of workplace travel plans, of five main business areas and is the subject of this deliverable (R33.2). This involved analysing all aspects that comprised current mobility in order to obtain a diagnosis and propose an action plan for each of them to offer viable solutions to those problems identified. Monitoring and evaluation plans that shows progress made and the effectiveness of the plan were also part of the research plan.
- Task 4.7 involves the preparation and implementation of commuter travel plans and will be based on the findings of task 11.4.3. The activities conducted in task 4.7 will be reported in deliverable T33.2.

4. Study of Mobility Management for Employment Areas in Donostia – San Sebastian

4.1 - Introduction

Characterisation of mobility patterns in the municipality of Donostia – San Sebastian (according to the criterion of reasons for travel) shows that the main purpose of travel is for work reasons (36.5%), as shown in Fig.1.

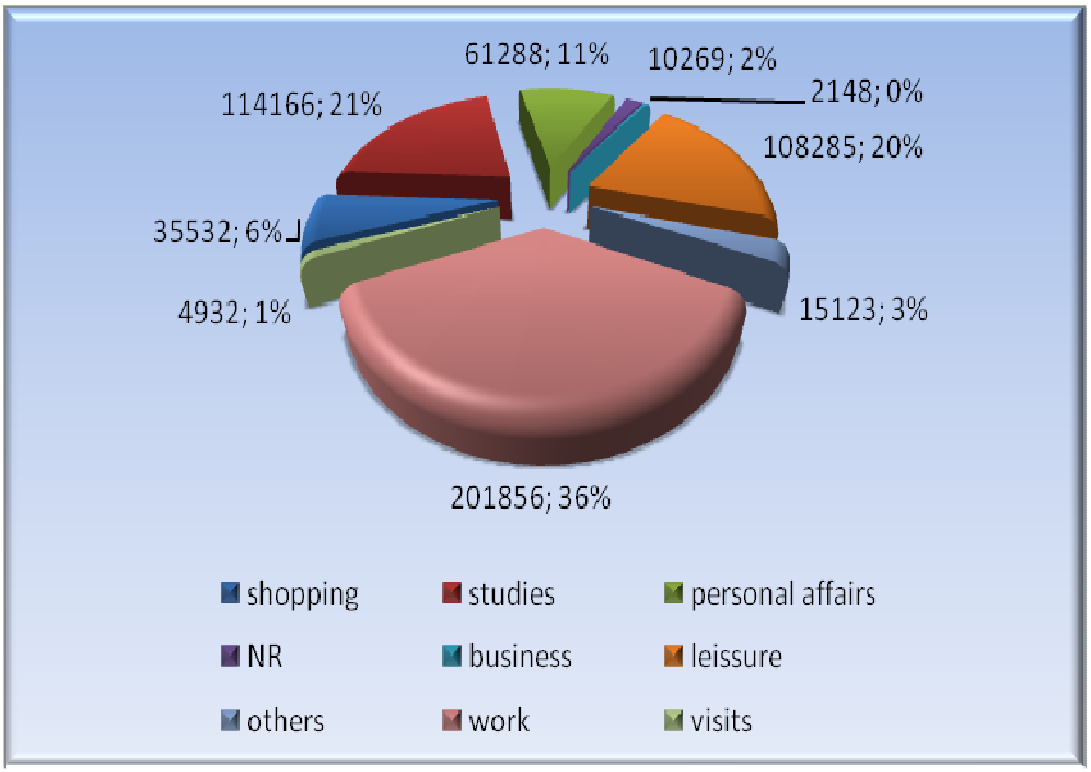


Figure 1: Reasons for travel by residents in Donostia - San Sebastián

These figures clearly show that a large number of journeys to work are made within the municipality. Together with journeys for study purposes, these form part of the so-called 'obligatory mobility', and they are a major source of traffic congestion problems in the city, making it necessary for us to reflect on the citizens' habits in this aspect.

34.4% of the journeys to work originating in and destined for San Sebastián (intra-municipal journeys) were made by car, and this figure is much higher than those for other modes of travel such as walking or public transport (bus travel) - see Figure 2.

The evidence of this significant data has enabled us to identify a niche in which car journeys have a much higher incidence compared to their overall frequency in the city (22.4% according to the latest survey by the Basque government in 2007), and which has a negative effect on achieving more sustainable mobility in the same.

The key to addressing this high incidence of car use is to first establish the reasons why so many car journeys are made, with the aim of replacing them by other means of transport that will have more efficient environmental, social and economic repercussions. Measures need to be taken in terms of travelling to different work centres in the city such as public or private collective transport, walking or cycling. This is where the Workplace Travel Plans come into play.

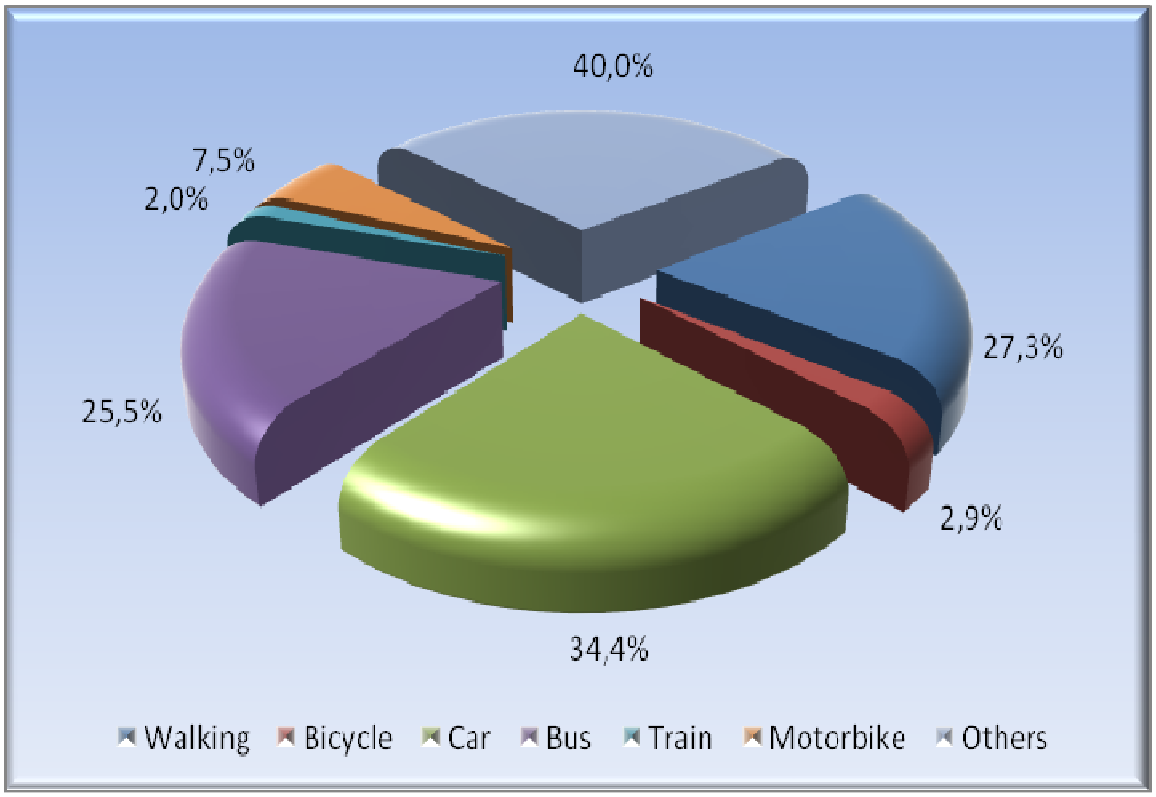


Figure: 2- Modal distribution of journeys to work originating in and destined for San Sebastián by residents in the Basque Autonomous Community. Intra-municipal journeys.

4.2 - Background

In 2008 the Miramón Technology Park in the municipality of Donostia – San Sebastian published the document "Transport Plan for Improving Mobility at the San Sebastian Technology Park", in which it analysed the existing mobility options on offer, including public transport, parking and company mobility policies and the improvement proposals connected with each one.

The Polígono 27 industrial estate has also been the object of several studies which, although they cannot be considered Transport Plans, could serve as a reference point for gearing the results obtained towards a Workplace Travel Plan. "Labour Mobility in Polígono 27 (December 2006) and "New Company Signage Project at Polígono 27 in San Sebastián" (June 2007) are the most significant documents to have been drawn up with regard to this work centre.

Part of the current measure will consist of integrating work carried out previously at these two centres with the rest of the Plans to be developed at the Igara, Belartza and Zuatzu Business Parks, seeking synergies and common measures that could be applied, integrating the assessment plans to be drawn up, etc.

Figure 3: Work centre location map. Source: Google Earth

4.3 - Workplace Travel Plans and their contribution to improving the mode of transport

A growing economy requires a mode of transport that can cope with the movement of people and goods while maintaining optimum quality levels in terms of environmental impact.

Cities need a mode of transport that reduces the problems threatening economic growth, precisely in urban areas and inter-urban corridors such as traffic congestion . Workplace Travel Plans basically consist of a series of transport measures and activities geared to rationalising journeys to workplaces and, particularly, ending over-dependence on private vehicles, not only of the workers but also of suppliers, visitors and customers.

The Workplace Travel Plans have shown a high rate of effectiveness, specifically in these critical aspects of traffic congestion, and particularly at peak times, when there is much greater pressure on the transport network. Despite their localised application, Work Travel Plans have the potential to strategically contribute to better use being made of the mode of transport, and companies and employees can both obtain considerable savings and benefits as a result of their application.

The list below shows the benefits of Workplace Travel plans, starting with the overall benefits or benefits for society, continuing with the benefits it provides for companies and lastly stating the benefits for individuals, employees in this case.

Society

- Fewer traffic jams and a reduction in the effects of road traffic congestion.
- Reduction in energy consumption.
- Reduction in pollutant emissions.
- Increase in space for public use (less space required for road traffic and transport infrastructures).
- Improvement in people's accessibility conditions.
- Increased appeal of cities as centres for business, services, trade and tourism.

The company

- Financial benefits: annual parking costs per employee range from 450 - 600 euros a month; a Workplace Travel plan only costs 70 euros per employee.
- Less absenteeism from work and increased productivity, as reducing stress on staff will improve their performance.
- Improvement in staff punctuality.
- Less parking space required.
- Better accessibility for everyone: workers, visitors, suppliers, etc.

Employees

- Anxiety resulting from traffic congestion is eliminated.
- Savings on travel costs: car-sharing saves money.
- Time savings, if some type of infrastructure is reserved for high-occupancy vehicles or preference is given to public transport.
- Less traffic accidents.

4.4 - General Objectives

Below is a list of the general objectives of the Workplace Travel Plans to be applied at the Igara, Belartza, Polígono 27, Miramón and Zuatzu work centres:

- To functionally characterise urban and metropolitan collective transport providing access to these industrial estates and business park, proposing measures for optimising the service and improving capture of demand.
- To analyse the intermodality of the system, concentrating particularly on metropolitan and urban public transport mode interchanges.
- To analyse the parking system at the industrial estates and business park, proposing measures for a more rational use of the existing parking spaces.
- To review the pedestrian and cycle routes, proposing new measures for extending and completing the already-existing routes and interconnecting them with the urban and inter-city public transport.
- To assess the different measures applicable in accordance with the mobility problems of each industrial estate or business park: company involvement, worker

awareness-raising, reducing the number of journeys made, encouraging car-sharing, etc.
- To implement the measures proposed.
- To evaluate the effect of applying the Workplace Travel Plans as compared with the initial data.

4.5 – Previous Characterisation and Location of fields of Study

A large part of the employment occupied by the residents of Donostia – San Sebastian and the Donostialdea region is concentrated in the five business activity areas.

In actual fact, the Gipuzkoa strategic mobility plan already revealed the importance of the regional capital as a driving force for labour relations. 45% of the existing jobs in the Donostialdea region are registered in San Sebastián itself, and are mainly linked to the trade and services sectors.

4.5.1 Igara Business Area

Figure 4: Aerial view of the Igara Industrial Estate. (Source: Google Earth)

The Igara business area is located in the district of the same name in San Sebastián.

The Igara estate consists of a series of companies located along the main road and pedestrian corridor bordered by the roads to Portuetxe, Igara and Pokopandegi, covering an

approximate surface area of 45,000m^2. It mainly takes the form of a cul-de-sac, and Calle Portuetxe is its main traffic and pedestrian artery.

Around 2,000 people are estimated to work in the Igara economic corridor, with an average staff of 20-25 workers per company. The businesses cover a wide range of economic sectors, from the province's main Post Office to industries connected with emerging or high added-value sectors, catering firms and restaurants, services sector companies, etc.

As regards access roads, the main access is from Avenida de Tolosa, a major communications hub in this part of the city.

The progressive increase in the number of companies and workers based at the Igara Estate, together with the presence of other centres attracting mobility (Universities, business park, public offices) and the city's exit roads (A-8, N-1), has meant that Igara is becoming a rush hour bottleneck each day, with frequent traffic jams and tailbacks.

The main pedestrian access is also from the Avenida de Tolosa, along wide pavements that gradually narrow as the road approaches and enters the business park itself. The cycle path network goes as far as the Avenida de Tolosa, but does not actually enter the Estate.

Parking space is one of the main causes of concern for users of the business estate, as there is a shortage of spaces taking into account the number of companies based in the area. The Municipal By-Law on Regulated Surface Parking has established a series of short-term measures like the extension of the regulated parking zones to Zuatzu, Miramon and Igara business areas.

As regards the public transport offer, the city's bus company runs regular urban routes, with several bus services connecting the city and the industrial estate. Apart from these, there are other inter-city services running to the universities and districts close to the estate.

Bus route 40, runs every 30 minutes on weekdays. Weekends and non-working days this route is replaced by the 33 (Larratxo – Intxaurrondo – Berio) and runs also every 30 minutes.

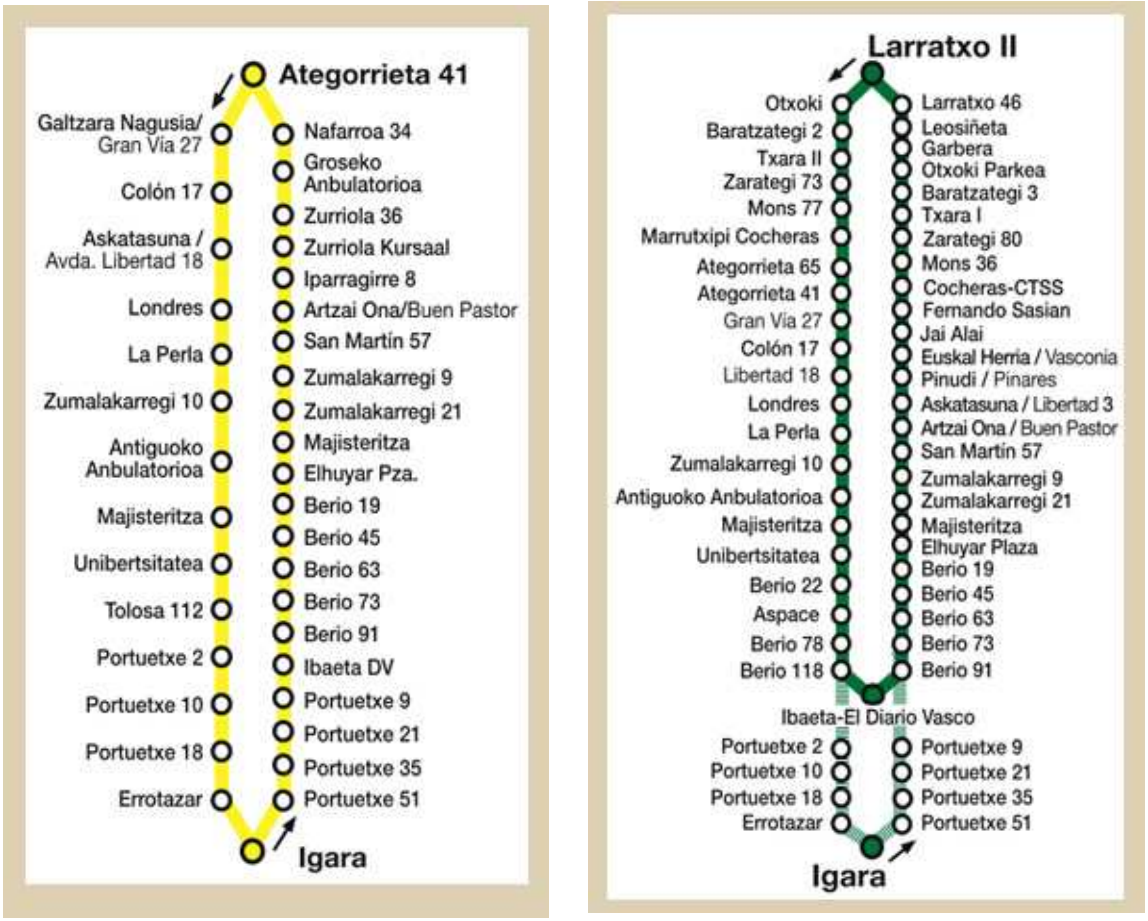


Figure 5: Bus route 40, Gros-Antiguo-Igara and route 33, Larratxo – Intxaurrondo - Berio

4.5.2 Belartza Business Area

Figure 6: Aerial view of the Belartza Industrial Estate. (Source: Google Earth)

This industrial estate is located between San Sebastián and Usurbil, and it houses companies from a great variety of business sectors, from major logistics operators to large industrial buildings and retail spaces. Some of the businesses based on the estate have an average staff size of over 50 workers. The surface area of the Belartza Estate is around 40,000 m^2.

As regard access roads, the Belartza Estate is strategically located as it is close to a high-capacity road network, more specifically the transport axes of the N-I trunk road, the A-8 motorway and San Sebastián's second ring road. The main problem is that all of these roads lead onto the same entry roundabout on the Estate, the Belartza roundabout, which is causing traffic jams and tailbacks at peak times.

The industrial estate's proximity to the main transport axes is a conditioning factor preventing the existence of attractive pedestrian routes for day-to-day use by the workers. At the same time, the distance from the city centre and nearby villages makes access by non-motorised means difficult.

As regards public transport, bus route 25 runs every 20 minutes on weekdays and every 60 minutes on weekends and non-working days.

Figure 7: Bus route 25, Benta Berri-Añorga

In addition to bus transport, there is also a train station (ETS-RFV) in the Rekalde district, making train transport combined with walking to the Belartza industrial estate a viable alternative.

4.5.3 Zuatzu Business Area

Figure 8: Aerial view of Zuatzu Business Park. (Source: Google Earth)

Zuatzu Business Park is strategically located in the Ibaeta district, close to the Universities and research centres to facilitate transfer of knowledge and human resources from the academic environment to the professional field.

The gross surface area of the land used for economic activities is 140,000 m^2. An extension phase is currently underway involving the addition of 15,000 m^2 more land.

108 companies are based at the park, employing 2,800 workers. The companies have an average of 25-30 workers.

As regards the road network, the Zuatzu business park is located close to major transport axes (N-I and A-8). However, heavy traffic in the residential area severely conditions private car access at peak times.

Precisely for this reason, the Gipuzkoa Regional Government and the Donostia – San Sebastián City Council have decided to provide direct access from the A-8 motorway to attend to the requirements of the workers at the business centre, which will mean many vehicles will no longer have to travel through the urban network.

As regards the pedestrian network, Zuatzu is located at the top of a steep hill, making pedestrian access for the workers difficult, even for those who live nearby. Also, the pavements near the business park are often lined with parked vehicles.
As in the case of the Igara industrial estate, parking space is a significant problem, as there are insufficient spaces available. Zuatzu has 2,200 parking spaces, too few to cater for the day-to-day demand of workers and visitors. The industrial estate management has made an effort to encourage vehicle-sharing, through a specific website (http://zuatzu.compartir.org/) allowing people who wish to share their cars to contact each other.

The offer of public transport to the park consists of two services. Firstly, bus route 5, Benta Berri – Añorga, runs every 6 - 8 minutes at peak times. This is an express service which stops in the business park itself.

Secondly, there is a train stop (ETS –RFV), which is of limited use due to the business park's location at the top of a steep hill.

4.5.4 Miramón Technology Park

Figure 9: Aerial view of Miramón Technology Park. (Source: Google Earth)

Miramón, San Sebastián's Technology Park, is located south of the city, in an area of irregular ground, at the top of the Miramón mountain, beside the city's hospital complex.

The land given over to business activity totals 80,000 m^2 and the Technology Park is due to be extended to occupy a surface area of 108,000 m^2.

The Park houses 70 companies, employing 3,000 people, with an average size per company of 40-50 workers.

The Miramón Technology Park is connected to the high-capacity road network, with several access points from different transport axes:

- From the N-I, via two exits leading to the business centre. One of them involves crossing the hospital area, with its habitual traffic congestion.
- The access from the A-8 motorway is also used by people coming from the centre of San Sebastián, accessing the park from neighbouring districts of the city.

The opening to traffic of the Urumea dual carriageway will help reduce congestion on the N-I trunk road, as will the second San Sebastián ring road, which will mean cars no longer have to use the urban roads of the Amara district.

The pedestrian network, however, is of limited use, due to the Technology Park's location at the top of a steep hill, limiting pedestrian transit from the nearby residential areas.

There are 6,000 parking spaces available, which would appear sufficient in principle, although there are two aspects that need to be taken into account:

- Numerous events are organised at the Park installations, attracting many visitors in private vehicles.
- There is a high percentage of private rented parking spaces.

Other forms of public transport include an urban and intercity bus service, run by the San Sebastián municipal bus company and Lurraldebus.

All the transport coming from San Sebastian has the disadvantage that it has to cross the hospital area, which means traffic jams at peak times. Also, none of the routes enter the Technology Park itself, and passengers therefore have to walk quite a long way from the stop located at the entry to the park, depending on their place of work.

Within the framework of this context, the Miramón Park Transport Plan was drawn up in 2008.

4.5.5 Polígono 27

Figure 10: Aerial view of Polígono 27. (Source: Google Earth)

The Polígono 27 Industrial Estate is located in the Martutene district, to the south of Donostia-San Sebastián, and it is the largest area used for business activity in Gipuzkoa province, with a total surface area of 325,000 m^2.

There is an exit from the main road network to a roundabout providing access to the main thoroughfare of the industrial estate, with heavy traffic jams at rush hour.

The estate houses 400 companies, employing 3,000 people. The business structure consists of small-sized companies, most of them (77%) with less than 10 employees. The small dimension of the businesses stands is a disadvantage for coordination and synergy of the resources dedicated to mobility improvement.

The main access to Polígono 27 is via three roads which serve as a structuring axis for traffic entry and exit:

- From the GI-131 main road, which links the municipality of Donostia-San Sebastian with that of Astigarraga.
- From the GI-3401 main road, via the Martutene-Intxaurrondo road. This artery connects the GI-131 and the A-8 to the industrial estate.
- From the Urumea dual carriageway, which absorbs much of the regional traffic.

All these transport axes have exits leading to the industrial estate access roundabout, which is highly problematic at peak times, as it does not have the necessary capacity to absorb all the vehicles entering the business area.

With respect to the pedestrian network, the Intxaurrondo-Martutene road has a pedestrian route connecting one of the city's most highly populated districts with the industrial estate. However, the long distance involved means it is hardly used.

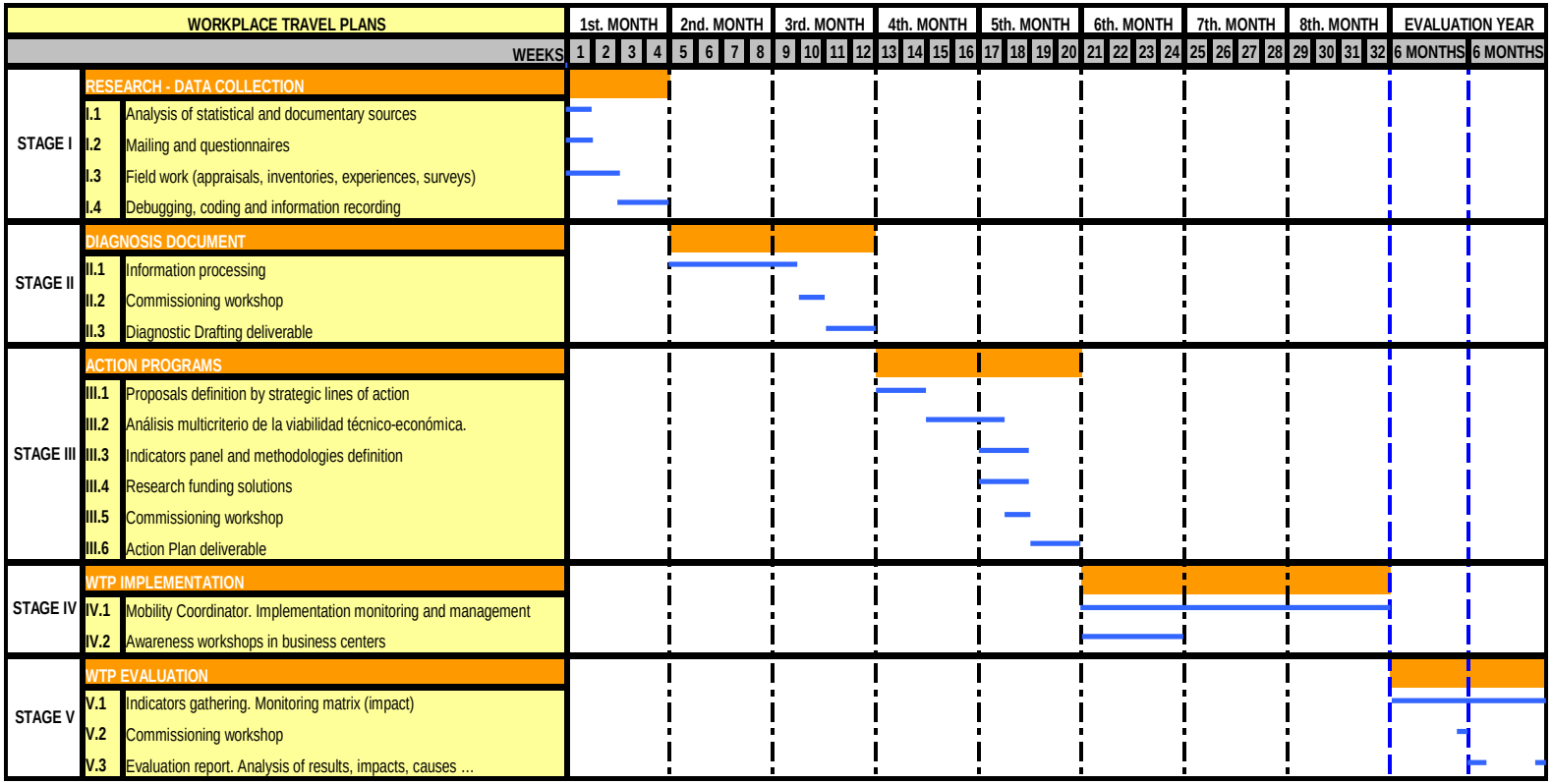
Given the large variety of industrial sectors based at the industrial estate, there is a huge flow of traffic, giving rise to major parking problems as there is not enough parking space to cover requirements.

The public transport offer consists of two routes run by San Sebastian's municipal bus company, connecting the city with Polígono 27. Route 31 stops at the industrial estate's access roundabout, and route 26 enters the estate itself, catering to a large number of companies.

There is also a railway station 500 metres from the entry to the industrial estate, connecting Polígono 27 to the N-I provincial interurban corridor.

4.6 - Project Stages

When a transport plan is designed, it should initially be divided into the different stages required for its completion. There follows a summary of these stages.



4.6.1- Prior Information and Data Collection Work

On implementing a Workplace Travel plan, a series of data identifying the company's starting situation should be known beforehand, (i.e the different modes of public transport available, the employees' mobility profile and that of the visitors to the work centre).

This "preliminary study" will allow us to make a basic diagnosis of the transport requirements. For this purpose, the diagnosis study should gather information on the work centre, itemised as follows:

- Location: municipalities it is located in, surrounding environment and distances to the nearest urban centres.
- Adjacent road network: type of roads and situation as regards road access to the centre.
- Analysis of the level of traffic congestion, daily traffic density in the surrounding environment.
- Situation as regards internal traffic regulation, signage, traffic regulations, etc.
- Pedestrian and cycle accessibility of the industrial estate: distances from the municipality or from stations, safety and comfort, lighting, protection, etc.
- Public transport services on offer. Analysis of the distances from the bus stops to the companies, and the access situation, service times, frequencies, facilities (bus shelters, seats, information panels), availability of travel information (posters, leaflets), etc.
- Services complementing the business activity itself: restaurants, staff canteens, nearby kindergartens and schools, bank branches on the industrial estate, shops and supermarkets, laundry establishments, etc.

When we have gathered information on the starting situation, the next step is to run an information and awareness-raising campaign focusing on the companies based at each work centre. In turn, a planning workshop will be held with transport companies and common agents (city council and trade unions) and press releases will be published reporting about the project. A radio programme is also planned during the early stages of the project to promote this initiative among all citizens.

Part of this initial data collection stage will be geared towards surveying the employees, asking them to provide information on theit travel habits. This information gathering may take the form of a questionnaire sent by post, arranging interviews or interviewing the employees at the work centre access points. Aspects connected with the content of the interviews, duration, staff required to carry them out, etc. will need to be taken into account.

The interviews will have three objectives:

- Presentation of the project to the key agents,
- Obtaining relevant information to make the diagnosis and design the questionnaires.
- Search for cooperation from workers and other companies for the initiatives arising during the development of the project (workshops).

To complement the interviews and surveys, a count or census will need to be made of journeys by both private and public transport entering and/or leaving the work centre, car park occupancy and private vehicle occupancy. The census should be specifically divided as follows:

- Public transport counts
- Private transport counts
- Car park inventory
- Company surveys
- Worker surveys

Logically, the information to be collected will differ according to whether the surveys are geared to the companies or the workers. The process should begin with the company surveys and then be extended to the worker surveys.

The data we are interested in finding out from the companies would be as follows:

- Basic data: name, address, company classification, etc.
- Number of workers, contract types, professional category, work modality
- Working hours, shifts, flexi-time
- Auxiliary services contracts: people, hours, etc.
- Visitors: visiting system, estimated number of visits, seasonal variations
- Origin of workers' journeys: municipalities, census codes
- Availability of private parking spaces and system for use
- Whether a company transport plan exists
- Incentives for using public transport, alternative means of transport
- Willingness to participate in financing the proposals

When the company questionnaire completion period ends, we will issue the worker questionnaires. To obtain a reliable information base, there will be an initial target of the questionnaires being filled in by 3000 employees, which represents 25% of the total workers at the 5 industrial estates.

Our aim is to obtain data from the population travelling regularly to the industrial estate, including:

- Personal information: gender, age, level of education, address, etc.
- Degree of motorisation: whether they have a driving licence and own a vehicle
- Number of journeys made according to employees' departure point
- Distribution of journeys by mode of transport
- Reason for the choice of mode of transport, particularly in the case of private vehicles
- Workers' proposals, in accordance with the geographical point of departure
- Pedestrian and cyclist access barriers
- Willingness to share private vehicles

The public transport will also be exhaustively studied, with the aim of obtaining a series of data that will allow us to characterise the public transport scenario on both an individual and intermodal level for each of the industrial estates.
This study should allow us to obtain information including the following:

- Road services: Regular urban and intercity bus lines.
- Rail services: Euskotren and RENFE
- Frequencies at different times of day
- Fare system
- Routes (residential areas served)
- Location of stops at the business centres (degree of coverage)
- Accessibility of facilities (stops and stations) and vehicles (buses and trains)
- Systems for user information and communication regarding facilities and vehicles
- Occupancy of transport services
- Potential for intermodal journeys (interchanges)

This information will be compared with the censuses made of passengers getting on and off the transport at the urban and intercity bus stops functionally serving the industrial estate in question.

In addition to the censuses, surveys will also be made of public transport users. The personal interview process will help us to reach the target of 3000 employee surveys.

As regards private transport, the census will consist of counting the number of private vehicles entering and leaving the various access points at each business area under study. To do this, counting personnel will be positioned at each of the entry and exit points of the business estate, including those considered secondary or less used.

The following information should be collected, at the least:

- Counting point location
- Time of entry/exit
- Vehicle occupancy
- Type of vehicle

The census will be made on non-consecutive working days throughout an observation period covering the entry and exit times of practically all of the companies based at the business estate.

This period will also be used for interviewing the workers and visitors personally to find out their mobility habits, departure points, reasons for choice of mode of transport, etc. These interviews, lasting no more than 5-10 minutes, will help us reach the minimum of 25% required.

Lastly, we will make an inventory of parking spaces, noting the occupancy of the same. The aim will be to classify and quantify the parking spaces in the business estate.

The following data will be collected:

- Parking space classification:
  - Parallel
  - Perpendicular
  - Loading and unloading
  - Disabled
  - Taxi
- Occupancy
- Rotation
- Illegal parking

Vehicles parked in the inventory area will be counted, including those parked in both the authorised and "prohibited" parking areas (double-parked cars, parking on yellow lines, in keep clear areas, etc.).

All the information obtained from the field campaign will be duly treated, coded and stored on computer for subsequent processing.

4.6.2- Diagnosis Document

An Exploitation Plan will be developed, consisting of both statistics and qualitative and quantitative analysis of the information obtained in the field campaign, enabling the problems and the results to be clearly set out in order to design subsequent proposals for action.

- This exploitation plan should take into account all the factors that condition the mobility model at each work centre.

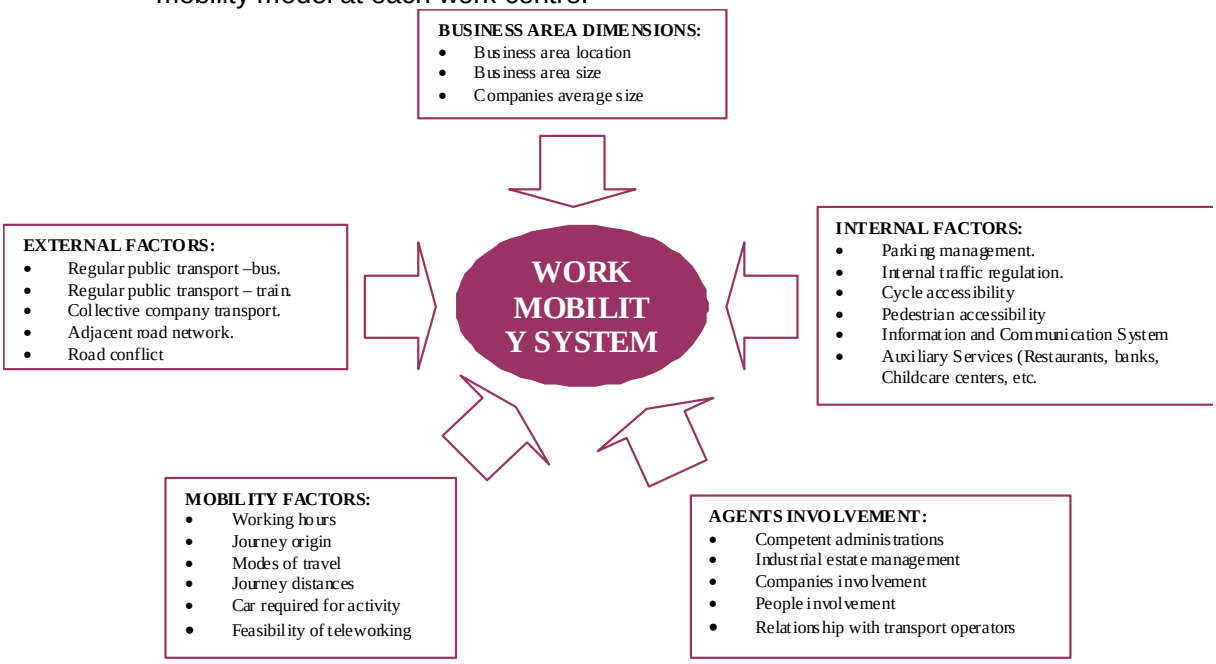


Figure 11: Set of factors conditioning mobility at the work centres. (Source: Fundación ITC)

The main mobility problems identified will be studied within the framework of the following aspects or thematic areas,:

- Accessibility and functionality of public and private collective transport
- Potential and functionality of the intermodal nodes. Connectivity and modal coordination
- Accessibility for private vehicles. Traffic congestion and traffic types
- Vehicle parking. Vehicle occupancy
- Pedestrian routes. Barriers, black spots, etc.
- Cycle routes. Network discontinuity, road safety, bicycle parking, etc.
- Traffic safety. Modal junctions
- Accessibility for disabled people

The mobility system diagnosis report for each business centre includes the labour mobility plan as a starting point and should serve as a base scenario to assess the improvements brought about by the implementation of the different solutions.

4.6.3- Action Plans

The Workplace Travel Plans for each business centre will be drawn up on the basis of the results and conclusion detailed in the individual diagnosis documents. The results and the impact of any previous actions carried out in each business area will be taken into account.

The Workplace Travel Plans will include a series of proposals for action in line with the specific features of each industrial estate or business park, taking into account all the impacts and interventions planned within the fields of study.

It will also aim to optimise the transport system and the mobility and accessibility conditions, from all perspectives: economic, social, spatial, temporal and of course energy consumption and environmental, to encourage greater use of less energy intensive means of transport.

The proposals will consider all the possible demand management measures that could be of use for attaining the goals, and which must be agreed on with the study Managers. A set of indicators will need to be defined, to be able to assess the Plan's implementation and measure the fulfilment of its objectives.

The proposals for action are the main objective of the Workplace Travel Plans. In accordance with the diagnosis stage order, the actions have been planned in the following areas:

1. Public Transport:

The study should approach the public transport system improvement proposals on the basis of the following:

- **Urban bus:** proposal for implementing or improving the urban transport system. Analysis of routes, correction of route defects (stops, times and frequencies) within the industrial estates and business park, conflicts with car traffic, etc.

- **Railway:** improved accessibility to the existing RENFE and Eusko Tren stations, and intermodality with other public and private modes of transport.

- **Information improvement measures.**

2. Intermodality:

- **Intermodal point hierarchy programme:** intermodal stations, rail stations with intermodality, urban commuter interchanges, etc.
- **Coordination of urban and regional services.**

3. Parking

- Implementation of tariff-regulated parking
- Rotation parking system

4. Pedestrian Network

- Extension of the pedestrian route network.

5. Cycle Path Network

- Extension of the network of cycle paths
- Bike parking programme
- Bike parking at company premises and installation of changing rooms and showers

6. Vehicle Traffic

- Forming possible car-sharing groups according to proximity of place of residence, working hours, vehicle availability, lack of other modes of transport, same working times, etc.
- Implementation of a car-sharing management system for the workers at the centre and other nearby centres.
- Parking restrictions on single-occupant vehicles.
- Car-sharing incentives.
- Incentives for workers not using their car.
- Closing off the free transit area to private vehicles.

7. Transport Policy Used by the Centre

- Possibility of financial incentives for using public transport.
- Elimination or reduction of free parking spaces and facilities for car-sharers.
- Creation of the post of a Mobility Manager for the five sites identified.
- Tele-work and alternative working hours (flexi-time, concentrated shifts).

The effectiveness of the proposals will be studied by means of a technical and cost analysis. The consultancy team will carry out research for pooling the public, private and combined financing solutions successfully applied elsewhere.

A technical specifications sheet will be drawn up for each proposal considered, including the following aspects for qualitative and quantitative analysis:

- Description of the measure.
- Competent agents.
- Responsible agents interested in its development.
- Legal/administrative framework of the measure.
- Operational feasibility of the measure: barriers and stimuli.
- Quantification of energy savings.
- Quantification of environmental improvement.
- More favoured social groups.
- Mobility-related improvements: less traffic congestion and shorter journey times, transport demand management.
- Encouragement of intermodality.
- Collective vs. individual transport.
- Financial evaluation of the measure and possible financing channels.
- Incentive systems.
- Deadlines.
- Execution and maintenance budget.

A definitive proposal for the measures to be applied will be drawn up, classifying them into measures for immediate implementation and measures for implementation in the short, medium and long-term.

The proposals and measures will be included in a summary document or Action Plan. This Action Plan will be drawn up within 2 months of completion of the previous stage.

4.6.4- Implementation of Workplace Travel Plans.

When the summary document or Action Plan is complete, the measures for immediate implementation will be put into practice and management of the short, medium and long-term measures will be embarked on.

Mobility Coordinator: Roles and Responsibilities

The consultancy team will appoint a Mobility Coordinator for this purpose, who will be responsible for implementing the Plan in collaboration with the Study Managers. The Plan Coordinator (or Mobility Coordinator) plays an essential role in its implementation, being responsible for its day-to-day establishment and organisation and for making all the necessary arrangements to ensure its success.

Their duties will begin when the company decides to implement a Plan and will be intensified when the stages of planning and implementation of the measures included in the Plan begin, and during their subsequent follow-up. Their responsibilities will depend on the particular case, but may include the following:

- Supervising the development and implementation of the Plan.
- Obtaining and maintaining the necessary commitment and backing from the company management, staff, union representatives, etc.
- Presenting the results of the Plan, not only in financial terms but also as regards energy consumption and associated environmental improvements.

- Given the importance of communication with the employees, it is very important to stress the benefits of the Plan. With a view to this, the coordinator could produce a periodical information document, hold meetings to discuss the measures and even establish a prize or reward system for exemplary action by employees.
    - Contributing to the design and implementation of the awareness-raising and promotion campaigns.
    - Coordinating and attending the working party and monitoring committee meetings.
    - Coordinating the data collection required for carrying out the Plan.
    - Informing the staff of the progress of the Plan when required.
    - Channelling the transmission of information with regard to the different departments: personnel, financial and external organisations (transport authorities, town councils, transport operators, etc.).
    - Coordinating the Plan monitoring and follow-up programme.

Establishing a set of Indicators

To assess the degree of fulfilment of the goals set, we will need to establish a panel of indicators to periodically validate the actions performed, and as a guide to fulfilment of the objectives.

The indicators should reflect the impacts of the mobility model. Three categories are therefore established:

- Social
- Economic
- Environmental

Within these categories, the following sub-categories are also established:

Social indicators:

- Equity of use
- Mobility
- Collectivity
- Accident rate

Economic indicators:

- Traffic congestion
- Infrastructures
- Accident rate

Environmental indicators:

- Atmospheric pollution
- Noise
- Energy
- Land use

There follows an outline of a possible set of indicators and the nature of each one, in accordance with the aforementioned categories and sub-categories:

Category	Subcategories	Indicator
SOCIAL	Accident rate	No. Of accidents and incidentes by modes in business movement No. Of pedestrian and bycicle run overs in business movement No. Of blackspots by routes
	Equality of use	No. Of disabled people who access to business area by public transport
	Mobility	Journeys' modal split Modal split as social perspective (gender, age, ..) Modal split by journey purpose (urban or interurban) One stage journeys Several stages journeys Degree of intermodality Coverage rate of public transport Parking demand in the business area Parking violations Parking places turnover rate Vehicle average occupancy No. of shared cars and occupancy degree No. Of car with a single occupant Journey´s average length
	Community	No. of people registered on the "car sharing" website Number of associations related to work mobility
ECONOMY	Congestion	Hold up length due to congestion
	Infrastructures	Infrastructure created for private vehicles Infrastructure created for public transport Infrastructure created for pedestrian mobility Infrastructure created for rider mobility
	Accident rate	Medical costs of accidents in workplace journeys
ENVIRONMENT	Atmospheric pollution	
	External noise	
	Land occupation	Surface area for motorized transport infrastructure Surface area for non-motorized transport infrastructure
	Energy consumption	Energy demand related to motorized transport modes % Of energy demand linked to clean energy sources.

A 3-month period after completion of the previous stage will be established for implementing the Plan of Action.

4.6.5- Evaluation of the Plan

The Workplace Travel Plan will contain an Evaluation Plan that will involve collecting the data for each indicator. It will also establish how the data for each of the indicators for study is to be obtained (surveys, censuses, measurement, models, etc.)

On the basis of the indicators proposed, a multi-criteria assessment will be made with regard to the goals pursued, at least six months after implementation of the measures and a year after application of the measures contained in the Workplace Travel plans.

Each of these assessments – the mid-point and final evaluations – will include drawing up a monitoring and assessment report analysing behaviour patterns, data, causes, impacts, deviations, etc. of the measures proposed in the Workplace Travel plan. The monitoring reports will enable comparison of the situations six months and a year after the baseline, as reflected in the original diagnosis statement.

4.7 – Problems Identified

Diversity among the different business areas in terms of location relative to the centre of the city, their age, appearance and functional urban quality, means that it is necessary to consider each business area largely on an individual basis.

In this sense, business areas like Poligono 27 or Igara which are the oldest business areas in the study, show a very old urban lay-out in terms of waste disposal, means of communication and road surface, which will require from us a much more intense level of support than the other, more modern, business areas.

Moreover, areas of business including Igara or Zuatzu which are closest to the centre of the city are more prone to problems concerning the city in addition to those generated by the area itself. However, other business areas such as Belartza, which are more peripheral to the city, do not suffer such consequences. However, in contrast, its lower accessibility prevents access by means other than by forms of motorised transport.

For this reason, it will require full cooperation between all involved parts to be able to adopt the best solution for each of the areas to be analysed.

4.8 – Risks and Mitigating Actions

Due to controlled parking zones in areas of Igara, Zuatzu and Miramon coming into force, we expect to find a not very receptive attitude among the staff of these areas because the new parking regulation has not been welcomed by many of them and tackling their perception of this issue as well as introducing the travel plans may lead to confusion. It will be necessary to organize a media plan to show in detail the objectives and actions to be carried out so far with the measure to all concerned people.

4.9 – Next Steps

As explained in section 3.1, this project deliverable reports on the initial research necessary to produce commuter travel plans at 5 employment sites in the area around Donostia-San Sebastian. It has used this information to produce an action plan which will be implemented as part of ARCHIMEDES task 4.7.

Once the contract with the chosen subcontractor has been signed, it will start the design process according to the project schedule outlined in paragraph 4.6.

The initial phase of task 4.7 will begin with different workshops in each business area to raise awareness of the overall project, as well as the different stages that will take place in it, including a workshops plan to create a channel to report about the project development.