



**Mobility Management for Business and Industrial Zones
MoMa.BIZ**

**Results of the Local Mobility Survey &
Cost-Benefit Analysis of the Implementation Chosen
for the BIZ of Ponferrada
Deliverable D5.a**

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1. LOCAL MOBILITY SURVEY

1.1 INTRODUCTION

1.1.1 GENERAL INFORMATION

In Ponferrada the MoMa.BIZ project is focusing in the two areas of the BIZ, which is divided by Milan Avenue, as it is showed in the map below:



Map 1. Zoning of the BIZ of BIZ (Parque Industrial del Bierzo de Ponferrada)

The home-work mobility survey was carried out in two phases (spring 2011 & autumn 2011) with a total duration of 4 months.

1. Phase 1: Spring 2011

Duration of the Survey: Mayo –June 2011

Target Group: Companies, employees and visitors of the BIZ I and BIZ II of the BIZ of Ponferrada which has showed their interest in participating in the project through the Local Mobility Group.

Companies: 41

Employees: 600

Visitors: 600 per day

(note: all the surveys to visitors was carried out face to face)

2. Phase 2: Autumn 2011

Duration of the Survey: October- November 2011

Target Group: Private Hospital as company and its employees and visitors and other companies which were not included before were added. The previous companies, employees and visitors of the rest of

the BIZ of Ponferrada were also included. Although the survey was concluded in June 2011, it was considered a good opportunity to gather additional questionnaires while the survey was carried out in zone of the Hospital, so as to increase the % of participation and obtain a more representative sample.

Companies: 55

Employees: 1369

Visitors: 300 per day

(note: all the surveys to visitors was carried out face to face)

1.1.2 COMMUNICATION CHANNELS

There were five communication channels used:

- local mobility group
- face to face meetings
- telephone contacts
- email from the Mobility Office of Ponferrada Council and EREN
- dissemination of printed materials

Local Mobility Group

The members of the local mobility group have collaborated with EREN and Council of Ponferrada in order to communicate with the employees of their companies in the BIZ and for the collection of the questionnaires or mailing to us.

Face to Face Meetings

All the companies were visited, in total there were 55 companies where face to face meetings were carried out.

Due to the limited feed back from the on-line surveys option from the companies, all companies were visited to inform about the home-work mobility survey for the employees

This was made in spring 2011 and then autumn was considered best to visit the added companies located in the BIZ and inform them about the home-work mobility survey.

Telephone Contacts

In total the 55 companies of the BIZ were contacted by phone.

Email

Emails with information on the mobility survey were sent to all companies that showed interest in the project and the mobility survey.

Dissemination of Printed Materials

Printed copies of the survey for employees were distributed in all companies of the BIZ in a number proportional to their number of employees.

In the case of the Hospital. The printed copies of the surveys were attached to the salary payslips on october to facilitate the involvement of the employees and was collected when the salary slips of november were given out.

1.1.3 MODE OF DATA COLLECTION

The survey was administered in three ways online and in hard copies.

Online

The Limesurvey Tool (<http://www.moma.biz/limesurvey/admin/admin.php>) was used for creating an online version of the survey.

Two version of the survey were made; one dedicated to companies and another to employees.

The local partners were provided advice and information to the companies interested in the online mobility survey.

Hard Copy

A hard copy of the questionnaire was also prepared for the companies that did not participate at the online survey. A copy of this was administered to all the companies of the BIZ and a monitor gave information on how to submit the filled in questionnaires. Additional support was offered to the companies in order to ensure a high % of participation y phone or e-mail.

During the second time on autumn and in order to get a high score of % of survey, hard copies were distributed to all companies of the BIZ. For those which has been show interest and sign agreement in favor of the mobility plan, hard copies were distributed during LMG meeting on September 2011, after the European Mobility Week, detecting that the sensitive of the people is higher.

The companies were distributed the survey among their workers or have left the hard copies in a specific place with a poster announcing the survey and the project.

Face to face

All the surveys to visitors were made face to face with a interviewer who made in the main visited places of the BIZ.

1.1.4 DATA COLLECTED

In total there were 261 questionnaires collected that correspond to employees from 30 different companies. This sample represents around a 20% of the employees and 55% of the companies present at the BIZ. Additionally 120 surveys were carried out in the street to the visitors.

The local partners and the mobility group would wish to have a higher response rate to the mobility survey, nonetheless, the present sample is considered important and, therefore, the results of the survey were used for defining the mobility solutions to be adopted to the Bierzo's Industrial Park (BIZ henceforth).

1.2 RESULTS OF THE MOBILITY SURVEY

The collection of data has been automatically for surveys in the platform "Limesurvey", while for paper surveys were its digitization for the processing of data of the entire set of surveys.

Below is presented the analysis of the results obtained from the surveys for companies, workers and visitors to the BIZ, and surveys of visitors to the Ponferrada Clinic and attractor´ centers.

Conclusions:

Below is presented the analysis of the results obtained from the surveys for companies, workers and visitors to the BIZ, and surveys of visitors to the Ponferrada Clinic and attractor´ centers.

According to the results obtained from surveys conducted both enterprises and workers, has a large unification in the times of entry and exit of workers in the BIZ. From these schedules, we find that the peak hours of travel in and out of workers are: 06:00 (71 people), 09:00 (70 people), 14:00 (127 people), the 15:00 (76 people) and 20:00 (54 people). Using public transport in these times would get a significantly reduce of private vehicle use, because surveys state that workers are willing to use a public transport if times were consistent. Moreover, the most of workers, 70% are residents in Ponferrada, so that their journeys are compatible.

Companies agree with the number of traffic lighting in the BIZ and the flow of traffic. But believe it is insufficient signaling (71.4%) and data points (81%).

The majority (57.14%) believe that access to their business is done without difficulty, and those who find no good saying that the biggest problems are the parked trucks (14.29%) and long distances to change sense (14.29%). In this section we find no problem in the signaling for access to their companies, although it is considered very poor as stated in the question of conformity.

For pedestrian access, companies considered a problem lack of lighting (29.41%) among other factors such as lack of pedestrian crossings, narrow footpaths and the state of the paving (11.76%, respectively).

Among the solutions that companies create more convenient to improve mobility, emphasizes greater use of public transport (31.25%), and provide more parking spaces (21.88%).

Companies are willing to encourage urban transport card among its employees by 27.27%. Likewise also are arranged in a 22.73% to have a bike rack and 22.73% to provide a vehicle for the activities of the company, so that workers would not have to scroll to the job in a private vehicle .

BIZ workers come to work by car, as drivers, by 73.75%. This figure is exaggerated, and must be reduced to achieve an improvement in mobility. However, 50.97% would be willing to come to public transport if transport times are compatible with their work. If you go the other conditions (including financial aid, travel not exceeding more than 15 minutes from now), the 76.06% of respondents would be willing to use public transport.

Only 28.65% said make intermediate stops to / from their homes, that´s mean a high percentage of workers (71.35%) making their trips home-work-fome straight. This information means those trips could be compatible in most cases, since they come from Ponferrada and have similar schedules of input / output very similar, as already mentioned.

A 63.32% of workers would be interested in making telecommuting (to work from home). This type of offer also greatly improve the mobility of the industrial park, but as there a lot of commercial activity this option is not expected as viable.

Around 54.33% of workers consider public transport "Bad" (the worst scale asked), and 14.96% as "Enough." Only 11.81% denoted as "Good" and the 8.66% "excellent". The timeswork schedule are not currently compatible with their work in a 69.29%. It is considered to be improved times and frequency, routes and location of the stops in a 76.88%. Therefore, an improvement of the service, and the workers pled with

the willingness to use public transport, could improve the mobility of the Only 28.65% said make intermediate stops to / from your home, so that a high percentage (71.35%) of workers who make your paths straight. This information makes paths are compatible in most cases, since they are also have schedules Ponferrada and input / output very similar, as already mentioned. A 63.32% of workers would be interested in making telecommuting (to work from home). This type of offer also greatly improve the mobility of the industrial park BIZ.

Workers would be willing to use organized transport from companies in 81.08% of cases. This measure is feasible as the schedules of workers are compatible during peak hours analyzed, and their homes are quite close (a 69.35% live less than 3 km away).

The willingness of workers to use "Car Pooling" (car sharing) is manifested in a 72.20% of the cases. A 24.71% of workers would be willing to be part of this measure without conditions.

A 42.47% of workers would be willing to go to work by bicycle. The 8.49% without conditions, and 16.22% of them if there were safe bike lanes.

Visitors to the BIZ come fairly to the various companies of the BIZ, with the predominance of purely commercial and entertainment (such as Fitness Center on Bierzo -20.69% - and Mandarin Home -18.97% -). The 74.55% of GDP visitors go by car as driver, claiming a 27.72% who do it for comfort. Other notable factors by attending this mode of transport is by having to carry parcels or packages (19.80%) and no alternative (13.86%).

Most of the visitors of the BIZ (54.29%) admit to ignore the public transport to the area, and only 20% say that public transport has convenient times. Also by 82.35%, say that public transport must improve. In this sense they would be willing to use it to reach the BIZ in a 46.77%, if it would improve times, stops and routes.

People entering into to Ponferrada Clinic are 52.86% for medical cases (as patient), while 22.86% said to accompany another (like visitors).

The 38.03% say they go to this center and not another because social security are commanded to go there as patient. These people are those who are domiciled in the districts of Ponferrada. Meanwhile, 21.13% prefer private medical claims to public as a reason for coming to the clinic.

The 62.86% of the clinic visitors go by car as driver, claiming a 40.18% do it for comfort. Other notable factors by attending this mode of transport is not to have another alternative of transport because they live far away (17.86%) and the duration of the travel time (7.14%).

The evaluation of the Ponferrada Clinic's parking is positive, as the 55.07% of the interviewers consider that is enough. And only a 24.64% find it small for current needs.

The 34.38% assessed as "good" public transportation to the clinic, while 18.75% considered "excellent". Only 18.75% believe that the service is "Bad". They also state that the time schedule is right for their needs by 50% of cases. Also, interviewers say that public transport must improve by 80.85%. In this sense they would be willing to use it in a 17.15% if it would improve time schedules, routes and stops and a 22.68% would use it without conditions.

1.2.3 A MOBILITY BEHAVIOUR ANALYSIS

In this section a closer look to the mobility behaviour of the employees is going to be carried out in order to better understand the factors that influence it. This will allow after to identify the most suitable solutions in order to improve the mobility situation of the BIZ and change the mobility behaviour of the employees to a more sustainable one.

This section analyzes the current state of mobility of Bierzo’s Industrial Park (BIZ henceforth). This has been taken into account all BIZ’s users, such as businesses, workers and visitors.

Because of this, it has been an inventory of all companies and travel attractors in the influence zone. We analyzed the characteristics of the entire road, from the material characteristics to the accessibility and accidents. We also analyzed the traffic, both private and public, performing appraisals in situ.

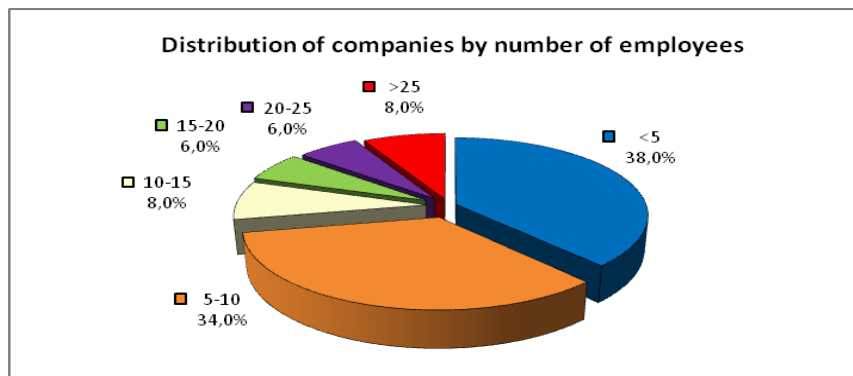
To see the current and future behavior of the members of BIZ, opinion surveys were conducted for all affected groups. In total 5 different surveys were conducted: companies, workers, visitors of BIZ, visitors to the “Clínica Ponferrada” and Ponferrada’s travel attractors centers.

In summary, the most significant results obtained are as follows:

- Of the 80 plots in which BIZ is divided, only 56,3% business has activity today (57 companies with a direct employment estimate of 1.250 people). The remaining plots, lack of activity can be classified into: plots occupied by industrial buildings under construction (3.8%), plots for sale or rent buildings (7.5%) or totally vacant parcels (32.5%).
- In terms of company size based on their number of employees, more than 70% of companies in the BIZ have less than 10 workers, while only 8% of them have more than 25, most notably Sykes Company with a total of 700 workers.

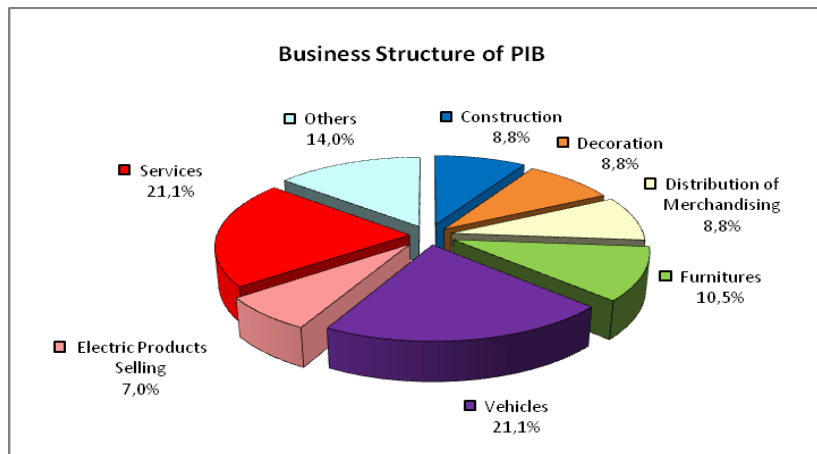
Sector	Number of employees					
	<5	5-10	10-15	15-20	20-25	>25
BIZ I	39,1%	34,8%	8,7%	8,7%	0,0%	8,7%
BIZ II	37,0%	33,3%	7,4%	3,7%	11,1%	7,4%
Total	38,0%	34,0%	8,0%	6,0%	6,0%	8,0%

Table 1. Distribution of companies by number of employees



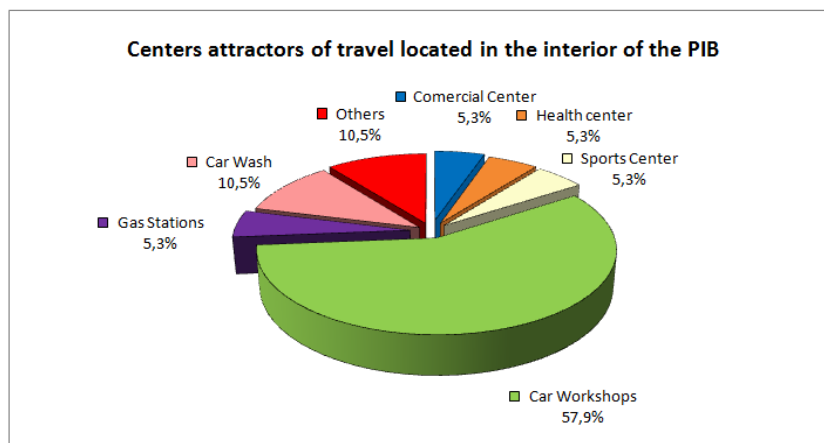
Graphic 1. Distribution of companies by number of employees

- Within companies that are currently located in the BIZ, predominantly in the automotive industry (sales, maintenance and repairing of vehicles) and services with 21.1% of the companies followed by the sector "others" with 14.0%.



Graphic 2. Business structure of BIZ

- Because the type of BIZ’s business is predominantly commercial and services, the park itself has an important influence on the trips generated by visitors and customers. Travel attractors’ centers most predominant in the area of influence, both inside and outside the studios of vehicles (57.9% and 33.8%).



Graphic 3. Centers attractors of travel located in the BIZ

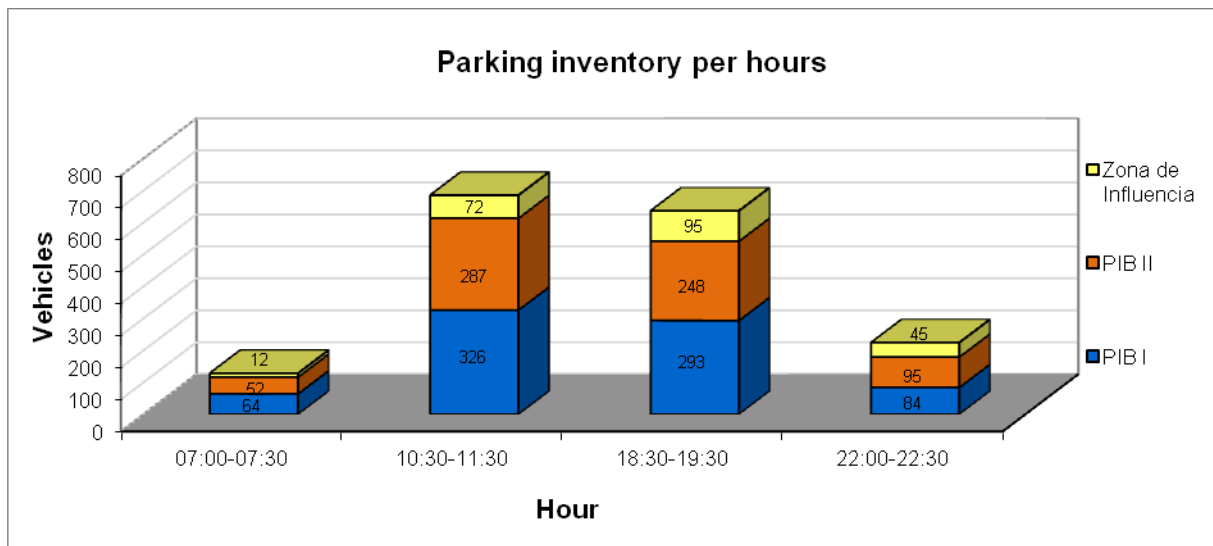
- Lack of parking signs in the street causes that cars are parked in places of special conflict (curves, intersections, roundabouts, etc.) making it hard for big tonnage vehicles by BIZ.
- Signaling in BIZ is inadequate and deteriorated, especially road marking and the total absence of vertical signals in some stretches of circulation, which causes confusion among drivers and counterclockwise circulation in some streets of a one-way (such as Lisbon and Bordeaux streets).
- BIZ is observed that, despite the absence of specific public transport service, has a very close transport network, formed by lines passing through Ponferrada of North-South and East-West. They are all very similar in average time of travel, average speed and itinerary.
- With regard to traffic flow, service levels detected in the streets of BIZ is A or B, as already explained in section 3.2.4.2 of the report indicates that traffic is flowing (level A) or stable (level B), and therefore not recorded incidents that affect a significant traffic congestion. For clarification about the Service Levels, see Annex 10.

- There are two main entrances for vehicles in BIZ, down the Oporto Street. Access on these assumptions have little danger, to be input to BIZ or by a roundabout (in the case of Milan Avenue) or forcing drivers to come to a roundabout next to avoid the left turn, as is happened in Galicia's Avenue.
- The range of existing parking spaces in BIZ and its catchment area is 1.398. All companies of BIZ have their own parking areas (except for the nightlife area). In regard to the capacity of these areas, it is insufficient in most cases, observed that almost 40% of companies do not have enough places for their employees in them.

Sector	Parking spaces		
	Places in the Public Street	Places in Built plots	Places in Unbuilt plots
BIZ I	300	240	110
BIZ II	310	253	-
Influence Zone	35	75	75
TOTAL	645	568	185

Table 2. Parking spaces in the BIZ

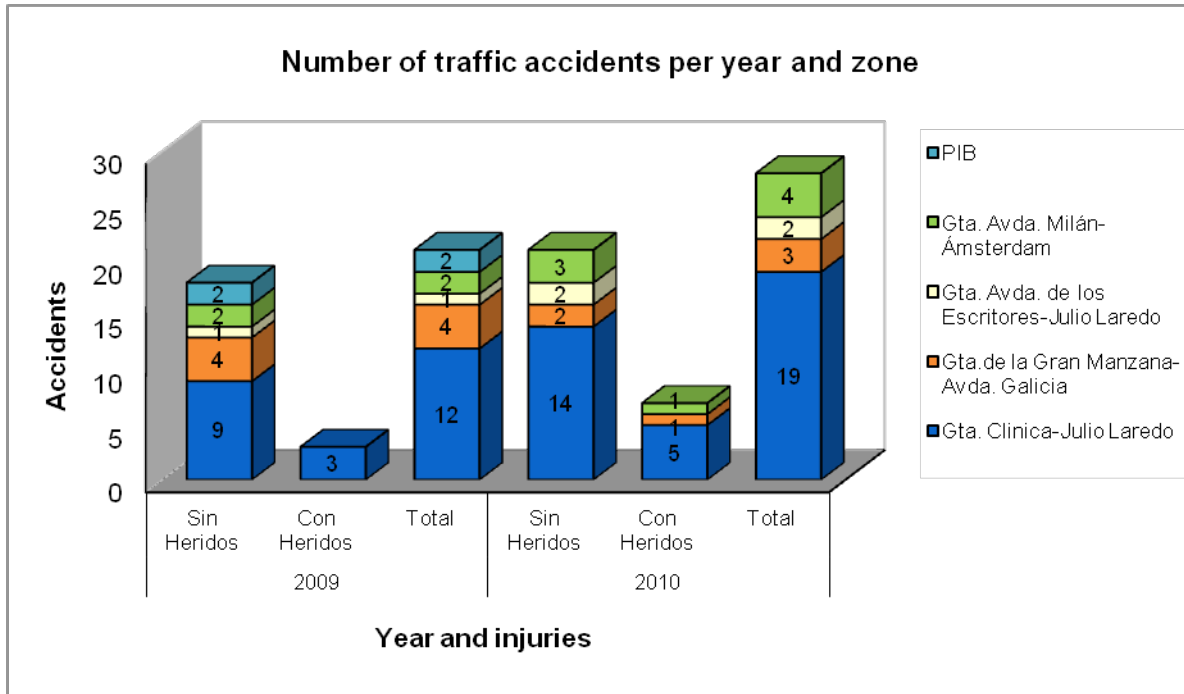
- From the data collected in BIZ and its zone of influence during the inventory of parking is seen that in the period of greatest demand for parking of 10:30 to 11:30, there is a total of 683 vehicles. The type of vehicle being parked are mostly cars, well ahead of vans.



Graphic 4. Parking inventory per hours.

- The supply of parking spaces of BIZ as a whole is adequate, with no occupancy levels above 70% in any of the locations studied in the capacity of the parking inventory.
- On the inside of BIZ does not run any track for bicycles, however, Galicia Avenue is part of a bike lane, the line gives access to West Park and Commercial Center "El Rosal". This track does not access the center of the city. There is no more bicycle infrastructure; the only company that owns the business park bicycles is SYKES (a module for 10 bicycles). However, considering that the company has 700 employees, the supply of bicycle parking spaces is rather limited.

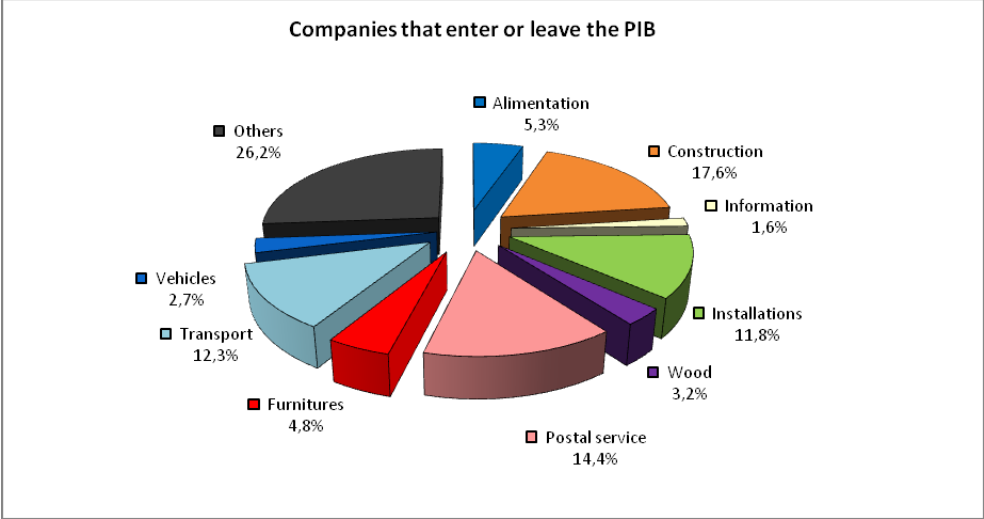
- In 2010 there was no accident in the BIZ but the number of accidents nearby, causing an increase of 33.3% in the total number of accidents. In addition, the number of injury accidents also increased, doubling the number of accidents recorded in 2010 the values obtained in 2009.



Graphic 5. Number of traffic accidents

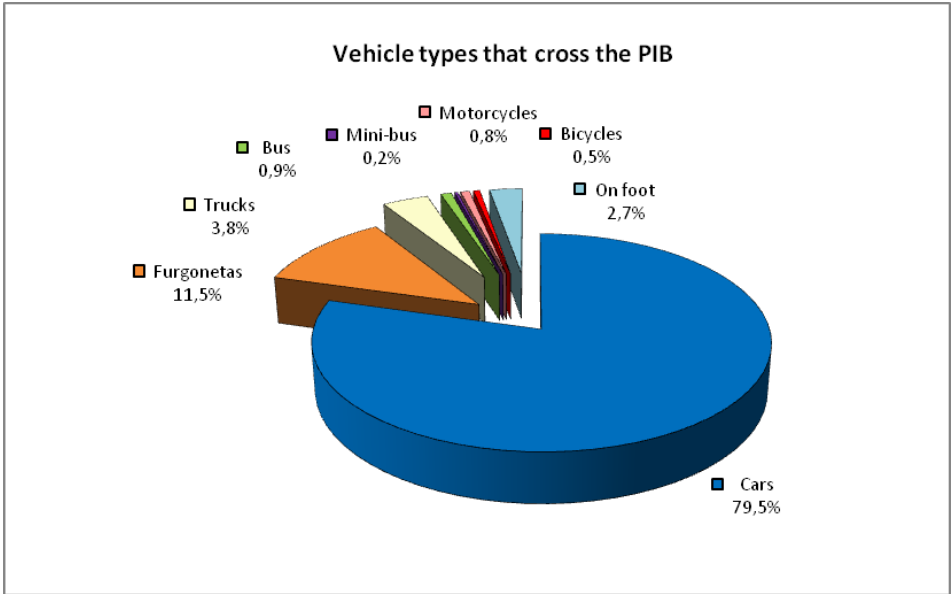
- The most common security measures adopted by companies of BIZ are the installation of alarms and surveillance cameras.
- During the course of field work showed that the level of cleaning sidewalks and vacant lots of the BIZ is not the most optimal, highlighting the BIZ I (the North Half of BIZ), where the wastes remain in the street and the vegetation has invaded the sidewalks and street furniture.
- The road of most streets from BIZ is busy at certain locations of items (containers, cones, pallets, etc.) that can become difficult to move within it.
- It is seen that all plots have connections to all services: electricity, gas, water and telephone / internet. Regarding to the fire network of the industrial park, there is a single fire hydrant across the surface.

- Within the volumetric business vehicles in the two entrances to the BIZ, is dominated by vehicles engaged in sector “other” (26.2%), construction (17.6%), postal services (14.4%) and transport (12.3%).



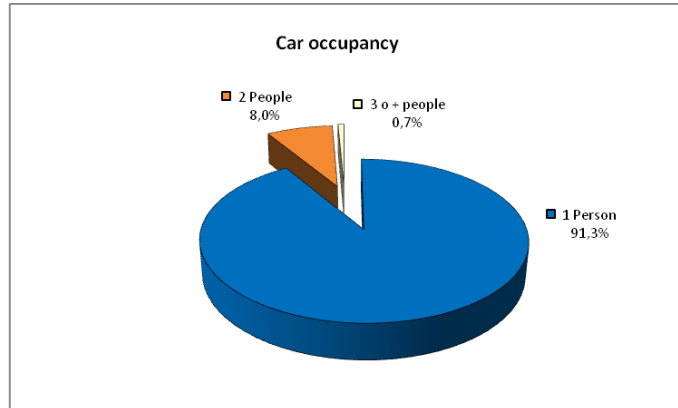
Graphic 6. Companies that enter or leave the BIZ

- In the BIZ I there are located 7 bars with club license. These establishments are an important focus attractor of visitors the weekend nights. The park is mainly in the driveway of Lisbon Street, the esplanade located in this street and the esplanade in front of the gas station.
- Travel pass by the area of influence of BIZ are made mostly in cars (79.4%), followed by vans (11.5%) and trucks (3.8%). On the other hand, the occupancy of these trips is very small, not exceeding 30% the percentage of vehicles occupied by more than one passenger.



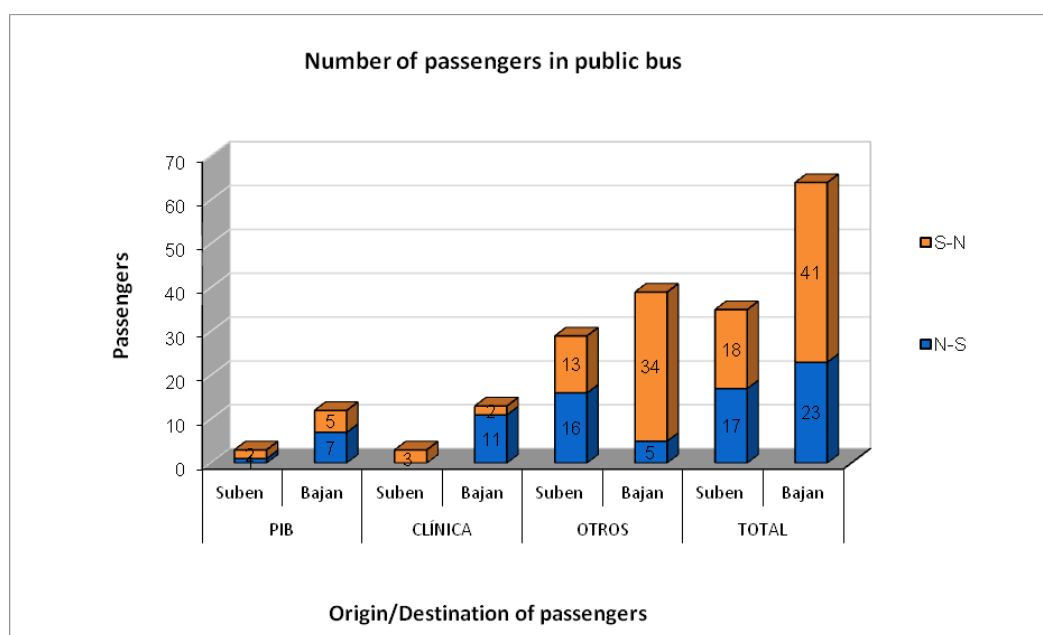
Graphic 7. Vehicle types that cross the BIZ

- With respect to the displacements generated by the BIZ, as travel-way, the most widely used mode of transport is tourism (70.8%) followed by vans (17.9%) and trucks (5.8%). As for the occupancy of cars entering or leaving the BIZ, the 91.3% of volumetric cars were occupied by one person.



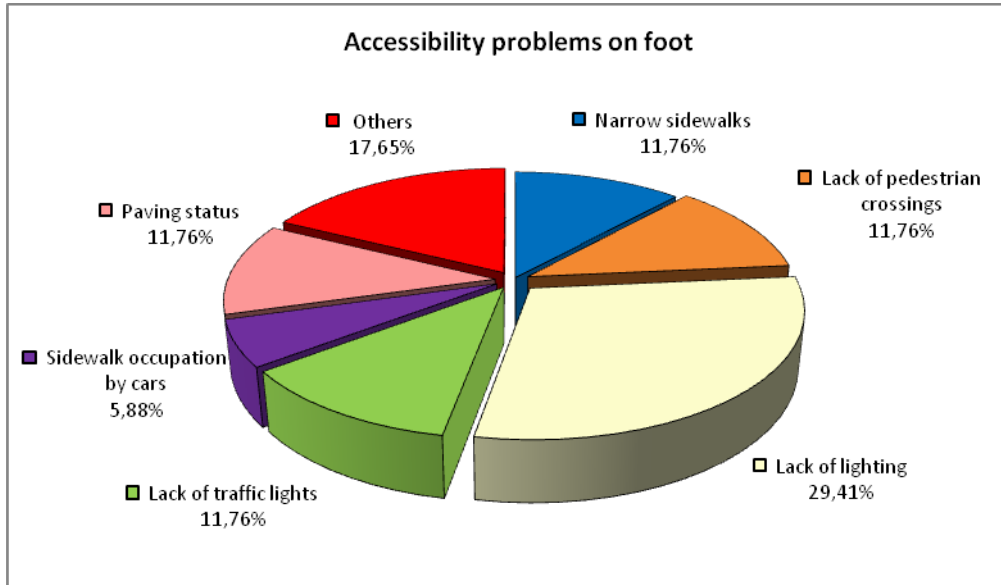
Graphic 8. Car occupancy of crossing private vehicles in the BIZ

- In the capacity inventory of bus passengers, it was found that the sense in which most passengers up or down in the area of influence of BIZ, is the North South direction (towards downtown) and more than half of passengers have their origin / destination regardless of the clinical and industrial park (only a total of 15 passengers had their origin / destination in BIZ).
- Depending on results from surveys both companies and workers, is largely unification in the times of entry and exit of workers in the BIZ. These schedules are detailed in section 3.2.8.1 in Table 69 on rotating shifts of workers. From this table we find that the peak hours of travel in and out of work are: 06:00 (71 people), 09:00 (70 people), 14:00 (127 people), the 15:00 (76 persons) and 20:00 (54 people). Using public transport in these times get significantly reduce private car use, as the survey state that workers are willing to use a public transport if times were consistent. Moreover, the vast majority of workers, 70% are resident in Ponferrada, so their paths are supported.



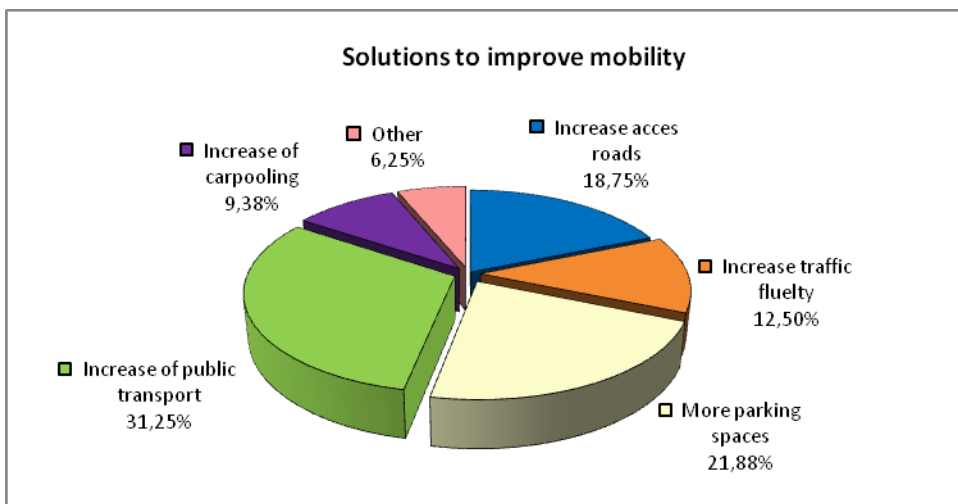
Graphic 9. Number of passengers in public bus

- For access on foot, the company considered a problem the lack of lighting (29.41%) among other factors such as lack of crosswalks, narrow footpaths and the paving status (11.76%, respectively).



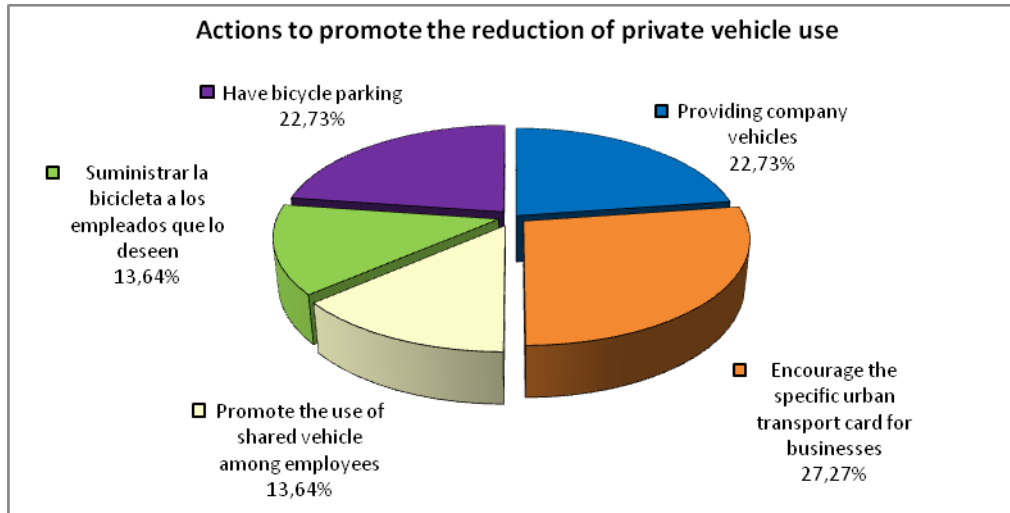
Graphic 10. Accessibility problems on foot observed by companies

- Among the solutions that businesses believe more convenient to improve mobility, emphasizes greater use of public transport (31.25%), and provide more parking spaces (21.88%).



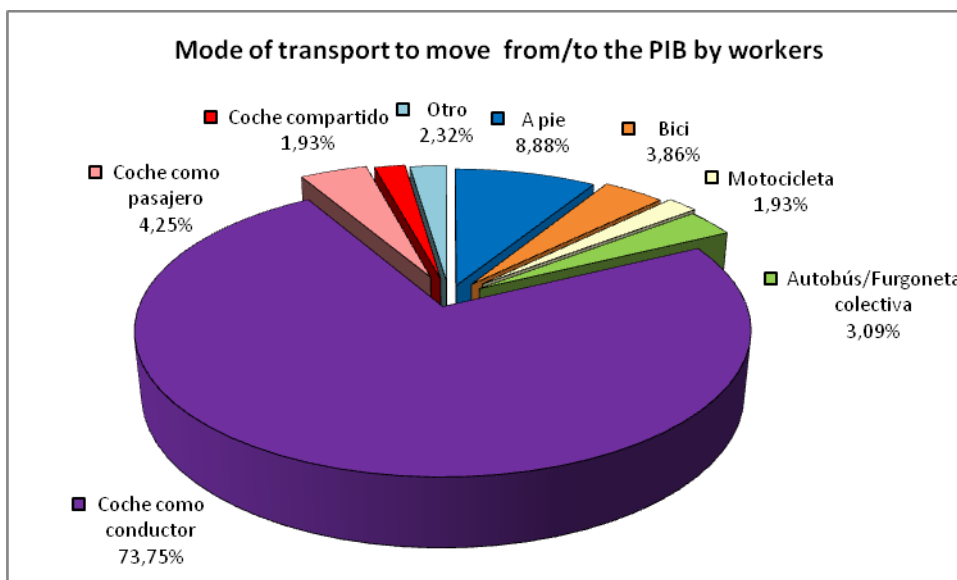
Graphic 11. Solutions to improve mobility that businesses emphasizes greater

- Companies are agreeing in incentivize urban transport card among its employees by 27.27%. Likewise also arranged to have a 22.73% bicycle parking and a 22.73% to provide a vehicle for the activities of the company, so that workers would not have to travel to jobs in the private car.



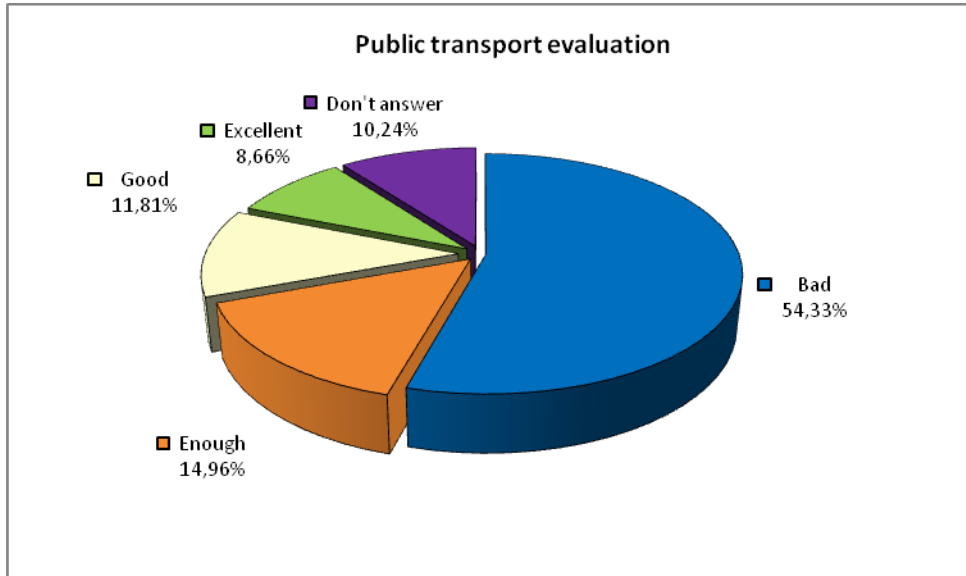
Graphic 12. Actions to promote the reduction of private vehicle use

- BIZ workers go by car to work as drivers in a 73.75%. This figure is exaggerated, and must be reduced to achieve an improvement in mobility. However, 50.97% would be willing to come to public transport if transport times are compatible with their work.



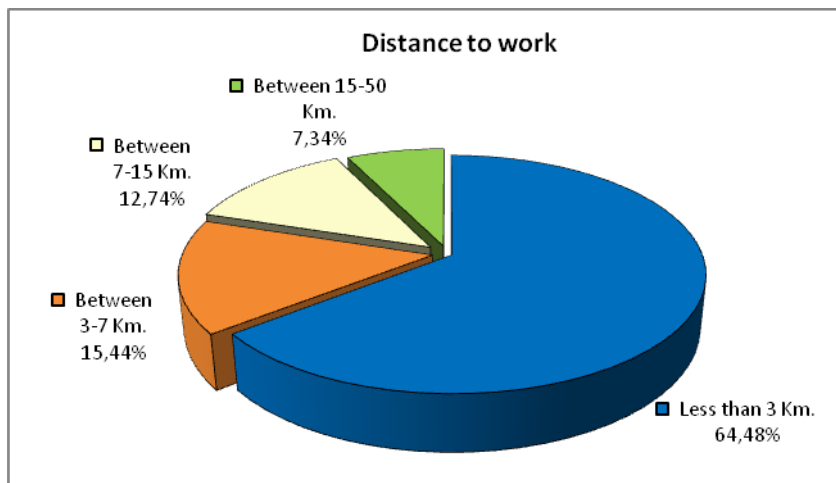
Graphic 13. Mode of transport to move from/to the BIZ by employees

- Workers in a 54.33% considered public transport "Bad" (the worst level questions), and 14.96% is considered as "Enough". Only 11.81% denoted as "Good" and the 8.66% "Excellent". The times are not currently compatible with their work in a 69.29%. Considered to be improved and often times, routes and location of the stops on a 76.88%.



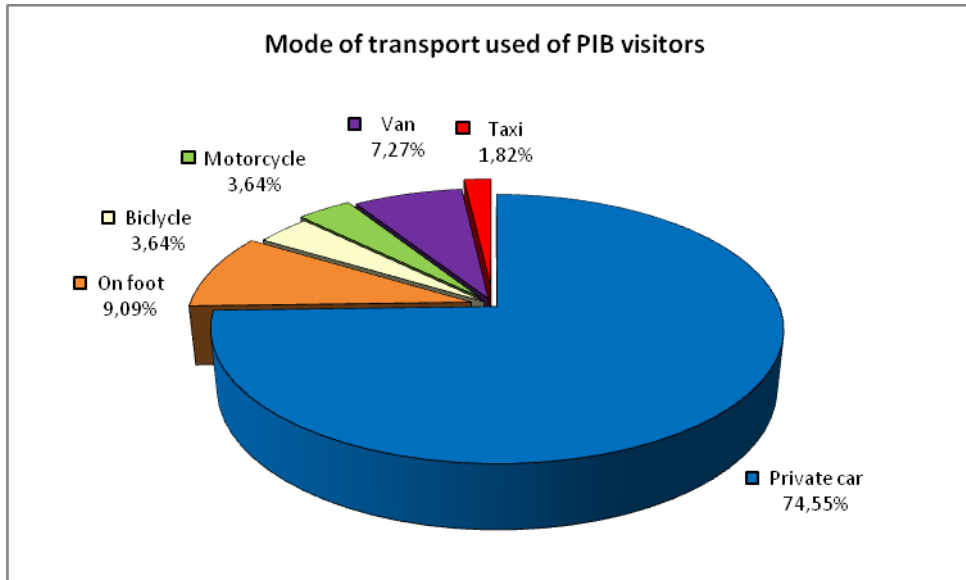
Graphic 14. Public transport evaluation by employees

- Workers would be willing to use public transport company in the 81.08% of cases. This could be done since the times of the workers are supported during peak hours analyzed, and their homes are close (64.48% live less than 3 km).



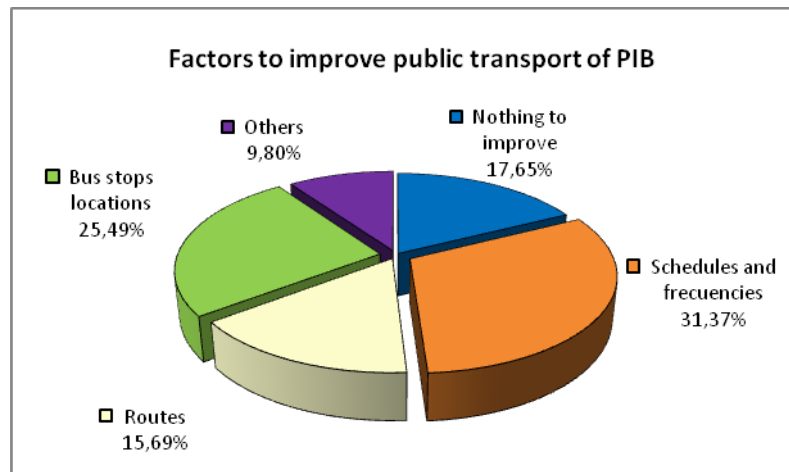
Graphic 15. Distance to work

- The 74.55% of BIZ visitors go by car as driver, claiming a 27.72% who do it for comfort. Other factors highlighted by those who come in this mode of transport is by having to carry packages (19.80%) and have no other alternative (13.86%).



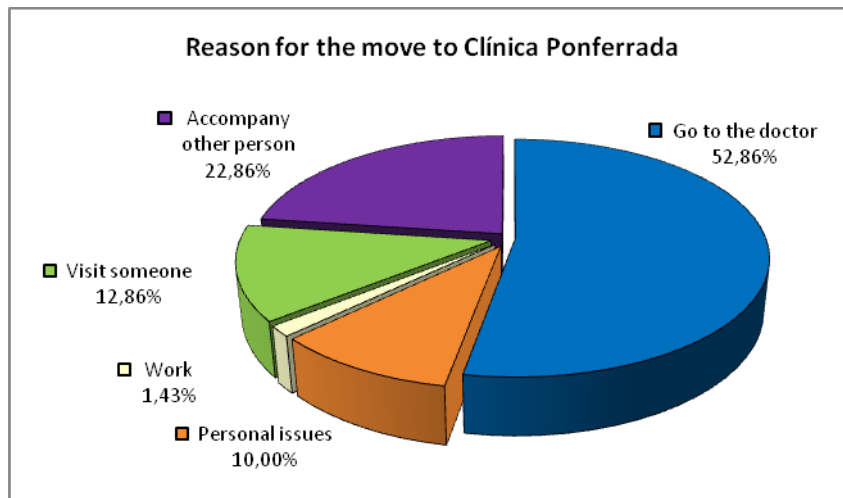
Graphic 16. Mode of transport used of BIZ visitors

- Most BIZ visitors (54.29%) allow ignoring the public transport service to the area, and only 20% say that public transport is convenient sometimes. Also, say that public transport must improve by 82.35%. In this sense they would be willing to use to reach 46.77% if BIZ were improved schedules, stops and routes.



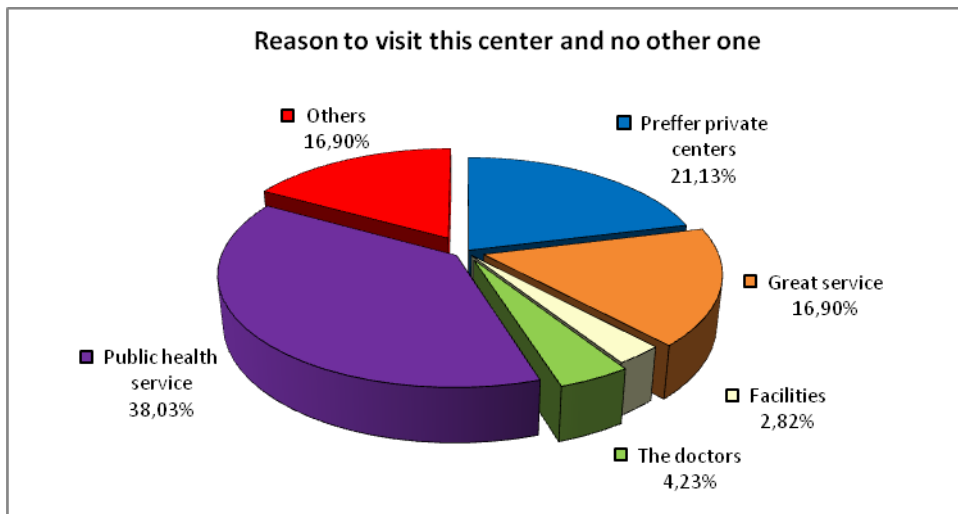
Graphic 17. Factors to improve public transport of BIZ

- Visitors to “Clínica Ponferrada” go to the doctor in a 52.86% of cases, while 22.86% said that accompany another person to the clinic.



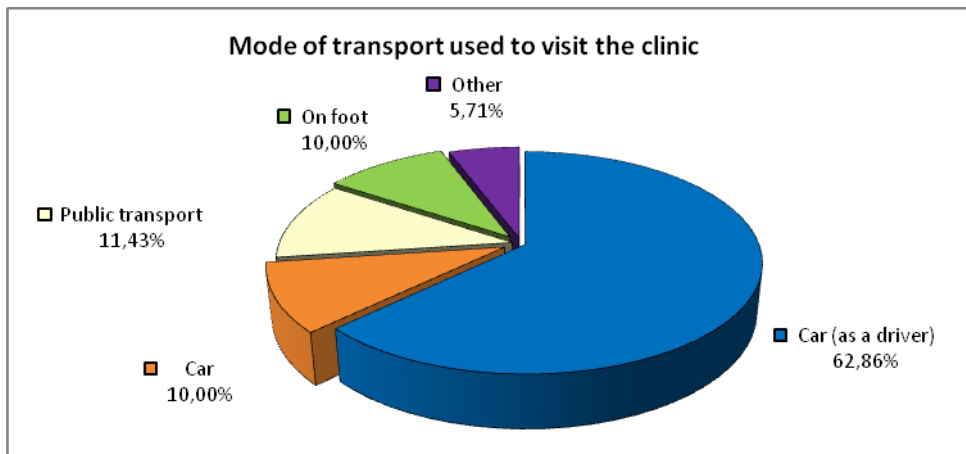
Graphic 18. Reason to go to Clínica Ponferrada

- The 38.03% said they go to this center and not to another because medical public service sends them go to it. These visitors are those who are domiciled in the districts of Ponferrada. Meanwhile, 21.13% claimed to prefer private to public medicine as a reason for coming to the clinic.



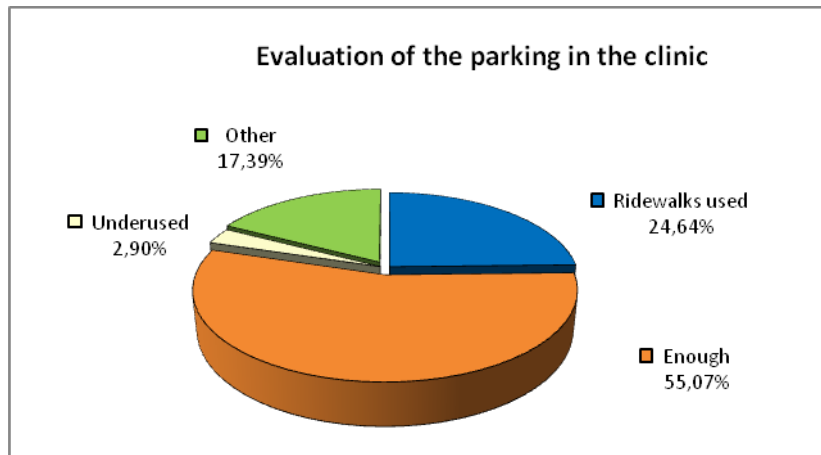
Graphic 19. Reason why people visit this specific medical center

- The 62.86% of visitors to the clinic came by car as driver, claiming a 40.18% who do it for comfort. Other factors highlighted by those who come in this mode of transport are another alternative to having to live away (17.86%) and travel time (7.14%).



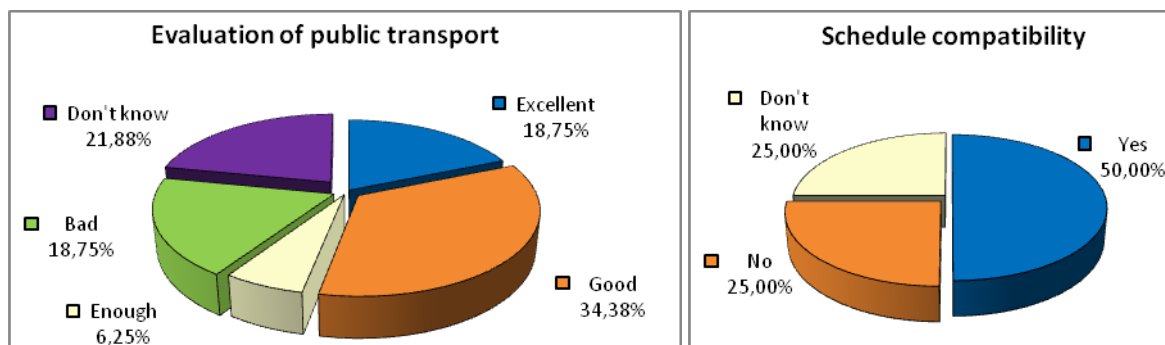
Graphic 20. Mode of transport used to visit the clinic

- Assessment of Ponferrada Clinic parking is positive, as the 55.07% claims that it is enough. A 24.64% find it small for current needs.



Graphic 21. Evaluation of the parking in the clinic

- The 34.38% of visitors rated as "Good" the public transportation to the clinic, while 18.75% considered it "Excellent". Only 18.75% felt that the service is "Bad." They also state that the schedule is good for their needs by 50% of cases. Also, say that public transport must improve by 80.85%. In this sense would be willing to use to reach 17.15% if BIZ were improved schedules, routes and stops and a 22.68% would use it without conditions.



Graphic 22. Evaluation of public transport to Clínica Ponferrada and schedule compatibility

1.2.3B SUMMARY STATE OF THE BIZ

This section is a complement to the previous sections: survey and modal behavior of workers and visitors. It describes in detail all data and information that reflect what the current situation of BIZ in terms of mobility.

It shows in the one hand, the analysis of the most relevant data and information collected and in the other hand, the following conclusions from this analysis to propose actions that will improve the mobility in the BIZ and serve as a reference for the development of proposals for improvement.

The conclusions of this study aim to provide information on existing problems, how they are perceived by workers and visitors, by the members of the Local Mobility Group in the BIZ, the priority of taking into account current legislation, the importance given by the workers, the number of people it affects, interactions or synergies with other mobility problems, as well as economical, social and environmental significance.

In the following table it is summarize as much as possible the major mobility problems and conflicts detected and their possible causes and proposed box solutions:

PROBLEM	DESCRIPTION	POSIBLE CAUSES	PROPOSALS
Occupational structure of production and the study area			
Significant number of vacant lots	These plots are in a state of disrepair that offers a very attractive image to visitors and workers	Quick urban development	<ul style="list-style-type: none"> Promote financial assistance to start new businesses. Create the program "El BIZ Emprende". Economic Development Plan to encourage new investment in the city.
Important visitor demand	The demand for trade visitors arrive at specific times to saturate the parking lot	The configuration of the BIZ, services and eminently commercial	<ul style="list-style-type: none"> To promote among the companies to improve the supply of sustainable transport and package delivery services. Create parking spaces for car sharing. Promote public transport services to the entertainment areas. Promote soil additive use for the parking lot. Promote a debate on the Urban Plan and other policies
70% of businesses have fewer than 10 employees	Most workers mobility generated by the BIZ is concentrated in one company (Sykes), to use this to 57.7% of BIZ workers	The type of activity performed, since most companies have an activity related to direct trade	<ul style="list-style-type: none"> In the design of industrial sites make the assessment of mobility patterns that are generated at different locations in industrial parks, commercial, mixed... Develop an exclusive plan for mobility in companies that act as major attractors of trips by its high number of workers or visitors. Promote shared transport
Important influence on the trips generated by visitors and clients, and is planned to build a funeral home in BIZ I, which will be accessed by Milan Avenue	Like other similar centers, the number of trips generated by visitors will be important and significant condition Avenue traffic in Milan and nearby areas of BIZ will support a major impact on parking areas	The proximity to downtown has encouraged the implementation of these businesses of a more commercial and service.	<ul style="list-style-type: none"> Regular and / or manage the supply of parking in these centers. Incentives for those businesses that free home delivery. Provide and mark parking spaces reserved for carpooling. Promote a discussion of the implementation of these centers travel attractors Enable access spaces for customers with more than one passenger in your vehicle. Encourage a flexible transport Plan and manage the installation from start attractors of travel centers.

PROBLEM	DESCRIPTION	POSIBLE CAUSES	PROPOSALS
Features of the road network of BIZ			
<p>Width of lanes insufficient in areas such as road curves, crossings, etc</p>	<p>The access of vehicles of great tonnage to certain companies is made with difficulties by the existence of vehicles parked next to the accesses (causing that the vehicles of great tonnage do not have sufficient turning radius). In order to avoid this frequent situation, the companies usually place cones, pallets,... in the annexed zone of parking to their accesses.</p>	<p>The companies that generate more trips towards their premises, or centers of greater attraction, did not consider at the moment of the construction of the avenues.</p>	<ul style="list-style-type: none"> • The companies that generate more trips towards their premises, or centers of greater attraction, did not consider at the moment of the construction of the avenues. • Boundary of the strips destined to parking by means of horizontal signaling.
<p>Signaling in the BIZ is weak and deteriorated.</p>	<p>This situation causes the confusion in conductors and the determination to use tracks in double sense, when indifferently, among others, they are of unique sense</p>	<p>Absence of planning and management in the zone in the last years.</p>	<ul style="list-style-type: none"> • To adapt the senses of circulation with horizontal and vertical signaling. • To place informative panels in the accesses to the BIZ in which the situation of the companies is indicated in a map of himself. • To improve the existing signaling in the city and its suburbs of the location of the BIZ.
<p>Widespread breach of the rules of the City of Ponferrada city hall.</p>	<p>Most of the companies they have an access to vehicles from the circulation track, but two companies have ford plate solely.</p>	<p>Little police control in this aspect.</p>	<ul style="list-style-type: none"> • To demand the fulfillment of the norm of fords between the companies of the polygon and the police control for vehicles that park occupying the reserved spaces of exit of vehicles.
<p>The walk access agrees, in most of the companies, with the access described previously for vehicles</p>	<p>Given to the configuration and city-planning design of the BIZ, the walk itineraries of access to the BIZ from the city and mobility walking by the park they are not adapted, permeable nor accessible, they imply to make roundups, to walk enough more than what would have to be a straight and comfortable itinerary for the walkers</p>	<p>The way on foot did not consider at the time of designing and planning the BIZ</p>	<ul style="list-style-type: none"> • To improve the walk accesses to the companies, • To reduce to the interactions between vehicles and walkers in the zone of the company, with the intention of favoring its security and the image that the company to its clients transmits • To improve the walk accessibility of the BIZ with the objective to promote and to make attractive to the walkers arrive until the BIZ walking

PROBLEM	DESCRIPTION	POSIBLE CAUSES	PROPOSALS
Accesibility to BIZ			
<p>Little disposition of workers and clients by the use of the urban transport for its displacements to the BIZ.</p>	<p>L2, L5A, L5B, L6, F1, F3, FE and LB are the lines that circulate around Galicia Avenue, as opposed to the BIZ and arranges of 3 bus-stops in their proximities.</p>	<p>The little penetration of the network of urban buses in the BIZ</p>	<ul style="list-style-type: none"> • Extensions or slight modifications of itineraries of the existing lines of urban transport. • New shutdowns next to the BIZ, mainly to the BIZ II More information about the supply of urban transport Tariffs and associated bonds of transport to the profile of the worker. • Adjustments of schedules and frequencys. • Promotion of the collective transport of company, mainly to that they have an important volume of workers, like Sykes, Clinic or FCC, and because 70% of the companies have less than 10 workers, to foment that it can share between several companies. • Flexible transport through the promotion of the services of the taxi, with new regulation and taxes, in addition to advantages. • Buses shuttle for the industrial park from different places from the city that approach the residents until their place of work.
<p>The detected level on watch in the streets of the BIZ is To or B, and has two main accesses to vehicle, by the Milan avenue and the Galicia Avenue.</p>	<p>It has been observed that some workers and visitors, instead of acceding to the BIZ by the mentioned accesses, enter he himself crossing the parcels of some companies (Gas Station Galp and Muebles Aldama)</p>	<p>To delimit and to signalize those accesses that the workers and visitors use, through certain parcels improving the security of these routes of step.</p>	<ul style="list-style-type: none"> • To delimit and to signalize those accesses that the workers and visitors use, through certain parcels improving the security of these routes of step.
<p>40% of the companies do not have sufficient seats to their employees in the same ones</p>	<p>All the companies of the BIZ have own areas of parking (with the exception of the premises of nocturnal leisure), a total of 493 seats, but in the analysis of the data of the inventory of parking seats and number of workers, it has been observed who the capacity of these areas, is insufficient to a great extent the cases.</p>	<p>Abundant supply of existing seats of parking in the public thoroughfare of the streets of the BIZ, these in addition does not have road marks that they delimit them, which causes that in some occasions parked vehicles exist badly that make difficult the passage of vehicles of great tonnage by the Industrial Park</p>	<ul style="list-style-type: none"> • To reduce and to delimit the supply of parking in the streets of the BIZ, stop of this form to dissuade the use of the particular vehicle like way to accede to the BIZ, and to closest harness more amiable surroundings and to the users than they accede in average more sustainable, by means of the creation of an area of coexistence between pedestrians and cyclists.

PROBLEM	DESCRIPTION	POSIBLE CAUSES	PROPOSALS
<p>By the interior of the BIZ any cycling route does not run and other infrastructures for bicycles exist such as aparcabicicletas neither points of loan in the BIZ nor in its environs.</p>	<p>The Galicia avenue comprises of a bike track whose layout gives to access to the Park the West and Commercial Center “El Rosal”. This track does not accede to the urban center of the city, being this one of the main problems detected at the time of studying the accessibility in bicycle. In addition the track has been sectioned by the new conservatory presenting/displaying therefore a lack of continuity.</p>	<p>In the design of the park one did not bet by avenues of a sufficient width that they allowed to the construction of tracks bike. For that reason track has been only detected bike in the most extensive avenues (Galicia Avenue) whose width has allowed its construction, without getting to penetrate in center urban of the city in that we were with he himself problem of lack of space.</p>	<p>To extend the network of exclusive tracks for the use of bicycles. Establishment of areas of coexistence on the sidewalks of the BIZ, after making its extension in the u of the streets of the BIZ. To improve the supply of the transport in bicycle (aparcabicicletas and bicycles) To qualify clothes and showers in the companies.</p>
<p>Poor condition of the pedestrian routes.</p>	<ul style="list-style-type: none"> • Narrow or even nonexistent sidewalks in some points of the BIZ (Milan Avenue, Lisbon Streets, Bordeaux, Hamburg, Manchester and Amsterdam). • Deficient nocturnal illumination (Streets Bordeaux, Hamburg and Manchester). • Difficulties to cross the interior of the industrial park in a safe and comfortable way (existence of dirt, obstacles...) (Streets Bordeaux, Hamburg and Manchester). • Absence of traffic lights in Avenue Galicia and Avenue Milan. The sidewalks are frequently parking spaces. Pedestrian crossings badly signalized (the BIZ I). To release whole ranges from a point to another one of the BIZ. 	<p>Ignorance of the competitions of the ground of public dominion that conform the same ones.</p>	<p>To extend the sidewalks in the streets of the BIZ, being contemplated the possibility of measures of shadows and preparations of rest areas. To dissolve who has the owner of the ground and to make sure that that has it. it makes the pertinent workings of conservation and maintenance of the same ones. To improve the visibility of the pedestrian crossings To introduce traffic lights in the pedestrian crossings of the avenue Galicia and Milan, with pulse for pedestrians. To delimit and to signalize those accesses that the workers and visitors use through certain parcels improving the security of these accesses.</p>

PROBLEM	DESCRIPTION	POSIBLE CAUSES	PROPOSALS
Accidents in the BIZ and its surroundings			
In 2010 any accident in the BIZ did not take place but it increased the number of accidents in the environs	An increase of 33.3% in the total number of accidents. In addition, the number of accidents with also hurt was increased, duplicating the number of accidents registered in 2010 the values obtained in 2009. The public square located in front of the Clinic of Ponferrada in the street Julio White Laredo is the place where more accidents take place (67.8%).	Excessive speed that some conductors reach in the sections in straight line of the Avenues Galicia, Milan and Amsterdam.	Improvement and preparation of the traffic in the Avenue. Public square Galicia with Julio Laredo by means of Turbo public square. Reduction of the speed by means of Pedestrian crossing elevated in the main arteries of the BIZ: Milano Avenue and Galicia Avenue to increase the control police.
Other Infrastructures and services of the industrial park			
The level of cleaning in sidewalks and empty parcels of the BIZ is not most optimal	The well-taken care of lack of and cleaning of the BIZ (that can be appraised in 7 the photographic news article of the Annex corresponding to Report 4) are a worrisome fact and thus the different tables from mobility of the BIZ like the asked individuals have stated it so much on the matter.	Ignorance of the competitions and owners of the ground of public dominion that conform the same ones	To dissolve who has the owner of the ground and to make sure that that has it it makes the pertinent workings of cleaning in the streets of the BIZ. To place more wastebaskets and containers in the streets of the BIZ.
In the BIZ 1 7 bars with disco license are located	In the own enclosure of these bars or pubs a zone of inner parking does not exist, which causes that the people who move until these nocturnal premises park in the Lisbon Street and the esplanade located between the two zones of leisure. In addition, when having access through the zone of leisure to the Lisbon Street from the Amsterdam Street, the parking is also made in the esplanade located in front of the Gas Station.	Great supply of seats of parking available in its environs in its schedules of opening.	To establish alcoholic controls in the proximities, the ends week. To extend the supply of urban transport at night the weekends. To stimulate the use of the urban transport through the premises of nocturnal leisure. To make informative campaigns on the consequences of the use of the car for this type of displacements. To foment the vehicle shared and conductive without alcohol.

PROBLEM	DESCRIPTION	POSIBLE CAUSES	PROPOSALS
Characterization of the demand of transports			
The trips are made mainly in tourism (79.4% and 70.8%), being the level of occupation of this type of trips very reduced	79.4% of the trips of passage by the area of influence of the BIZ and 70.8% of the generated ones by he himself are made in tourism (79.4% and 70.8%), being the level of occupation of this type of trips very reduced, not surpassing 30% the percentage of vehicles occupied by more of a passenger.	The comfort, the freedom of movement and the times of route, as well as the lack of infrastructures and promotion of other more sustainable means of transport. With respect to the reduced level of occupation detected in the tourism the advantages that suppose to travel single (independence of schedules,...), of the difficulty to find fellow travelers with similar passages and schedules of work.	<ul style="list-style-type: none"> • Groups to share vehicle Implantation of a system of management of shared car • Restrictions to park vehicles with an only occupant Incentives to let use the private car and foment other ways of transport more sustainable • Courses of efficient conduction
Reduced to use of the public transport on the part of workers and visitors of the BIZ	<ul style="list-style-type: none"> • The sense in which greater number of passengers raises or lowers in the area of influence of the BIZ, is the South North sense (Towards the center). • The origin/destiny of more than half of the passengers is different from the clinic and the industrial park (Only a total of 15 passengers had their origin/destiny in the BIZ). 	<ul style="list-style-type: none"> • In center of the city more atractores centers of trips are located, in addition to the interchanger of urban buses. • The proximity of the BIZ to residential areas 	<ul style="list-style-type: none"> • Economically to stimulate the use of the public transport, introducing specific bonds of transport for workers by means of agreements with the companies based on its plan of transport.
Characterization of the activity and mobility in the scope			
Great uniformity in the entrance schedules and exit of the workers of the BIZ.	A 48.57% of the companies work to divided turn.	Commercial schedules that they have most of the companies located by himself.	
The companies are arranged to stimulate the card of urban transport	A 27.27% of the companies are arranged to stimulate the card of urban transport between their employees. Also they are arranged in a 22.73% to arrange parks bicycles and in a 22.73% to provide a vehicle to make	The companies are conscious that mobility is more and more untenable.	

PROBLEM	DESCRIPTION	POSIBLE CAUSES	PROPOSALS
	the activities of the company, reason why their workers would not have to move to the job in private vehicle.		
Most of the workers they go to the BIZ in car like conductors	A 73.75% of the workers of the BIZ go in car as conductors and only a 28.65% affirm to make intermediate shutdowns from/towards their home.	The advantages that east means of transport as opposed to offer others, between that it emphasizes the comfort, the freedom of movement and the times of route.	
A 84.92% of the workers would be arranged to go in public transport with conditions.	50.97% would be arranged to go in public transport if the schedules of the transport were compatible with those of their work. If it is taken care of the rest of conditions (financial aids, trips that do not exceed in more than 15 minutes the present one, without conditions...), 84.92% of the surveyed people would be arranged to use the public transport.	A lack of information on the schedules and frequencies of the service of buses. Lack customary. The existence of the slant of social none stability in the answers given to this question.	<ul style="list-style-type: none"> • Tariffs and bonds of transport to the work and integration with the citizen card enterprise • Collaboration and promotion of mobility and the transport Elimination or reduction of seats of gratuitous parking. • Facilities to carpoolers • Tele-work and alternatives of work schedules
The interest shown by the workers in using sustainable transports is remarkable	A 81.08% would be arranged to use collective transport of company. A 72.20% would be arranged to use "carpooling" a 42.47% would be arranged to go to their job in bicycle	The economic crisis, in which at the moment we were, it is causing that it increases the saving of families.	<ul style="list-style-type: none"> • Possibilities of enterprise agreements for the acquisition of "clean vehicles" • Information, communication, marketing and diffusion Formation of the workers
Most of the visitors of the BIZ they move to BIZ by car	74.55% of the visitors of the BIZ go in car as driver.	The comfort and the necessity to have to take packages or bulks.	

PROBLEM	DESCRIPTION	POSIBLE CAUSSES	PROPOSALS
More than half of the visitors	54,29% of visitors admit to not know the public transport service until the zone, and only 20% say that the public transport has suitable schedules.	<ul style="list-style-type: none"> • A lack of interest to inquire about itself (since most of the marquees they count on detailed information of the schedules and passages of each one of the lines). • Lack of awareness on the importance of the use of sustainable transports. 	
An important number of visitors of the Clinic comes from “Pedanías of Ponferrada”	A 41.43% of the visits come from “Pedanías of Ponferrada”.	In most of towns facilities like these do not exist	

2. COST-BENEFIT ANALYSIS OF THE MOBILITY SOLUTIONS CHOSEN

2.1 INTRODUCTION

The mobility solutions identified for the Local Mobility Plan of the Ponferrada BIZ were chosen in a participatory way involving the Local Mobility Group (LMG) and based on the activating meetings with the local stakeholders, the background study of the BIZ (deliverable D2.b), the assessment in situ carried out and the results of the home-work mobility survey (companies, employees visitors) presented in section 1 of the present document.

More specifically, the process followed could be divided in four phases:

1. Background study of the BIZ that helped evaluate the present mobility situation of the BIZ and the critical points.
2. Activating meetings with the local stakeholders including companies, council mobility technicians, Council Mobility Office, politicians, trade unions representatives, operator of local public transport, during which further information was gathered regarding the existing modal split, the mobility problems of the BIZ, the reasons behind the existing situation and ideas on how to improve it.
3. The home-work mobility survey with which detailed information on the mobility behaviour of the employees was gathered, together with an evaluation of the present situation and indications on the mobility solutions that could be well accepted by the employees.
4. Following the above steps the LMG carried out a number of meetings (indicated in the table 2.1 below) in order to clearly define:
 - a. The mobility problems in the BIZ of Ponferrada.
 - b. The objectives of the local mobility plan.
 - c. The most suitable mobility solutions necessary for reaching the objectives set and approval.
 - d. The priority solutions (still pending)
 - e. Follow up and evaluation (still pending).

The LMG of Ponferrada involves the companies of the BIZ, trade unions, local authorities and their technicians, local public transport operator, mobility experts, local police, and business associations. The work of the LMG was coordinated initially by EREN and then by the Mobility Manager of the Ponferrada Mobility Office, which belongs to the department of Environment of the Municipality of Ponferrada, and the departments of Environment and Transport of the Province of Asti.

Date	Objectives
16/06/2011	Initiation of the groups' work including in particular: <ul style="list-style-type: none"> • a brief presentation of the MoMa.BIZ objectives • brain storming of suggestion to improve mobility from the LMG members
07/07/2011	Analysis and discussion over the present situation of the BIZ of Ponferrada and the critical points in relation to mobility and discussion of objectives in relation to the BIZ of Ponferrada. Presentation of the first results of the mobility survey (a first brief analysis of the data collected to that date was carried out and presented to the LMG). Agreement of the deadline for the home-work survey. Discussion over the potential mobility solutions that could be implemented at the BIZ of Ponferrada and following the collection of additional information.
20/09/2011	Presentation of the content of the Local Mobility Plan: Discussion and validation of the structure of the Local Mobility Plan proposal. Further and more in depth discussion over the mobility solutions that could be implemented in the BIZ of Ponferrada. Final selection of the mobility solutions that will make up the Local Mobility Plan of Ponferrada, based on the results of the local mobility survey, current state of the BIZ and suggestion from LMG members.
August/2012	Presentations of the accepted mobility solutions by EACI and discussion of which are the priority solutions.

Table 3. List of the LMG meeting

2.2 COST-BENEFIT ANALYSIS OF THE MOBILITY SOLUTIONS TO BE IMPLEMENTED

The structure of the Local Mobility Plan and the solutions proposed were inspired by the Boxed Solutions Methodology, in other words the idea is to not “invent” new solutions but to adapt existing ones to the local needs (in the different fields of intervention).

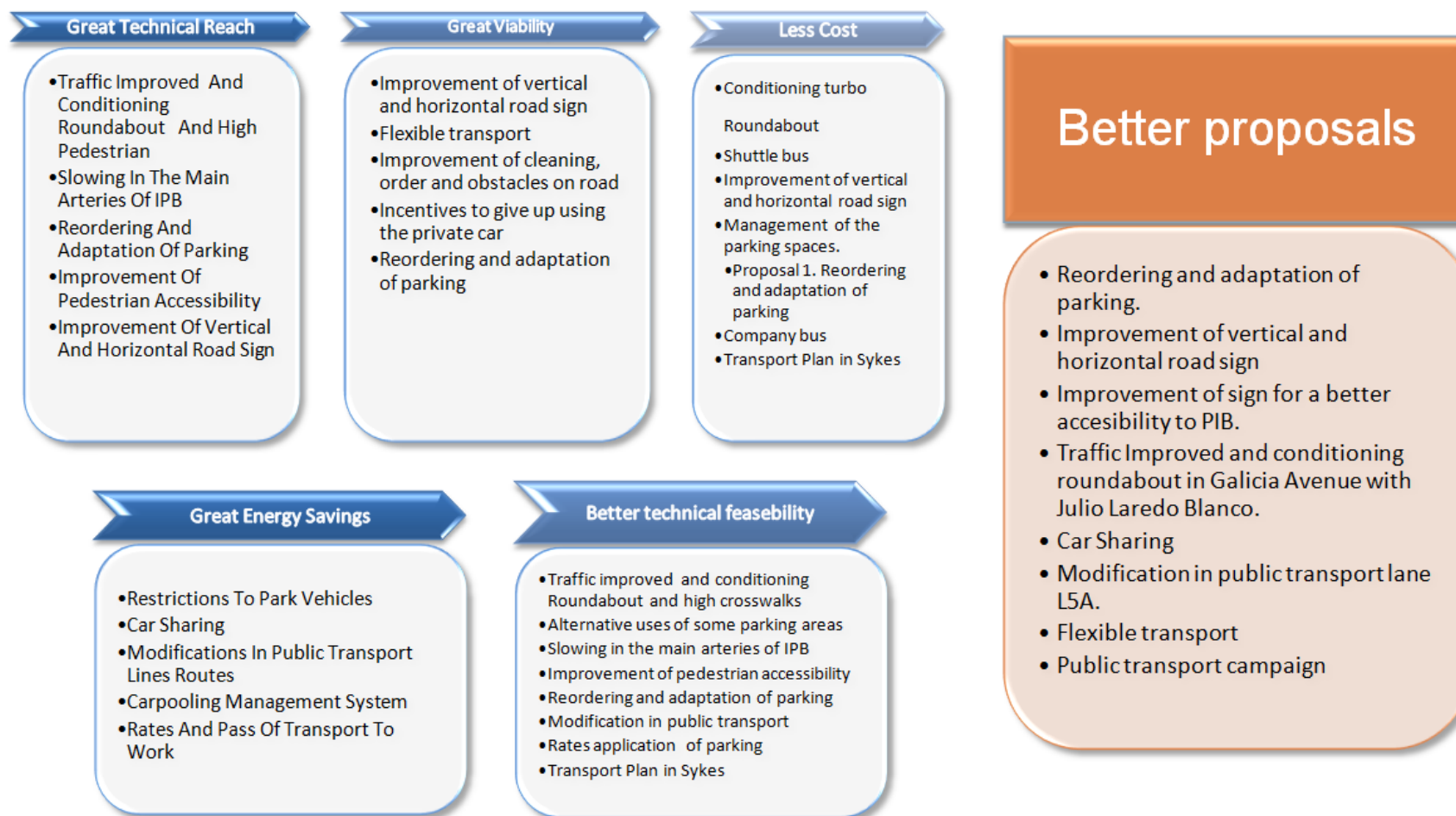


Image 2.1 Further analysis of the possible mobility solutions carried out .

2.2.1 BOX 1: CYCLING

USE OF BICYCLES

They are grouped in this section all the programs and proposals for action that address the use of the bicycle. It will include measures to encourage its use, and those actions that are channeled to the management and exploitation.

ESTABLISHMENT OF EXCLUSIVE LANES FOR THE USE OF BICYCLES

The action is to propose extensions in the bicycle lane existing, in such a way that you design a new network that can connect with the existing network and BIZ, and meets the interests of users as displacement to work. The expansion of the bike network that connects nearby populations with BIZ would facilitate alternative, cheap, fast, efficient and sustainable transport by bicycle, increasing the autonomy of villagers and reducing the use of the private car. Thanks to this action is intended to promote greater mobility between the centers of population close to the industrial area of study.

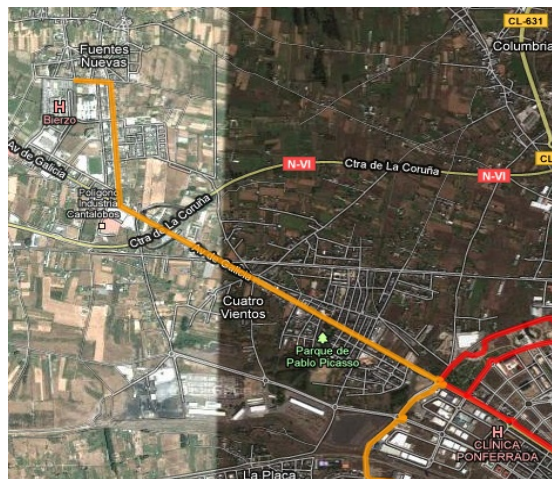
This measure intends to adopt the creation of a new network of bike lanes to meet the needs of users as well as an improvement in commuting. These proposals for new lines of cycle lanes are designed to meet the demand of the two residential areas near the city such as Fuentesnuevas and Flores del Sil, and closing of the ring with raised projections and run by the Center Town Hall urban Ponferrada.

For one thing, implementing it across Galicia Avenue to connect the New Source quarter BIZ, and thus facilitate movement through this system of transport users living in the area. On the other hand, proposed the possibility of implementing a new network to circulate Valdés Street, Portugal Avenue, Martina Avenue and Teruel Street, circling the neighborhood of Flores del Sil, so that ends connected to BIZ, through the existing tunnel under the railroad tracks.

Performance will be about 14 km approximately. The layout is indicated on the plane with yellow, the existing on red and soon projected on green.



Bicycle lane network, existing, projected by the city hall and proposed in this study



Bicycle lane network from Galicia Avenue to Fuentes Nuevas

It would also be good to introduce a new stretch of cycle lanes from Milan Avenue and Escritores Avenue to Libertad Avenue and continue to Valdés Avenue to close the circuit and arrive at Flores del Sil. This stretch is indicated in the plan in a discontinuous way.

Finally, with the aim of enhancing the use of bicycles for shopping after work, might do the extension of Galicia Avenue from the roundabout with Julio Laredo Street, by Gregorio Peces Barba Street to Constitución Avenue, to the Asturias Avenue, joined El Rosal Mall, quickly and continued.

Perform these stretches of bike path involves significant change in the urban areas for which they are projected. In some cases, such as Galicia Avenue, would continue the same model run, the area of pavement to its junction with Libertad Avenue. Also in Milan and Escritores Avenue, the projection of the same would be done on the road closest to the BIZ I (which would place the potential bus stop and bicycle hire point), minus a traffic lane. According to manual data held capacity, the volume of vehicles in the area is approximately 1.200 vehicles. Removing a lane to allocate for

bicycle lane would not be a significant impact on vehicle traffic, however, it would be necessary to take measures suitable separation own lane to avoid traffic safety problems rider.

Improving bicycle lane routes is directly related to the development and promotion of cycling with public bike system, with the provision of bicycle racks and bicycles offered by the company to its workers.

This measure will be start to implement in half of 2013 by the Council of Ponferrada as the city has been chosen for celebrating the Bicycle Mondial 2014.

Indicator	How to Measure	Responsible	Expected Result/Target
Length of exclusive lanes for bicycles	Inventory of the total km built in the city, with a detailed inventory of the state of the bicycle lane.	Council of Ponferrada	At least 14 km of exclusive bicycle lane.
Cyclists that use the lane.	<p>Counting of the cyclists in 4 different times of the year before and after the lane will be created.</p> <p>The counting will take place during the pick hours of the day: from 7:00 till 10:00 from 12:30 till 14:30 from 16:30 till 18:30</p> <p>Three different countings are foreseen: 1st counting: 5-7/6/2012 2nd counting: 4-6/9/2012 3rd counting: 4-6/12/2012</p> <p>The above dates are indicative and not fixed as attention will be given to the weather conditions in order to avoid any influence on the data collected.</p>	Mobility Office of Ponferrada	13% increase and cyclists at BIZ workers.

BENEFICIARIES	<i>All workers of the BIZ and potential visitors</i>
RESPONSIBLE	<i>Council of Ponferrada</i>
COST	<i>Approximately budget: 379.500€</i>
COST/BENEFITT	<i>Costs/Beneficiaries = 379500€/ 1369beneficiaries = 277,2€/beneficiary</i>
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	<p><i>Expected high energy savings.</i></p> <p><i>It will be reduce a <u>13% the use of vehicles by workers.</u></i></p>
Reduction of 13% workers vehicles	

	<table border="1"> <thead> <tr> <th colspan="2">GENERAL DATA ES</th> </tr> </thead> <tbody> <tr> <td><i>Eliminated vehicles from/towards the BIZ</i></td> <td>122 veh.</td> </tr> <tr> <td><i>Route in Km from/towards the BIZ</i></td> <td>3.192.00 km</td> </tr> <tr> <td><i>Estimated fuel saving</i></td> <td>6,5 litres/100 Km</td> </tr> <tr> <th colspan="2">ECONOMICAL RESULTS</th> </tr> <tr> <td><i>Economical savings</i></td> <td>30.483,7 euros</td> </tr> <tr> <th colspan="2">ENERGY RESULTS</th> </tr> <tr> <td></td> <td>25.403,3 litres /year</td> </tr> <tr> <td><i>Fuel annual savings</i></td> <td>237.748,7kWh/y 20,5 tep /year</td> </tr> </tbody> </table> <p>Finally, the total savings are estimated in 30.483,7 €.</p>	GENERAL DATA ES		<i>Eliminated vehicles from/towards the BIZ</i>	122 veh.	<i>Route in Km from/towards the BIZ</i>	3.192.00 km	<i>Estimated fuel saving</i>	6,5 litres/100 Km	ECONOMICAL RESULTS		<i>Economical savings</i>	30.483,7 euros	ENERGY RESULTS			25.403,3 litres /year	<i>Fuel annual savings</i>	237.748,7kWh/y 20,5 tep /year
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ENVIRONMENTAL INDICATORS (CO ₂ ,NO _x AND SMALL PARTICLES AVOIDED EMISSIONS)	<p>Ahorro del consumo: Teniendo en cuenta los litros totales de carburante que se ahorrarán, y las emisiones medias de un vehículo , se obtienen los siguientes datos ambientales:</p> <table border="1"> <thead> <tr> <th colspan="2">Reduction of 13% workers vehicles ENVIRONMENTAL RESULTS</th> </tr> </thead> <tbody> <tr> <td>Saving emissions in CO₂</td> <td>64,77tn/y</td> </tr> <tr> <td>Saving emissions in NO_x</td> <td>0,71tn/y</td> </tr> <tr> <td>Saving emissions in Small Particles</td> <td>0,03tn/y</td> </tr> </tbody> </table>	Reduction of 13% workers vehicles ENVIRONMENTAL RESULTS		Saving emissions in CO ₂	64,77tn/y	Saving emissions in NO _x	0,71tn/y	Saving emissions in Small Particles	0,03tn/y										
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Saving emissions in Small Particles	0,03tn/y																		
TIMESCHEDULE	<ol style="list-style-type: none"> 1. <i>Project development: 1-2 months</i> 2. <i>Ejecution: 4,5 months</i> 																		

IMPROVE THE OFFER OF TRANSPORT CYCLING

Bicycle parks

This measure improves the infrastructure provision of bicycles for bicycle parking availability for employees and customers by the companies themselves.

The action is to foster Bicycle Park in public areas Industrial Park as the first phase of Bierzo and subsequently enhance bicycle parking on site for companies, ensuring that workers safe places for bikes during the workday.

As for the actual implementation, there is a wide range of designs and technical solutions to tackle the problem of bicycle parking. But they all must meet a number of characteristics or conditions to consider in this type of equipment and that could be summarized as:

Security: theft prevention and vandalism must be secured by strong clamping devices (which allow a secure, above all, the frame and front wheel) and through a proper parking location of the view of traffic crosswalk.

Versatility: must be able to accommodate all types of bikes and sizes and serve all sorts of locks and chains.

Urban Accessibility: must be relatively close to the destination of cyclists, places of maximum generation of applications.

In this case BIZ, should be introduced that allow the user bicycle park leave your bike safely throughout the working day or during a visit to the local places. Here, we present the following proposal bicycle park location in BIZ in public places and attraction of trips.

Inside the BIZ, has proposed bicycle parking place at the intersections of the streets that comprise it, to service companies that constitute the area. And they have included other areas of greater demand for travel. In addition, the new public transport bicycle parking have been implemented in both Milan Street and in the Camino de Santiago Street by the clinical.



Location of proposed bicycle park in BIZ

Outside of BIZ, has not been necessary to introduce new bicycle parking, as there currently are located in areas of greatest interest and greatest service, as you can see in the picture. As an example we can talk about schools, sports, business...



Proposed location of Bicycle park in the zone of influence of BIZ

In a second phase, companies can purchase multiple units parking bikes to place inside the parking lot of the same, as is the case of the company Sykes.

The most appropriate parking and recommended to be installed in an inverted U, made of stainless steel one-piece tube with a diameter of 60 mm in diameter and a minimum thickness of 1.5 mm. The dimensions of the inverted U will be between 750 mm high and 800 mm in width.

This measure complements with measures to expand bike lanes bike and bicycle rental system. Furthermore, as has been proposed as the shuttle, the need for vehicles available for employees to make arrangements during working hours, perhaps through the modality of car sharing. It could supplant the private car for the bike, to perform these steps, especially if electric bikes are provided to reduce the effort and distance of the worker.

If it is possible 2 or 3 parking bikes will install in the BIZ . The final decision of locations will be discuss with the Council of Ponferrada taking into account the new project of future bike lines.

Indicator	How to Measure	Responsible	Expected Result/Target
Implementation of bicycle parking slots in companies.	Inventory of the total bicycle parking slots created. The counting will take place 1 or 2 times per year, for example in May and November.	EREN	At least 32 new parking slots for bicycles.
Cyclists that use the lane.	Counting of the cyclists in 4 different times of the year before and after the lane will be created. The counting will take place during the pick hours of the day: from 7:00 till 10:00 from 12:30 till 14:30 from 16:30 till 18:30 Three different countings are foreseen: 1st counting: 5-7/6/2012 2nd counting: 4-6/9/2012 3rd counting: 4-6/12/2012 The above dates are indicative and not fixed as attention will be given to the weather conditions in order to avoid any influence on the data collected.	Mobility Office of Ponferrada	5% increase and cyclists at BIZ workers.

BENEFICIARIES	All workers of the BIZ and potential visitors
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RESPONSIBLE	<u>Council of Ponferrada</u> which will cede the parking space to the BIZ. EREN and the companies for the acquisition of parkings bikes in their own parking for cars.																				
COST COST/BENEFITT	Parking bikes: 8 localizations with 4 "U"reverse : 5.000 € each one. Signposting with promotion of the project: 2.000 € Parking bikes in own companies: 15 companies involve with 3 "U" reverse: 9.000 € Costs/Beneficiaries = 16.000€/ 1369beneficiaries = 11,69 €/beneficiary																				
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	<p><u>It will be reduce a 5% the use of vehicles by workers and visitors.</u></p> <table border="1"> <thead> <tr> <th colspan="2">Reduction of 5% workers vehicles</th> </tr> <tr> <th colspan="2">GENERAL DATA ES</th> </tr> </thead> <tbody> <tr> <td>Eliminated vehicles from/towards the BIZ</td> <td>93 veh.</td> </tr> <tr> <td>Route in Km from/towards the BIZ</td> <td>3.189,4km</td> </tr> <tr> <td>Estimated fuel saving</td> <td>6,5 litres/100 Km</td> </tr> <tr> <th colspan="2">ECONOMICAL RESULTS</th> </tr> <tr> <td>Economical savings</td> <td>21.854,9 7 euros</td> </tr> <tr> <th colspan="2">ENERGY RESULTS</th> </tr> <tr> <td></td> <td>18.545,7 3 litres /year</td> </tr> <tr> <td>Fuel annual savings</td> <td>183.783,7 kWh/y 15.8 tep /year</td> </tr> </tbody> </table> <p>Finally, the total savings are estimated in 21.854,9 €</p>	Reduction of 5% workers vehicles		GENERAL DATA ES		Eliminated vehicles from/towards the BIZ	93 veh.	Route in Km from/towards the BIZ	3.189,4km	Estimated fuel saving	6,5 litres/100 Km	ECONOMICAL RESULTS		Economical savings	21.854,9 7 euros	ENERGY RESULTS			18.545,7 3 litres /year	Fuel annual savings	183.783,7 kWh/y 15.8 tep /year
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TIMESCHEDULE	2 - 3 months for acquisition of materials and1 month for implementation																				

5.000 euros from Moma.BIZ will destiny to implement 1 parking bike from the 8 locations proposed and 2000 euros for the Signposting with promotion of the project. This parking bike will be use not only as an attaraction for the use of bike but also to promote the project with a panel which will remain there. It is on discussion with the Council the possibility of financed the others during the next years.

Bicycles to workers

This measure seeks to enhance the provision of bicycle infrastructure offering a number of bicycles available for employees by the companies.

In this way provides for the promotion of cycling in the company to improve the supply of this transport, the company acquired several units to facilitate the availability by the workers on the move from home to work so as to 'dealings or after the workday.

In this first case, the bikes would be adapted to the urban category profiles of workers, those models that could give them more security, comfort and / or service. These bikes may be issued by companies for various formulas, such as corporate gift instead of the typical holiday gift, make drawings among employees in terms of productivity, etc.

The guarantee that the employer should make is that it was used for at least two of the four trips you make per day. It could also be the distribution of bicycles through the "Association" or Action Coordination Group which acquired a significant number of bicycles available verifications to employers and workers, taking a particular control track of them. For proper maintenance of them, we think it is recommend various courses of training in basic bicycle mechanics and advanced to allow users to resolve minor problems that are common on bicycles. In addition, to make an information campaign to enable more companies to join and project an image of the action taken in the BIZ, for example, uniformity, and signaling in promoting bicycle all the image of BIZ.

In the second case, would be electric bikes, faster and faster, to make arrangements as quickly and easily able to climb the slopes of the upper part of the city, in case you need to get to do some management in these areas. 1 bicycle per company would be sufficient, except in those cases observe large amount of movement throughout the day or week for their workers. You can be the case of repairs businesses are located in the industrial park and traveling regularly to the client's home to be repaired or serviced facilities and / or equipment. In both cases, bicycles should be provided with baskets to make appropriate service package that allows easy transfer and effortlessly.

This measure is complemented by measures to expand bike lanes bike and bicycle rental system.

Furthermore, as has been proposed as the shuttle bus, the need has available vehicles for employees to make arrangements during working hours, perhaps through the modality of car sharing. The private car could supplant for the bike, to perform these steps, especially if electric bikes are provided to reduce the effort and distance of the worker.

EREN will assess and inform companies regarding the possibilities of acquisition electrical bikes.

A practical training session of repair normal bikes will be organised during the mobility week in september 2012. attendaces are obliged to go by bike and some merchandising products such as helmets, lights etc.. will be distributed.

12.000 euros from Moma.BIZ will use for this measure. A normal bike will give as incentive to the companies which will sign a compromise of acquisition a electrical bike.

Indicator	How to Measure	Responsible	Expected Result/Target
Implementation of bicycle parking slots in companies.	Inventory of the total bicycle offered for the companies. The counting will take place 1 or 2 times per year, for example in May and November.	Companies involved in the service.	At least 63 new bicycles for workers
Number of attendances to the training sesion for repairing bikes	The counting will take place during the event	EREN, Mobility Office of Ponferrada	At least 55 attendances
Cyclists that use the bicycles.	Counting of the cyclists in 4 different times of the year. The counting will take place during the pick hours of the day: from 7:00 till 10:00 from 12:30 till 14:30	Companies involved in the service.	5% increase and cyclists at BIZ workers.

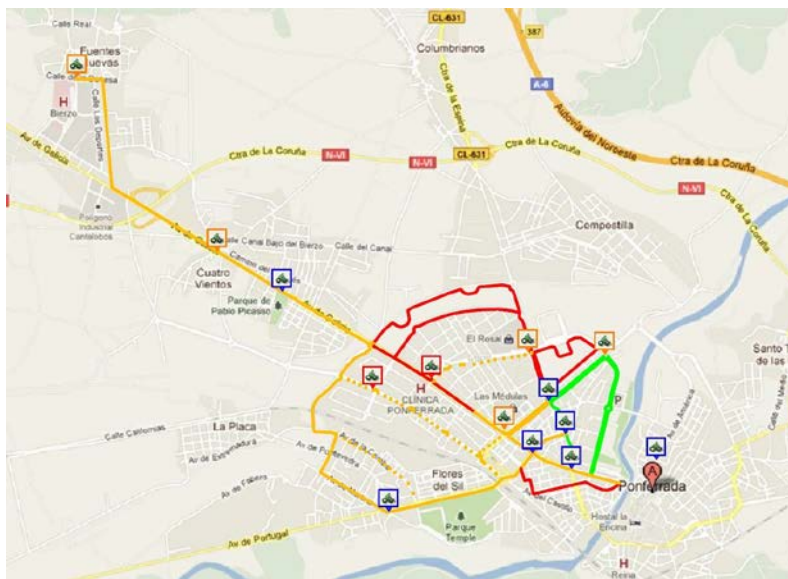
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BENEFICIARIES	<i>All workers from commitment companies</i>																						
RESPONSIBLE	<u>Companies</u> that get involved in the loan service																						
COST COST/BENEFITT	<i>15 companies involved with 3 normal bikes, 12.000 € and 30 electrical bikes, 45.000 €</i>																						
ENERGY SAVING INDICATOR (NUMBER OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	<p><i>It will be reduced the number of 63 cars from workers (supposing an use of the 85% of the proposed bikes).</i></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td colspan="2" style="background-color: #ADD8E6;">Reduction of 63 vehicles from workers</td> </tr> <tr> <td colspan="2" style="background-color: #003366; color: white;">GENERAL DATA ES</td> </tr> <tr> <td><i>Eliminated vehicles from/towards the BIZ</i></td> <td style="text-align: right;"><i>63 veh.</i></td> </tr> <tr> <td><i>Route in Km from/towards the BIZ</i></td> <td style="text-align: right;"><i>2.132,8 km</i></td> </tr> <tr> <td><i>Estimated fuel saving</i></td> <td style="text-align: right;"><i>6,5 litres/100 Km</i></td> </tr> <tr> <td colspan="2" style="background-color: #003366; color: white;">ECONOMICAL RESULTS</td> </tr> <tr> <td><i>Economical savings</i></td> <td style="text-align: right;"><i>15.709,9 euros</i></td> </tr> <tr> <td colspan="2" style="background-color: #003366; color: white;">ENERGY RESULTS</td> </tr> <tr> <td></td> <td style="text-align: right;"><i>13.091,5 litres /year</i></td> </tr> <tr> <td><i>Fuel annual savings</i></td> <td style="text-align: right;"><i>122.523,3 kWh/y</i></td> </tr> <tr> <td></td> <td style="text-align: right;"><i>10,5 tep /year</i></td> </tr> </table> <p>Finally, the total saving are estimated in 15.709,9 €</p>	Reduction of 63 vehicles from workers		GENERAL DATA ES		<i>Eliminated vehicles from/towards the BIZ</i>	<i>63 veh.</i>	<i>Route in Km from/towards the BIZ</i>	<i>2.132,8 km</i>	<i>Estimated fuel saving</i>	<i>6,5 litres/100 Km</i>	ECONOMICAL RESULTS		<i>Economical savings</i>	<i>15.709,9 euros</i>	ENERGY RESULTS			<i>13.091,5 litres /year</i>	<i>Fuel annual savings</i>	<i>122.523,3 kWh/y</i>		<i>10,5 tep /year</i>
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TIMESCHEDULE	<i>2 - 3 months for acquisition of materials and 1 month for implementation</i>																						

IMPLEMENTATION OF BICYCLE LENDING SYSTEM

To expand the supply of public bicycle hire in Ponferrada in the vicinity of Bierzo Industrial Park. The number of positions in the immediate loan of BIZ would be 2, one located near the Avenue bike lane Galicia, at the height of the Clinic of Bierzo and the other in Milan Avenue, next to the new stop projected bus Line 5A, forming intermodal transport nodes.

In turn, an indication of other potential proposals for implementation of a total of 5 bicycle rental points in terms of the main focal points for travel of employees, to provide alternatives to workers on their travels before / after of work.



Proposed location of the bicycle rental points

On the other hand, the loan system among workers should be enhanced through use of advantages in schedule and reserves associated with shifts. The software settings can be adapted to user profiles, creating a BIZ only for work associated with their work schedule. New versions of the contemplated public bike system identification profiles, through the management of the Office of Transportation, could enlist users to justify the work schedule, adjusting hours, days and times of use of bicycles.

Additionally, a new software development could allow, among other options, reserve a bike according to user needs, interacting with the application form on-line, reserving its use for preferential usage time.

This measure is complemented by the expansion of bike lanes, with the coordinated management with the Office of Mobility and potential incentives for workers to use the bike.

1 new bicycle lending systems, for 10 bikes with info point_ 13.857 € and the Integration of special card for workers_ 2.500 € will be implement with Moma.BIZ. The system will be integrated in the already existing system of bicycle rental system in the city center. The exploitation and maintenance after the project will be assumed by the Council of Ponferrada or a service company designed by them for that.

Indicator	How to Measure	Responsible	Expected Result/Target
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Implementation new lean bicycle points in the BIZ, and in the city too.	Inventory of the total bicycle rental points offered for the town Hall.	Council of Ponferrada	At least 2 new bicycle lean points in the BIZ and 5 around the city.
Cyclists that use the bicycles.	Counting of the cyclists that use the service, automatically with log in every time.	Council of Ponferrada	7% increase of cyclists at BIZ workers and visitors.

BENEFICIARIES	<i>Workers from the BIZ and indirectly all the population of Ponferrada.</i>																								
RESPONSIBLE	<i>Council of Ponferrada, Mobility Office of Ponferrada and EREN</i>																								
COST COST/BENEFIT	<i>2 new bicycle lending systems, for 10 bikes with info point_ 27.714 € Integration of special card for workers_ 4.500 €</i>																								
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	<p><i>Suponiendo que con esta medida se reduzca el uso del 7% de los vehículos de los trabajadores y visitantes que acuden al BIZ, se obtendrían los siguientes ahorros de consumo:</i></p> <table border="1"> <thead> <tr> <th colspan="2">Reduction of 7% workers and visitors vehicles</th> </tr> <tr> <th colspan="2">GENERAL DATA ES</th> </tr> </thead> <tbody> <tr> <td><i>Eliminated vehicles from/towards the BIZ</i></td> <td><i>66 veh.</i></td> </tr> <tr> <td><i>Route in Km from/towards the BIZ</i></td> <td><i>3.216.00 km</i></td> </tr> <tr> <td><i>Estimated fuel saving</i></td> <td><i>6,5 litres/100 Km</i></td> </tr> <tr> <th colspan="2">ECONOMICAL RESULTS</th> </tr> <tr> <td><i>Economical savings</i></td> <td><i>16.537,9 euros</i></td> </tr> <tr> <th colspan="2">ENERGY RESULTS</th> </tr> <tr> <td></td> <td><i>16.537,9 litres /year</i></td> </tr> <tr> <td><i>Fuel annual savings</i></td> <td><i>128.981,1 kWh/y</i></td> </tr> <tr> <td></td> <td><i>11,1 tep /year</i></td> </tr> </tbody> </table>			Reduction of 7% workers and visitors vehicles		GENERAL DATA ES		<i>Eliminated vehicles from/towards the BIZ</i>	<i>66 veh.</i>	<i>Route in Km from/towards the BIZ</i>	<i>3.216.00 km</i>	<i>Estimated fuel saving</i>	<i>6,5 litres/100 Km</i>	ECONOMICAL RESULTS		<i>Economical savings</i>	<i>16.537,9 euros</i>	ENERGY RESULTS			<i>16.537,9 litres /year</i>	<i>Fuel annual savings</i>	<i>128.981,1 kWh/y</i>		<i>11,1 tep /year</i>
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TIMESCHEDULE	<i>4 months for implementation of the system and 1 month adaptation of the software</i>																								
FUTURE MAINTENANCE	<i>External company subcontracted by the city Council, as it is made in the already existing lending system.</i>																								

2.2.2 BOX 2: WALKING

It is also recommended to maintain cleanliness throughout the BIZ because pedestrians will find the park safer and more attractive.

This proposal is connected to the implementation of bike lanes by BIZ, as these travellers do not arrive by private car, having to use crosswalks to move between areas of the BIZ. Similarly, it is compatible with all proposals because almost all users walk across some part of the BIZ in different situations.

Indicator	How to Measure	Responsible	Expected Result/Target
Implementation of pedestrian routes to BIZ.	Inventory of the total pedestrian routes built.	Council of Ponferrada	At least 7 new pedestrian routes
Number of workers that go on walk	<p>Counting of the pedestrians in 4 different times of the year.</p> <p>The counting will take place during the pick hours of the day: from 7:00 till 10:00 from 12:30 till 14:30 from 16:30 till 18:30</p> <p>Three different countings are foreseen: 1st counting: 5-7/6/2012 2nd counting: 4-6/9/2012 3rd counting: 4-6/12/2012</p> <p>The above dates are indicative and not fixed as attention will be given to the weather conditions in order to avoid any influence on the data collected.</p>	Council of Ponferrada	10% increase of BIZ workers and visitors.

BENEFICIARIES	<i>Workers and visitors of the BIZ</i>
RESPONSIBLE	<i>Council of Ponferrada Owners of the affected land Company tendered.</i>
COST COST/BENEFIT	<i>Walk routes: 25150 € Costs/Beneficiaries = 25150 €/ 1369beneficiaries = 18,37 €/beneficiary</i>

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<p>ENVIRONMENTAL INDICATORS (CO₂,NO_x AND SMALL PARTICLES AVOIDED EMISSIONS)</p>	<table border="1"> <thead> <tr> <th colspan="2">Reduction of 10% workers vehicles</th> </tr> <tr> <th colspan="2">ENVIRONMENTAL RESULTADOS</th> </tr> </thead> <tbody> <tr> <td><i>Saving emissions in CO₂</i></td> <td>65,25tn/y</td> </tr> <tr> <td><i>Saving emissions in NO_x</i></td> <td>0,71tn/y</td> </tr> <tr> <td><i>Saving emissions in Small Particles</i></td> <td>0,03tn/y</td> </tr> </tbody> </table>	Reduction of 10% workers vehicles		ENVIRONMENTAL RESULTADOS		<i>Saving emissions in CO₂</i>	65,25tn/y	<i>Saving emissions in NO_x</i>	0,71tn/y	<i>Saving emissions in Small Particles</i>	0,03tn/y								
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<p>TIMESCHEDULE</p>	<ul style="list-style-type: none"> - <i>Adquisition of land affected : 2-3 months.</i> - <i>Project designing: 1 mes.</i> - <i>Civil works: 1 mes.</i> 																		

2.2.3 BOX 3: PUBLIC TRANSPORT

EXTENSION OR LITTLE MODIFICATIONS IN PUBLIC TRANSPORTS LINES ROUTES (L5A)

The action is to propose modifications and/or extensions on existing lines of public transportation, unless it reduced the operational capability of the present urban lines.

The objective of this action is to describe how the potential users of BIZ be integrated into existing lines, modifying the current routes and increasing the capacity of occupation of vehicles to improve the supply of the service to users of the BIZ.

In this sense, the line L5A has as source/destination Puente Bouzas - Fuentes Nuevas. The route of the line is 6.8 km, with an average of 115.979 passengers per year. Near BIZ, there are three stops, 2 in Galicia Avenue and 1 in Julio Laredo Street. The level of service on this line on BIZ (300 m) covers only the third part of the size of the BIZ. The distance BIZ users must travel, from companies to stops, ranges from 200 m to 900 m in the Hamburgo Street and Manchester Street in BIZ II.

This proposal is to modify the route and stops of the L5A line, considered the most viable because of the following conditions:

- The route Puente Boeza - Fuentesnuevas has a wide journey and it runs through the town centre and arrives to the exchanger.
- The change of stops does not imply a high impact for regular users of the line.
- The change of the itinerary will not extend the route time of the line.

The action to develop will initially involve the transfer of the stop in Julio Laredo Street to Escritores Avenue, relocation of the current stop in Escritores Avenue at the height of de Mall “La Herrería” and location of new stops in Milán Avenue and Amsterdam Street.

In the picture below you can see the described location of new stops:



New proposed location of the journey and the stops for L5A line

This stops change does not imply a high impact for regular users of the line. What is proposed is to give service users of BIZ, in such a way that the new route of the line runs through Milan Avenue and Amsterdam Street.

In this way, and making a study of the existing maximum distances, you can see that the distance traveled on foot from the bus stop has been reduced, so it would be a greater demand.

The implementation of this measure should be carried out in response to the following points:

Planning and management level:

- Work oriented to adopt the necessary negotiations between the Ponferrada City Hall through the Department of transport and public transport operator company to make the modifications provided in the line L5A.

Execution and implementation level:

- Acquisition of materials for the new stops (canopies and poles).
- Replacement of stop at Julio Laredo Street on Escritores Avenue, and relocation of the current stop on Escritores Avenue at the height of the Mall.
- Implementation and execution of work for new stops at the Milan Avenue and Amsterdam Street.

Promotion and diffusion level:

- Design and edition of new planes of the L5A line with the change of the new stops.
- Design and edition of information campaign for workers and customers/visitors of the BIZ about facilities on public transport in L5A line.
- Articulate incentives and discounts from companies of BIZ for workers and employees.

This measure should be complemented in their implementation with other actions of incentives and promotion of public transport.

However, the adoption of measures such as shuttle bus to BIZ or flexible services are diminished the success of this particular measure, because the number of users who would use the public service would be affected with these tailored services according to the use of transport.

Indicator	How to Measure	Responsible	Expected Result/Target
Modification of bus routes	Inventory of the changes in the lane L5A	Council of Ponferrada	At least 1 new bus stop for the BIZ or change-adaptation in the time schedule
Number of workers satisfied	<p>Counting of the bus passengers in 4 different times of the year.</p> <p>The counting will take place during the pick hours of the day: from 7:00 till 10:00 from 12:30 till 14:30 from 16:30 till 18:30</p> <p>Three different countings are foreseen: 1st counting: 5-7/6/2012 2nd counting: 4-6/9/2012 3rd counting: 4-6/12/2012</p> <p>The above dates are indicative and not fixed as attention will be given to the weather conditions in order to avoid any influence on the data collected.</p>	Council of Ponferrada	10% increase of BIZ workers and visitors.
Number of workers that use the bus	Inventory of the passengers in the line L5A.	Council of Ponferrada	10% increase of BIZ workers and visitors

BENEFICIARIES	<i>Workers and visitors of the BIZ. Indirectly, every citizen of Ponferrada.</i>
RESPONSIBLE	<i>Council of Ponferrada, EREN</i>
COST COST/BENEFIT	<ul style="list-style-type: none"> - <i>Bus Stop Change: 2.000 €</i> - <i>New Bus Stops in Avda. Milán y C/Ámsterdam: 40.000 €</i> - <i>Website and SAE service updates: 900 €</i> - <i>New graphic materials at bus stops: 2.300 €</i> - <i>Information campaign: 1.500 €</i>

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<p>TIMESCHEDULE</p>	<p>From 3 to 4 months</p>																																				

NEW SOLE LINES FOR EMPLOYERS (COMPANY BUS)

This action is to propose a new service through the promotion of the collective transport by enterprises of the park themselves by the recruitment of companies with its own bus fleet. Data currently held in the current situation of

mobility and transport contained in the first phase, shows that there are no services of these characteristics among the companies of the BIZ.

This proposal is directed to consider the feasibility of introducing this service by companies located in the BIZ, according to the following factors:

- The number of companies with a sufficient number of workers.
- The routes according to the places of origins/destinations declared by workers.
- The operation of this potential service.
- Collaborative services among businesses of the park.

Proposal 1: Public transport companies

According to the number of workers by companies in the park, only two companies, Sykes (750) and FCC (90), have a number of employees that allows the management of a public transport service by the company, having at least one route on the basis of hours of input and output of each of them.

To take into account possible sources and destinations of this public transport, you should assess which are the main places of origin and destination of the template, valuing the kilometers to go, the number of workers of final destination and of course, the time spent on this system of transport, as well as the relationship between the bus time and private car time for the same distance, with the goal of making it competitive and attractive to potential users of this service.

Proposal 2: Public transport

Given the morphology of the BIZ and the companies’ location, a potential option of this collective transport service would be inter-companies coordination of a shared collective of collective transport for companies wishing to join this mode of transport. This proposal can be realized, it requires:

- A business group that promotes inter-firm adhere to share public transport.
- Companies interested in facilitating this mode of transport between their workers and finance business model.
- Define the source/destination, itinerary, schedules and routes for public transport.
- Potential workers who use this service, appreciating their views and potential membership of the project.

This measure should be complemented in their implementation with other actions of incentives and promotion of public transport.

However, the adoption of measures such as shuttle bus to BIZ or flexible services be diminished the success of this particular measure, because the number of users who would use the public service would be affected with these services tailored according to the use of transport.

Indicator	How to Measure	Responsible	Expected Result/Target
Creation of bus routes	Inventory of the new lines and schedules	Bus company	At least 2 new bus lanes with arrive in the BIZ
Number of workers who know the service.	Surveys to BIZ workers, at least one time per year.	Council of Ponferrada	At least 80% of BIZ workers know the information.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of workers that use the bus	Inventory of the passengers and occupation in the lanes. The inventory could be done with surveys to the workers or with counting people who left the bus at the final stop.	Council of Ponferrada	10% of BIZ workers

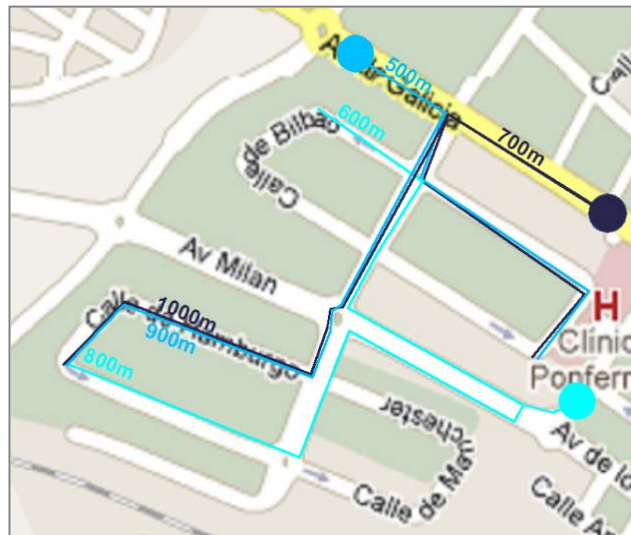
RESPONSIBLE	<i>Collective transport specific for Sykes or FCC</i> <i>Collective transport between more than one company in the BIZ</i>																
COST COST/BENEFIT	<i>1.000€ per month and line for specific bus.</i> <i>Between 100-200€ per company and line, depending on the number of companies.</i>																
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BENEFICIARIES	<i>Workers of the BIZ</i>																
TIMESCHEDULE	<i>At least 6 months</i>																
FUTURE MAINTENANCE	<i>By companies and /or workers.</i>																

PICK-UP TIME AND FREQUENCY ADJUSTMENT

This measure will evaluate schedules companies adapting them to the potential use of public transport, according to the current management of transport lines passing through the BIZ. Develop a new policy that fill and articulate the schedules of the public service transport with entry and output schedules of the companies in the BIZ is a difficult task to set up between the parts who manage the public transport stop, because that would require to develop a policy oriented at servicing the industrial park with shuttle bus that manage a recently articulated public service where the same users are captive and frequencies are fully studied and configured.

MoMa.BIZ - IEE/09/810/SI2.558287

There are correspondences that have 2 stops from Galicia Avenue: L2 (Flores del Sil – Fuentes Nuevas), L5A (P. Boeza – Fuentes Nuevas), L6 (Universidad – Fuentes Nuevas FTM), F1 (Flores del Sil – Fuentes Nuevas), F3 (Puente Boeza – Fuentes Nuevas LTM), BUHO, L5B (Puente Boeza – Fuentes Nuevas).
 And from Julio Laredo Street is: L5A (P. Boeza – Fuentes Nuevas).



Current maximum distances from the existing bus stops until the companies of the BIZ

Making a study of the companies schedules compatibility and the itinerary on foot, with the waiting time at the stop, notes that line L2 for entries from companies on BIZ I is the more accurate and does not require much time to wait before going to work, in contrast to BIZ II the line L5A/B would be best, but it would have a margin of important time, in addition to the tour.

In the exit, L6 line would be the best for the demand of BIZ I, and L5A/B and L2 would be the most convenient for the BIZ II.

To adjust this schedules and make the use of the bus more attractive to potential users are two possible solutions:

- Adjust the schedules of the bus.
- Adjust the times of entry and exit of companies.

Companies can be flexible and accept with their workers changing schedules to encourage the use of this mode of transport. In fact, enhance a flexible entry and exit of 30 minutes, allows workers to control unnecessary time to take the bus for go home or go to the company, reducing unnecessary waiting times.

There are shifts that cannot be deal with the public bus schedule, as the night covered from 21:00 to 7:30 pm in the morning, they will either need other alternative transport modes.

In some cases this measures will involve a change in the labour agreement and company owner, workers and trade unions will be together to discuss.

Indicator	How to Measure	Responsible	Expected Result/Target
Adjustment of the	Inventory of company schedules	BIZ companies	At least 10 companies

Indicator	How to Measure	Responsible	Expected Result/Target
schedules			with same schedules
Number of workers who know the service.	Surveys to BIZ workers, at least one time per year.	Mobility Office of Ponferrada/EREN	At least 80% of BIZ workers know the information.
Number of workers that use the bus	Inventory of the passengers and occupation in the lanes. The inventory could be done with surveys to the workers or with counting people who left the bus at the final stop.	Council of Ponferrada/Bus company/EREN	10% of users' BIZ workers

RESPONSIBLE	<i>Companies of the BIZ</i>	
COST COST/BENEFIT	<i>Only time of the companies reunion</i>	
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	GENERAL DATA ES	
	Eliminated vehicles from/towards the BIZ	94
	Route in Km from/towards the BIZ	3.199,00
	Estimated fuel savings	6,5 litres/100 Km
	ECONOMICAL RESULTS	
	Economical savings	23.564,8 euros
ENVIRONMENTAL INDICATORS (CO ₂ ,NO _x AND SMALL PARTICLES AVOIDED EMISSIONS)	ENERGY RESULTS	
	Annual fuel saving	19.637,2 litres /year
		183.652,6kWh/y
		15,8 tep /year
	ENVIROMENTAL RESULTS	
	Saving emissions in CO ₂	50,02 tn/y
	Saving emissions in NO _x	0,54 tn/y
	Saving emissions in Small Particles	0,02tn/y
BENEFICIARIES	<i>Workers of the BIZ</i>	
TIMESCHEDULE	<i>8 months</i>	
FUTURE MAINTENANCE	<i>Review every 18 months of the timetables</i>	

IMPROVEMENTS TO MAKE ATTRACTIVE USE OF PUBLIC TRANSPORT

Public transport must be projecting beyond the daily service and strengthened approach to citizens and potential users of this mode of transport. As it has already affected in other measures, the improvement of frequency, stops, timetables, lines, itineraries and tours want that more users perceive it as accessible and attractive for everyday travel, mainly those working in or visiting the BIZ. This action improves aspects connected with the furnishings of the stops, information on the supply of transport, and improvement of signaling, among others.

The improvement proposals with the aim of making its use attractive are going to focus on these aspects:

- New stops (see measure of extension/modification of lines)
- More and better information about the offer
- Improvement of signaling

More and better information about the offer

In the surveys and performed dynamic tables has made clear the need to improve the type of information in the supply of the service of urban transport for workers. To carry out this proposal can assess their development considering the following actions:

- Improve information on foot stop, with timetables and frequencies of the buses in more detail, as well as the possible exchanges with other lines.
- Information campaign to companies and workers, with materials designed appropriately for each group. It is also interesting to focus on this action to visitors, both in own BIZ, as a more general campaign to city-level among citizens, with the aim to inform services that are easily accessible by bus. This action can be complemented by incentives for companies to customers that access by bus.
- Pilot project of information in real time of passage of the bus companies of BIZ. This innovative project would consist of adapting existing information of step off the bus in real time. It can reach companies and inform the next bus by a simple screen for public use in the company. To develop this action would require dump information of the bus to simple software that transmit signal to recipients of BIZ and companies, that all of them have internet service.

Improvement of signaling

For many workers and especially to outsiders of the BIZ, as they are own visitors, the location of the stops and even the itinerary more optimal walking to BIZ or the most characteristic companies, should be more marked and report the location of the same. Improve the signage would serve both to report the location of the stop as the basic information for the pedestrian in the pedestrian routes to follow; as for the information of the environment, more permeable, dynamic and accessible.

Indicator	How to Measure	Responsible	Expected Result/Target
Improvements in public bus service	Inventory of the improvements	Council of Ponferrada	Improvements of real time with GPS situation of buses
Number of workers who know the service.	Surveys to BIZ workers, at least one time per year.	Bus company	At least 80% of BIZ workers know the information.
Number of workers that use the bus	Inventory of the passengers and occupation in the lanes. The inventory could be done with surveys to the workers or with counting people who left the bus at the final stop.	Bus company	75% of BIZ workers are satisfied with the improvement

RESPONSIBLE	Council of Ponferrada Companies of the BIZ																		
COST COST/BENEFIT	Information campaign at the bus stops: 13.000 € Information campaign in companies: 12.000 € Datasheet of the timeschedules in real time of the buses: 2.200 € Control Software: 8.100 € Information panels with the time left to the arrive of the bus: 35.000 € Signals in the bus stops: 26.000 €																		
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BENEFICIARIES	Workers of the BIZ, and indirectly visitors and every citizen od Ponferrada																		
TIMESCHEDULE	Information campaign at the bus stops: 1 month Information campaign in companies: 1 month Datasheet of the timeschedules in real time of the buses: 1-2 months Control Software: 2 months Information panels with the time left to the arrive of the bus: 3 months Signals in the bus stops: between 1 to 3 months.																		

SHUTTLE BUS

The action is to raise a potential shuttle service from BIZ to the most populous area of the town, defining possible intermediate stops to give service to a significant number of workers in the park. Management and planning would not associate directly to a particular company, but the collective total of companies that are members of the business area and the number of workers that make it up.

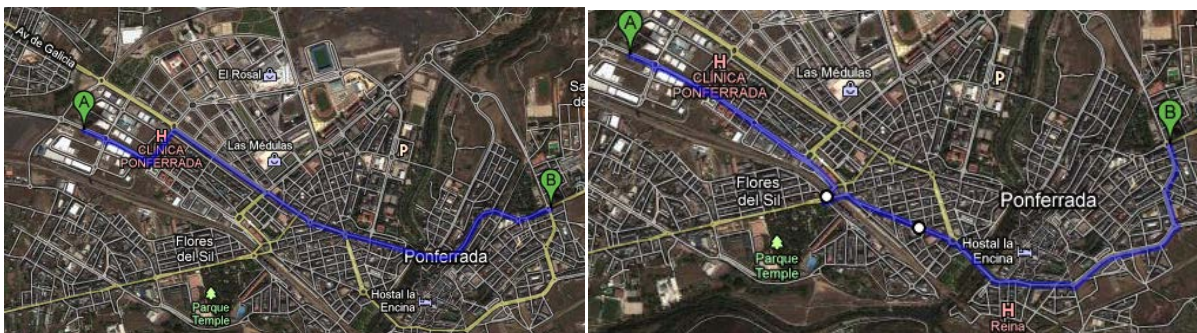
Shuttle transport are those which are articulated to provide service attractor centers of demand for travel, as in this case, a business to another center of travel demand such as railway station, bus station, etc. where a significant number of people come from distant industrial zone and populous urban zones.

Enhance a transport shuttle to BIZ, is taken into account:

- It should be a service adapted to the whole of BIZ and their workers.
- It should be developed as a service organized by companies to their workers.
- It should be collective according to hours of entry and exit of companies.
- It should be funded by the companies, through the "Transport Plus" which pays the businessman to their employees and funded by the worker through the monthly ticket.
- The companies should reduce the chances of parking in the company to their employees and the local administration put more impediments to the car park in origin of workers.
- The route, stops and timetables should be planned well to adjust demand to offer.
- The use of company vehicles should be enhanced to meet the demands of the companies themselves because of administrative, financial management, etc. at the Centre of Ponferrada.
- It should be an attractive transport, reducing aspects currently regarded as negative by the workers, as the times of waiting and stay on the bus.

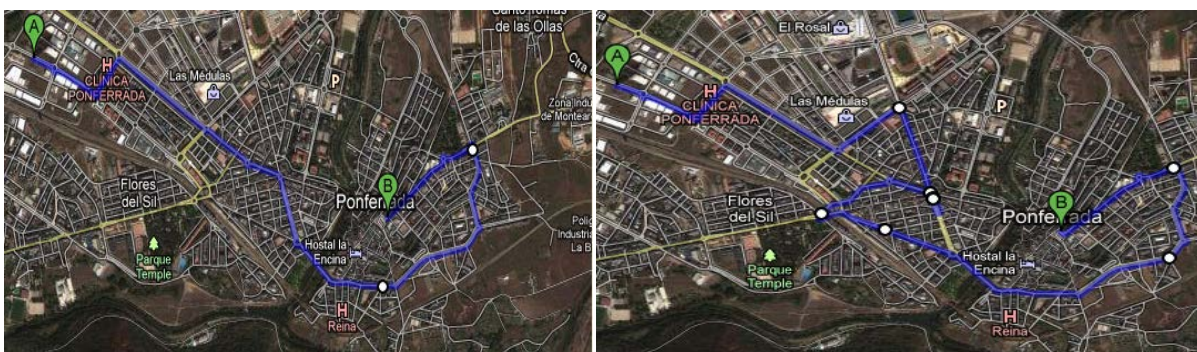
The greater number of users come from the town of Ponferrada, this transport would be more directed to the city of Ponferrada and the area of Camponaraya, valuing two possible routes:

Route 1: City Centre to the upper area



Option A: 3,9 km y 9 min to Glorieta del Cine

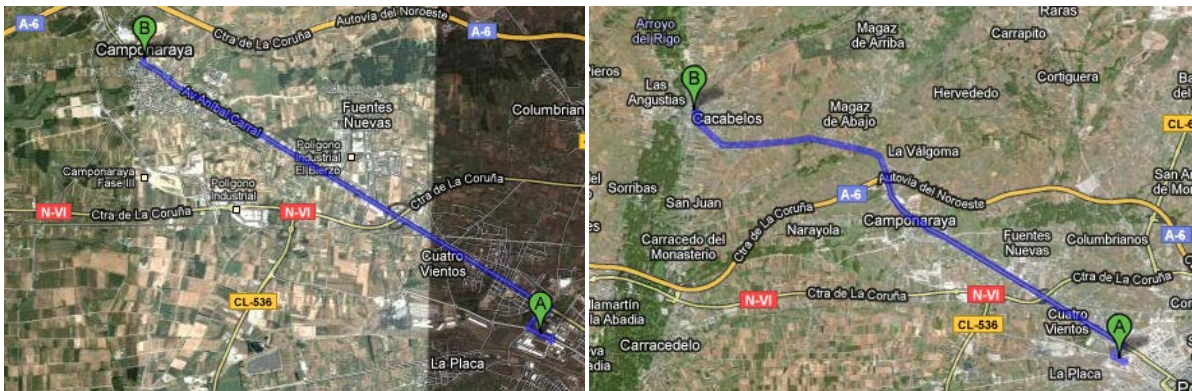
Option B: 4,0 km y 11 min to Glorieta del Cine



Option C: 5,0 km y 13 min to Ancha Street

Option D: 6,6 km y 21 min to city hall square

Route 2: To Camponaraya



Option A: 6,2 km y 11 min to Camponaraya

Option B: 11,9 km y 22 min to Cacabelos

Observed major shift work and the influx of workers, it would be suitable to make routes to the new settings for schedules, to promote the occupation of this mode of transport.

This measure would be complemented by the proposed change of schedules of companies to adapt to the schedules of public transport.

Indicator	How to Measure	Responsible	Expected Result/Target
Creation of bus routes	Inventory of the new lines and schedules	Bus company	At least 2 new bus lanes with arrive in the BIZ
Number of workers who know the service.	Surveys to BIZ workers, at least one time per year.	Council of Ponferrada	At least 80% of BIZ workers know the information.
Number of workers that use the bus	Inventory of the passengers and occupation in the lanes. The inventory could be done with surveys to the workers or with counting people who left the bus at the final stop.	Council of Ponferrada	10% of BIZ workers

RESPONSIBLE	<i>Regional Public Administration. Companies of the BIZ involved. Bus company.</i>
COST COST/BENEFIT	<i>The organization of ine bus: 800 - 1000 € per month. Plus cost per worker of 21 € per month. Total cost calculated: 4.000€.</i>

ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	Reduction of 15% of workers vehicles	
	GENERAL DATA ES	
	Eliminated vehicles from/towards the BIZ	94
	Route in Km from/towards the BIZ	3.199,20
	Estimated fuel savings	6,5 litres/100 Km
	ECONOMICAL RESULTS	
	Economical savings	23.564,8 euros
	ENERGY RESULTS	
	Annual fuel saving	19.637,3 litres /year 183.785,0 kWh/y 15,8 tep /year
	ENVIRONMENTAL INDICATORS (CO ₂ ,NO _x AND SMALL PARTICLES AVOIDED EMISSIONS)	Reduction del uso del 15% worker vehicles
ENVIROMENTAL RESULTS		
		50,01
<i>Saving emissions in CO₂</i>		<i>tn/y</i>
<i>Saving emissions in NO_x</i>		<i>0,55 tn/y</i>
	0,02 tn/y	
<i>Saving emissions in Small Particles</i>	<i>0,02 tn/y</i>	
BENEFICIARIES	<i>Workers of the BIZ</i>	
TIMESCHEDULE	<i>8 months</i>	

FLEXIBLE TRANSPORT

Flexible transport is like a service of urban transport that allows the use of smaller vehicles and reduced capacity (cars, vans, trucks), shared by several users, with more or less flexibility of routes and stops depending on the type of service to be defined.

It is a service that is configured as a substitute for the Regular Public Transport in low density areas or specific services (airport, industrial centers, school transport, etc.). It is associated or supported by technical means, such as routes management software, a call-center of calls from the users collection. In the case of the taxi, except a routing software, they have associated a call switchboard that allows to manage the demands of the workers.

This service is associated with residential areas of difficult access for other modes of public transport, designing to the characteristics of demand detected for the collective of workers the field of management of the BIZ. We assess that this service would be required of a major operational because it requires the following elements:

- Transport linked to vans or minibuses
- Staff driving vehicles
- A customer care service for receive calls, etc.
- A calculator of optimal routes
- The routes management software

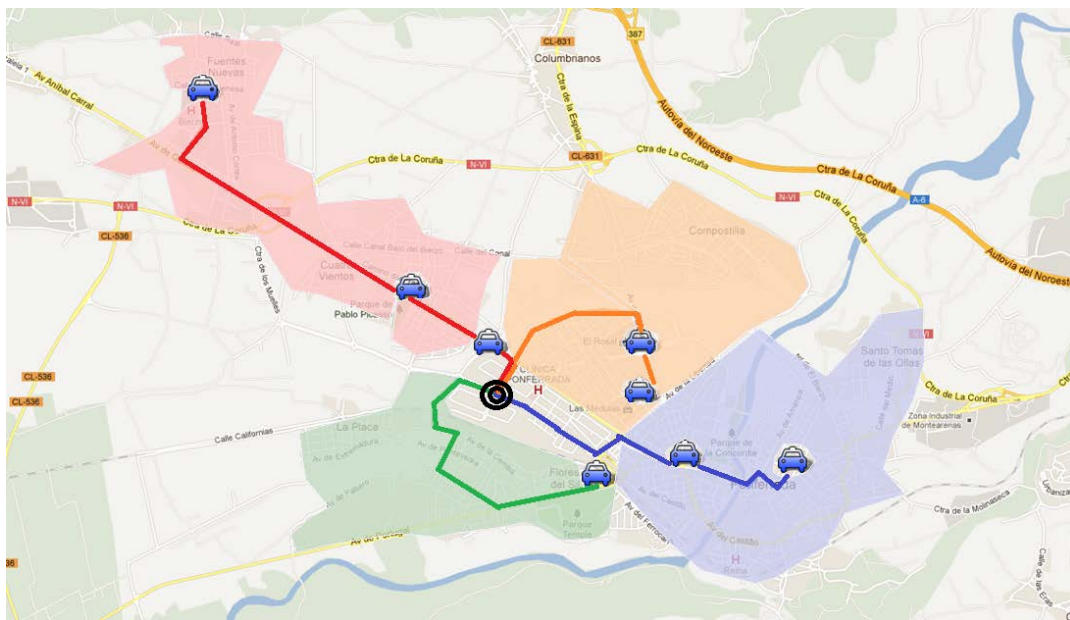
In the case of the BIZ, it would have to take into account that current urban bus lines could not improve the frequency, quickly and directly. By adopting this figure of the flexible transport that allows a service point to point and

that works only during rush hours, there are two possibilities of flexible transport, by smaller capacity vehicles or taxi service.

With reduced capacity vehicles, it requires the purchase of a vehicle to provide their services for a specified volume of people, either the contracting of the service to a public transport company.

Using the form of shared taxi, some taxis operate as shared taxi in order to pick up several users and complete the occupation of the vehicle for a same destination, in this case BIZ.

It would place a new taxi stop at Milan Avenue, so that these taxis can make stops to look for staff to engage the services shared and only operating in the hours of entry and exit of workers in BIZ. The stops at source will be those granted currently by the city hall of Ponferrada to these groups, except that require other specific stops, which are shared with public transport. In the next image it can see the four routes proposed with the taxi stops, and the location of the new stop at Milan Avenue (the black point in the map).



Location of taxi stops, and the 4 flexible transport routes

Although it seems difficult to implement the measure, once the users know how the service works and their comforts will ensure a new mode of transportation simple, flexible and comfortable.

Indicator	How to Measure	Responsible	Expected Result/Target
Creation of flexible taxi service	Inventory of the new lines and stops	Taxi company/EREN/Council of Ponferrada	At least 4 flexible transport routes
Number of workers who know the service.	Surveys to BIZ workers, at least one time per year.	Ponferrada Mobility office	At least 80% of BIZ workers know the information.
Number of workers that use the service	Inventory of the passengers and occupation in the lanes. The inventory could be done with surveys to the workers or with counting people	Ponferrada Mobility office & Council of Ponferrada	7% of BIZ workers

Indicator	How to Measure	Responsible	Expected Result/Target																		
	who left the taxi in the BIZ.																				
RESPONSIBLE	Taxi company of Ponferrada Council of Ponferrada																				
COST COST/BENEFIT	Optimization route software:13.600 € Control passengers system: 15.000 € for software and 200 € per read unit. The inversion for 10 taxis are 2.000 € Publicity campaign in taxis and stops: 5.600 €																				
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	<table border="1"> <thead> <tr> <th colspan="2">Reduction of 7% workers vehicles</th> </tr> <tr> <th colspan="2">GENERAL DATA ES</th> </tr> </thead> <tbody> <tr> <td>Eliminated vehicles from/towards the BIZ</td> <td>66 veh.</td> </tr> <tr> <td>Route in Km from/towards the BIZ</td> <td>3.216,00</td> </tr> <tr> <td>Estimated fuel savings</td> <td>6,5 litres/100 Km</td> </tr> <tr> <th colspan="2">ECONOMICAL RESULTS</th> </tr> <tr> <td>Economical savings</td> <td>16.537,9 euros</td> </tr> <tr> <th colspan="2">ENERGY RESULTS</th> </tr> <tr> <td>Annual fuel saving</td> <td>13.781,6 litres /year 128.981,1 kWh/y 11,1 tep /year</td> </tr> </tbody> </table>	Reduction of 7% workers vehicles		GENERAL DATA ES		Eliminated vehicles from/towards the BIZ	66 veh.	Route in Km from/towards the BIZ	3.216,00	Estimated fuel savings	6,5 litres/100 Km	ECONOMICAL RESULTS		Economical savings	16.537,9 euros	ENERGY RESULTS		Annual fuel saving	13.781,6 litres /year 128.981,1 kWh/y 11,1 tep /year		
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Saving emissions in Small Particles	0,01 tn/y																				
BENEFICIARIES	Workers and taxi drivers who will increase their work.																				
TIMESCHEDULE	3 months of planification and 3 more to do the proposal																				
FUTURE MAINTENANCE	Publicity sponsors, rates to users, rates to companies. The final costs of maintenance are very low, because the rates of each trip are paid by the clients, always with special rates thanks to agrees with taxi drivers and bus companies.																				

2.2.4 BOX4: CAR POOLING

IMPLEMENTATION OF A CARPOOLING MANAGEMENT SYSTEM

This measure is an addition to the above measure, since it involves introducing a management system of carpooling. The device is connected to the Internet, so that each user can connect as a function of the trip you need or offer.

According to surveys of workers, 72% or surveyed workers agree on carpooling under certain conditions. This system needs to manage travel or at least the first contacts between the users. The system can be generated specifically for the BIZ or you can buy platforms that manage the service through an annual rent.

The measure aims to convince people to form groups of carpooling. For this reason one of the basic measures is that of bringing the information to all workers.

Indicator	How to Measure	Responsible	Expected Result/Target
Information of the measure	Surveys to workers	EREN	At least 80% know the service
Number of workers that use the service	Inventory of the passengers, this information is known thanks to the website.	Car pooling company manager	32% of BIZ workers

RESPONSIBLE	<i>Council of Ponferrada</i>																						
COST COST/BENEFIT	<i>Car pooling management of the website: 4.000 € Publicity campaign: 2.000 €</i>																						
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BENEFICIARIES	<i>Workers of the BIZ, and indirectly every citizen of Ponferrada.</i>																						
TIMESCHEDULE	<i>4 months.</i>																						

RESTRICTIONS TO PARK VEHICLES WITH A SINGLE OCCUPANT

This action should come after implantation and promotion of the carpooling system, as revealed in the previous two measures.

To perform this action, it raises the following measures:

- Active participation and involvement of companies.
- Parking available in businesses reserved for vehicles with 3 or 4 occupants.
- Control the entrances of BIZ through technological means.
- Screening of passengers in vehicles through digital media, in this case, through the citizen card and record the trip in the parking station.
- Promotion and incentives for firms and workers to share vehicle.

The reason for raising these actions from a simple proposal (restriction of parking space) is to promote greater involvement of workers, enterprises and administration of the measures in time

The cost of implementing the measure is reduced, as it only needs a correct signage.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of parking slots reduced	Inventory of parking slots.	Council of Ponferrada	At least 43% of BIZ parking slots deleted

RESPONSIBLE	<i>Carpoolers of the BIZ Council of Ponferrada</i>	
COST COST/BENEFIT	<i>Parking Signals: 4.000 € Automatic detection system of vehicle occupancy: 35.000 €. This measure is complementary with Carpooling management system.</i>	
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	Reduction del 43% de worker vehicles	
	GENERAL DATA ES	
	<i>Eliminated vehicles from/towards the BIZ</i>	<i>403 veh.</i>
	<i>Route in Km from/towards the BIZ</i>	<i>3192.00 km</i>
	<i>Estimated fuel savings</i>	<i>6,5 litres/100 Km</i>
	ECONOMICAL RESULTS	
	<i>Economical savings</i>	<i>100.831,7 euros</i>
	ENERGY RESULTS	
	<i>Annual fuel saving</i>	<i>84.026,4 litres /year</i>
		<i>786.399,7 kWh/y</i>
		<i>67,7 tep /year</i>
ENVIRONMENTAL INDICATORS (CO ₂ ,NO _x AND SMALL PARTICLES AVOIDED EMISSIONS)	Reduction del 43% de worker vehicles	
	ENVIROMENTAL RESULTS	
	<i>Saving emissions in CO₂</i>	<i>213,96 tn/y</i>
	<i>Saving emissions in NO_x</i>	<i>2,34 tn/y</i>
	<i>Saving emissions in Small Particles</i>	<i>0,09 tn/y</i>
BENEFICIARIES	<i>Workers of the BIZ.</i>	

TIMESCHEDULE

4 month for companies
8 months for dispositives.

2.2.5 BOX 5: CAR SHARING

UNION TO SHARE VEHICLE

This action contemplates the possibility that the industrial park users band together to car pooling across the organization and management of their own companies based on observed demand of their workers. With car pooling, they are reduced significantly fuel consumption and pollutant emissions.

After an analysis of the situation and their viability, it proposes the creation of an information campaign to make workers aware of the possibility of managing carpool to work. This information and diffusion campaign was carried out by the mobility office of Ponferrada.

This measure aims to reduce greenhouse gas emissions generated by cars in the BIZ in at least 25%. For more details of the measure, the reader is referred to the report in Spanish.

Indicator	How to Measure	Responsible	Expected Result/Target
Creation of car sharing service	Inventory of the new lines and schedules	Bus company	At least 1 bus or share vehicle with arrive in the BIZ
Number of workers who know the measure.	Surveys to BIZ workers, at least one time per year.	Council of Ponferrada	At least 80% of BIZ workers know the information.
Number of workers that use the measure	Inventory of the passengers and occupation of the vehicles. The inventory could be done with surveys to the workers or with counting people who left the car at the final stop.	Council of Ponferrada	25% of BIZ workers

RESPONSIBLE	The BIZ association Council of Ponferrada	
COST COST/BENEFIT	Publicitary campaign: 1500 €	
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	Reduction of 25% of worker Vehicles	
	GENERAL DATA ES	
	Eliminated vehicles from/towards the BIZ	230
	Route in Km from/towards the BIZ	3.343,97
	Estimated fuel savings	6,5 litres/100 Km
	ECONOMICAL RESULTS	
	Economical savings	60.267,7 euros
ENERGY RESULTS		
Annual fuel saving	50.223,1 litres /year	

		470.035,5 kWh/y 40,5 tep /year
ENVIRONMENTAL INDICATORS (CO ₂ ,NO _x AND SMALL PARTICLES AVOIDED EMISSIONS)	Reduction of 25% worker vehicles	
	ENVIROMENTAL RESULTS	
	Saving emissions in CO ₂	127,92 tn/y
	Saving emissions in NO _x	1,40 tn/y
	Saving emissions in Small Particles	0,05 tn/y
BENEFICIARIES	<i>Workers of the BIZ who normally go to BIZ in private vehicle alone.</i>	
TIMESCHEDULE	<i>2 months</i>	

2.2.6 BOX6: PRIVATE/ BUSINESS VEHICLE

INCENTIVES TO GIVE UP USING THE PRIVATE CAR AND ENCOURAGING OTHER TYPES OF TRANSPORT MORE SUSTAINABLE

Program to encourage workers and visitors BIZ aims to achieve the reduction of private car use. For this, in addition to the above measures related to carpooling, there is a new generation of clean vehicles that do not pollute. Therefore, increased use of these cars will get the reduction of pollution.

These incentives that reward new behaviours would be linked to the citizen card benefits. Rewards also would be associated with symbolic or translated into other related mobility services, for example, if a user has shared his vehicle “n” times, the system has registered the change process and gives discounts parking in urban areas, bicycle raffle, etc.

So this measure is intended to highlight programs and campaigns like these:

- A campaign of what a car is in your life and economic spending supported.
- Discount program to leave the car at home and use other more sustainable modes of transport. Discounts in bars, pubs or sports centre, among other businesses of BIZ.
- Program gifts for car sharing, as well as driver and passenger.
- Discount program on the bus in terms of trips
- Awards Program worker performing modal behaviour changes over a period, and for companies to promote more sustainable modes of travel for its employees. Social recognition and public image is essential for it to spread the spirit of modal shift.
- Awards Program to those who make intermodality between transport modes.
- Program festive fun cycle races, walking hiking, etc.

These measures will be managed jointly between Regional Administration and Ponferrada’s City Hall having as intermediary the association of the BIZ or the appropriate coordination centre.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of companies involved in the measure	Annual interview to the companies	Mobility Office of Ponferrada	> 5% of companies involved

Indicator	How to Measure	Responsible	Expected Result/Target
Number of sustainable vehicles	Inventory of the "clean vehicles"	EREN & Ponferrada Mobility Office	At least 25 new vehicles in the BIZ??
Number of workers who know the service.	Surveys to BIZ workers, at least one time per year.	Council of Ponferrada	At least 80% of BIZ workers know the information.
Number of workers that use the service	Inventory of the vehicles in the BIZ. Counting vehicles at the exit/entry of the BIZ, at least 3 times per year, for example in March, July and November	Council of Ponferrada	13% of BIZ workers

RESPONSIBLE	<i>Coordination between public council and companies.</i>																						
COST COST/BENEFIT	<i>Program design – 10.000 € Software and ID-cards – 1.000 € Drivers follow system – 10.000 €, 40 dispositivos Special parking slots for users of the service – 2.000 €</i>																						
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	<p><i>Suponiendo que con esta medida se reduzca el uso del 13% de los vehículos de los trabajadores que acuden al BIZ, se obtendrían los siguientes ahorros de consumo:</i></p> <table border="1"> <thead> <tr> <th colspan="2">Reduction of 13% workers vehicles</th> </tr> <tr> <th colspan="2">GENERAL DATA ES</th> </tr> </thead> <tbody> <tr> <td><i>Eliminated vehicles from/towards the BIZ</i></td> <td><i>122 veh.</i></td> </tr> <tr> <td><i>Route in Km from/towards the BIZ</i></td> <td><i>3.192.00 km</i></td> </tr> <tr> <td><i>Estimated fuel savings</i></td> <td><i>6,5 litres/100 Km</i></td> </tr> <tr> <th colspan="2">ECONOMICAL RESULTS</th> </tr> <tr> <td><i>Economical savings</i></td> <td><i>30.483,7 euros</i></td> </tr> <tr> <th colspan="2">ENERGY RESULTS</th> </tr> <tr> <td></td> <td><i>25.403,3 litres /year</i></td> </tr> <tr> <td><i>Annual fuel saving</i></td> <td><i>237.748,7kWh/y</i></td> </tr> <tr> <td></td> <td><i>20,5 tep /year</i></td> </tr> </tbody> </table>	Reduction of 13% workers vehicles		GENERAL DATA ES		<i>Eliminated vehicles from/towards the BIZ</i>	<i>122 veh.</i>	<i>Route in Km from/towards the BIZ</i>	<i>3.192.00 km</i>	<i>Estimated fuel savings</i>	<i>6,5 litres/100 Km</i>	ECONOMICAL RESULTS		<i>Economical savings</i>	<i>30.483,7 euros</i>	ENERGY RESULTS			<i>25.403,3 litres /year</i>	<i>Annual fuel saving</i>	<i>237.748,7kWh/y</i>		<i>20,5 tep /year</i>
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BENEFICIARIES	<i>El impacto de la medida será positivo para clientes, empresas y trabajadores del BIZ. Todos ellos se beneficiaran de la mejora en la movilidad y la cohesión social. Desde el punto de vista económico, esta medida supone un coste extra para empresas y ayuntamiento, pero redundará en mejorar el espacio disponible en las empresas para sus clientes, para almacén de materiales, mejorar las zonas de carga y descarga, etc....</i>																						
TIMESCHEDULE	<i>8 months for the service 2 months for diffusion campaign</i>																						
MAINTENANCE BUDGET	<i>1.500€ per year</i>																						

EFFICIENT DRIVING COURSES

Studies show that between two forms of driving for the same trip you can save up to 20% fuel. This way raises the possibility that workers take a course of efficient driving to save on their travels.

These courses will be conducted by qualified personnel and vehicles adapted to these needs, with computer on board and in an urban route.

The courses have the following scheme although they may vary depending on customer needs:

- Introduction of the course
- Practice of everyday driving. Measuring the speed and consumption parameters
 - o Theoretical concept of efficient driving
 - o Practical demonstration of the instructor
- Practice/application of efficient driving techniques. Measuring the speed and consumption parameters
- Comparison of results (speed and consumption) and conclusions

In the course the results are individual savings. The standard course lasts approximately 4 hours for drivers of tourism-type vehicle, and about 8 hours for drivers of commercial vehicles and buses.

This action is foreseen to be free for participants, as it would be financed entirely by the Diversification Agency and Saving of Energy and the Regional Authority of Castilla y Leon, promoting these courses annually.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of courses	Inventory of the courses taught.	EREN	At least 1 course taught.

RESPONSIBLE	<i>EREN - Ente Regional de la Energía de Castilla y León. Mobility Office of Ponferrada Companies that made the courses.</i>		
COST COST/BENEFIT	<i>By now, all courses are free and paid for the Administration.</i>		
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	<i>Fuel savings table:</i>		
	KM per year	Annual gas (euros) *	Savings (euros) 15 %
	10.000	540	81
	15.000	810	122
	20.000	1.080	162
	30.000	1.620	243
	50.000	2.700	405
Reduction of 15% worker vehicles.			
GENERAL DATA ES			
	<i>Vehicles eliminated</i>	<i>141 veh.</i>	
	<i>Route in Km from/towards the BIZ</i>	<i>3.000.00 km</i>	
	<i>Estimated fuel savings</i>	<i>15%</i>	

		ECONOMICAL RESULTS	
		<i>Economical savings</i>	33.058,1 euros
		ENERGY RESULTS	
		<i>Annual fuel saving</i>	27.548,4 litres /year 257.824,7kWh/y 22,2 tep /year
ENVIRONMENTAL INDICATORS (CO ₂ ,NO _x AND SMALL PARTICLES AVOIDED EMISSIONS)		Reduction of 15% emissions	
		ENVIROMENTAL RESULTS	
		<i>Saving emissions in CO₂</i>	70,35tn/y
		<i>Saving emissions in NO_x</i>	0,76tn/y
	<i>Saving emissions in Small Particles</i>	0,03tn/y	
BENEFICIARIES	<i>Workers of the BIZ and companies.</i>		
TIMESCHEDULE	<i>Depending on the start date of courses.</i>		

PARKINGS

In this section are grouped all proposes and action programs that have management and efficient operation of existing parking zones.

The report raised three proposals:

- Appropriate management of the current offer of parking spaces
- Alternative uses of some parking areas that would benefit the community
- Rate application

APPROPRIATE MANAGEMENT OF THE CURRENT OFFER OF PARKING SPACES

In the present study of mobility of BIZ highlights that both companies and workers believe that the car parking space is insufficient in some areas and neglect in some parts of BIZ is evident.

As already explained in measure "Reordering and adaptation of parking spaces of BIZ" is necessary to reorganize the roads for the circulation to be safe and effective, adapting the parking spaces. However, in the case of continuing with the current situation of occupation of all available parking spaces and promote other modes of transport, the problem will worsen, with increased pressure of the vehicle on available the parking spaces, adding to the coexistence of companies and workers, and generating conflicts in the corners and intersections of BIZ.

The solution therefore includes the ordination of spaces on either side of the sidewalk or the parking companies. This will be particularly reserved parking spaces for car sharing, company cars and vehicles for disabled.

The budget for this measure is low (2,000 € in paint material) and the period of implementation of the measure is one month.

Indicator	How to Measure	Responsible	Expected Result/Target
Well signaled streets	Inventory of the signals in the BIZ.	Council of Ponferrada	At least 95% of street with great signals
Number of parking	Registry of Local Police of Ponferrada	Local Police of	Reduced the number

Indicator	How to Measure	Responsible	Expected Result/Target
and traffic infractions		Ponferrada	of complaints, at least in 50% per year.

RESPONSIBLE	Council of Ponferrada Companies of the BIZ involved.		
COST COST/BENEFIT	Painting material: 2.000 €		
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	Reduction of 175 worker vehicles		
	GENERAL DATA ES		
	Eliminated vehicles from/towards the BIZ	175 veh.	
	Route in Km from/towards the BIZ	3.000.00 km	
	Estimated fuel savings	6,5 litres/100 Km	
	ECONOMICAL RESULTS		
Economical savings	41.139 euros		
	ENERGY RESULTS		
	Annual fuel saving	34.282,5 litres /year 320.848,5kWh/y 27,6 tep /year	
ENVIROMENTAL INDICATORS (CO₂, NO_x AND SMALL PARTICLES AVOIDED EMISSIONS)	Reduction of 175 worker vehicles		
	RESULTADOS AMBIENTALES		
	Saving emissions in CO ₂	87,32tn/y	
	Saving emissions in NO _x	0,96tn/y	
	Saving emissions in Small Particles	0,04tn/y	
BENEFICIARIES	Workers, visitors and companies of the BIZ.		
TIMESCHEDULE	1 month		

ALTERNATIVE USES OF SOME PARKING AREAS THAT WOULD BENEFIT THE COMMUNITY

This measure aims to put up BIZ unoccupied areas or vacant lots in order to reduce the impact of certain activities of companies in the street obstructing the normal circulation, occupying parking lots, etc.

Some companies do not have access BIZ large enough for loading and unloading so they use the main street for this work. To avoid these problems raises the possibility of using vacant parcels for the work of loading and unloading.

These parcels would be unique to these companies, because providing more parking spaces generate a reversal of the policy initiated to reduce the use of private car.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of vacant parcels	Inventory of vacant parcels to use.	Council of Ponferrada	At least use 2 vacant parcels for parking.
Number of parking capacity	Inventory of Local Police of Ponferrada, maid at least one time per year. Also complete the inventory with reports of complaints collected by Local Police of Ponferrada.	Local Police of Ponferrada	Reduced the number of complaints and illegal parking, at least in 50% per year.

RESPONSIBLE	Companies of the BIZ with parking difficulties Landowners to take The potential future association of the BIZ and the Council of Ponferrada.
COST COST/BENEFIT	Cost of land grant.
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	Reduction of 7% total vehicles
	GENERAL DATA ES
	Eliminated vehicles from/towards the BIZ 76
	Route in Km from/towards the BIZ 3.192,00
	Estimated fuel savings 6,5 litres/100 Km
	ECONOMICAL RESULTS
	Economical savings 17.258,6 euros
ENVIROMENTAL INDICATORS (CO2, NOX AND SMALL PARTICLES AVOIDED EMISSIONS)	Reduction of 7% total vehicles
	RESULTADOS AMBIENTALES
	Saving emissions in CO ₂ 40,34tn/y
	Saving emissions in NO _x 0,56tn/y
	Saving emissions in Small Particles 0,02tn/y
BENEFICIARIES	Workers, companies and visitors of the BIZ, thanks to a great management of parking slots.
TIMESCHEDULE	Depending on the grant negotiations.

RATE APPLICATION

Since parking is a scarce resource in some cases requires regulatory measures by applying rates. This application fee may be based on the following proposals:

Surface parking lots in BIZ with application of a regulatory system similar to the ORA implemented in the city of Ponferrada, and managed and coordinated by giving to a company. However, the rates of BIZ should be adjusted to the time of shift work or business

Parking of Ponferrada clinic: It is necessary to control the parking at the clinic since in many cases is complete. However is a prerequisite to encourage peripheral parking control by the local police, punishing those who use public space areas where parking is prohibited

Parking conditioned on parcels: In the third proposal for the measurement of "Rearrangement of parking spaces" arises restrict parking on the narrow road of BIZ and parking spaces for those who need to use your vehicle. These spaces would be parcels that are currently vacant and could be directed for Park and Ride.

As for the changes that are needed, there is special enclosure fence to park, there are fences or walls, the input control module and the toll system. The estimated time for implementing the measure is 5 months.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of parking fees	Inventory of parking fees zones	Council of Ponferrada	At least 50% parking slots converted to feed zones.
Number of vehicles reduced	Inventory of the vehicles in the BIZ. Counting vehicles at the exit/entry of the	Council of Ponferrada	5% of total vehicles reduced

BIZ, at least 3 times per year, for example in March, July and November		
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RESPONSIBLE	Local Administration and companies involved.														
COST COST/BENEFIT	Fences and walls bounding: 40.000 € Entry control to parking: 22.000 € Application of tolls, and identification system: 23.000 €/company.														
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	<table border="1"> <tr> <th colspan="2">Reduction of 5% total vehicles</th> </tr> <tr> <th colspan="2">GENERAL DATA ES</th> </tr> <tr> <td>Eliminated vehicles from/towards the BIZ</td> <td>69</td> </tr> <tr> <td>Route in Km from/towards the BIZ</td> <td>3.192,00</td> </tr> <tr> <td>Estimated fuel savings</td> <td>6,5 litres/100 Km</td> </tr> <tr> <th colspan="2">ECONOMICAL RESULTS</th> </tr> <tr> <td>Economical savings</td> <td>17.258,6 euros</td> </tr> </table>	Reduction of 5% total vehicles		GENERAL DATA ES		Eliminated vehicles from/towards the BIZ	69	Route in Km from/towards the BIZ	3.192,00	Estimated fuel savings	6,5 litres/100 Km	ECONOMICAL RESULTS		Economical savings	17.258,6 euros
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Saving emissions in Small Particles	0,01 tn/y														
BENEFICIARIES	The correct traffic on the zone, and visitors of the BIZ who will find parking slots easily.														
TIMESCHEDULE	5 months.														

2.2.8 BOX 8: RAISING AWARENESS

INFORMATION, COMMUNICATION, MARKETING AND DISSEMINATION

This action aims to promote sustainable mobility by specific actions of promotion, marketing and information campaigns. Its aim is to positively influence the attitude of drivers, protect the interests of users and improve the quality of life of workers in relation to mobility.

It seeks to foster a new culture of mobility by providing information, marketing and communication.

This measure is a proposal for the implementation of horizontal mobility plan and associated BIZ more or less to each of the actions identified in this study. Generally, the marketing and promotion campaigns should be conducted as complementary to the introduction of sustainable mobility solutions to correlation effects. These sustainable measures can be the creation of new ticketing systems for workers, new public transport services, the incorporation of environmentally friendly vehicles, systems, carpooling, etc... As it has been mentioned in previous measures.

As a horizontal measure, most of the measures will have to develop their diffusion action depending on the requirements established in this measure. Importantly, complementarily performed with the measure of "incentives to stop using the private car and promote other more sustainable modes of transport".

Indicator	How to Measure	Responsible	Expected Result/Target
Number of actions or campaigns	Inventory of the campaigns of publicity done.	EREN	At least 5 actions for campaign
Number of workers who know the service.	Surveys to BIZ workers, at least one time per year.	Council of Ponferrada	At least 80% of BIZ workers know the information.
Number of workers who change their mode of transport	Surveys to BIZ workers, at least one time per year.	Council of Ponferrada	At least 10% of BIZ workers know the information.
Number of workers satisfied	Surveys to BIZ workers, at least one time per year.	Council of Ponferrada	80% of BIZ workers who use the new mode of transport are satisfied

RESPONSIBLE	Responsible parts in the decisions: mobility office of Ponferrada, Workers of the BIZ. Mass media																						
COST COST/BENEFIT	General campaign: 15.000 € Secondary campaigns: 3.000 to 5.000 € Mobility plan campaigns: between 3.000 to 7.000 €																						
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	<table border="1"> <thead> <tr> <th colspan="2">Reduction of 11% de worker vehicles</th> </tr> <tr> <th colspan="2">GENERAL DATA ES</th> </tr> </thead> <tbody> <tr> <td>Eliminated vehicles from/towards the BIZ</td> <td>178</td> </tr> <tr> <td>Route in Km from/towards the BIZ</td> <td>3.343,44</td> </tr> <tr> <td>Estimated fuel savings</td> <td>6,5 litres/100 Km</td> </tr> <tr> <th colspan="2">ECONOMICAL RESULTS</th> </tr> <tr> <td>Economical savings</td> <td>16.695,08 euros</td> </tr> <tr> <th colspan="2">ENERGY RESULTS</th> </tr> <tr> <td>Annual fuel saving</td> <td>15.579,2 litres /year</td> </tr> <tr> <td></td> <td>52.215,8 kWh/y</td> </tr> <tr> <td></td> <td>4,5 tep /year</td> </tr> </tbody> </table>	Reduction of 11% de worker vehicles		GENERAL DATA ES		Eliminated vehicles from/towards the BIZ	178	Route in Km from/towards the BIZ	3.343,44	Estimated fuel savings	6,5 litres/100 Km	ECONOMICAL RESULTS		Economical savings	16.695,08 euros	ENERGY RESULTS		Annual fuel saving	15.579,2 litres /year		52.215,8 kWh/y		4,5 tep /year
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BENEFICIARIES	Los impactos de las medidas no se verán inmediatamente, ya que influir en la actitud y la conducta de las personas, por lo general, lleva bastante tiempo.																						
TIMESCHEDULE	Probably the campaigns will have a duration of 2 or 3 years to give great results.																						

TRAINING OF WORKERS

This measure aims to promote sustainable mobility undertaking training and advice. The purpose is to train workers, workers representatives, human resources managers, owners, managers, directors , etc... to sustainable company

mobility coordinator, at the I business level, with skills in environmental management, mobility and traffic. In addition, providing a solid background in the field of mobility management at the local level, with an integrated vision of municipal policies to improve the lives of workers, contributing to sustainable development of our municipalities.

The general educational aim of the course is the training of technicians and coordinators practice of mobility in business and major activity centers.

Training and practical training of students for the performance control and monitor the various stages that make up the Transport Workers Plans (TWP).

Provide students information on good practice and reference guides in the field of Mobility at Work.

Inform students help and support tools for the implementation, control and monitor the various stages that make up a TWP.

Encourage the resolution of conflicts and problems of urban mobility in conjunction with mobility problems of businesses and workers.

For technical coordinators in business mobility, the course should have a duration of 100 hours of training. Provide a platform for interactive online training content provided with training, case studies and reference tools.

. One of the priority issues to address in these training sessions is the need for an urban transport system, to improve plants and less dependent on fossil fuels.

Training is done through classroom activities such as e-learning (electronic learning).

This measure is closely related to information and marketing, because people must know the existing courses, as well as information about them, before they can perform them. Also it related to the measurement of eco-driving courses, as they are training.

On the other hand a 40 hours session in presence will be developed for specific group of mobility managers.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of trained workers	Inventory of workers trained. To measure the capacity of them, make tests at the end of the courses' modules.	EREN	At least workers from the 50% of the companies of the BIZ

BENEFICIARIES	Technicians in mobility management. Workers who received the training. Companies that involved their workers in the proposal.
RESPONSIBLE	EREN
COST COST/BENEFIT	100€ per person for 100 hours on-line course and 150 € per person in the 40 hours presence courses.

ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	Reduction of 10% de worker vehicles	
	GENERAL DATA ES	
	Eliminated vehicles from/towards the BIZ	153
	Route in Km from/towards the BIZ	3.343,44
	Estimated fuel savings	6,5 litres/100 Km
ENVIROMENTAL INDICATORS (CO2, NOX AND SMALL PARTICLES AVOIDED EMISSIONS)	Reduction of 10% de worker vehicles	
	RESULTADOS AMBIENTALES	
	Saving emissions in CO ₂	74,54 tn/y
	Saving emissions in NO _x	0,334 tn/y
	Saving emissions in Small Particles	0,015 tn/y
TIMESCHEDULE	2 months for 100 hours on line course. 1 week for 40 hours courses.	

2.2.9 BOX 9: MOBILITY MANAGEMENT SOLUTIONS

SPECIFIC TRANSPORT PLAN IN SYKES

The high concentration of workers (around 700, 57.7% of total BIZ) registered in the Sykes telemarketing company generates a significant amount of recurring movements, which produce a socio-environmental impact on BIZ and the City Ponferrada.

In order to reduce this impact and streamline travel from homes and the workplace cited, it is desirable that the company conducted its own Mobility Plan and Transportation Plan.

Due to its high number of workers, this place is able to analyze, evaluate and optimize mobility. This is because most workers have similar schedules but have different shifts, allowing the supply of public transport may be common to all.



Sykes

The transportation plan Sykes is a dynamic process that does not close at any time and need to be implemented. Not enough to design a coordinated program of measures and operating them, it is necessary to work constantly monitoring compliance with them. To successfully implement the plan Sykes transport this will be divided into four major phases:

Phase I. Boost Sustainable Transport Plan

Any decision taken in relation to this plan must have the consent of all parties involved, because only in this way an acceptable outcome can be achieved in improving the accessibility and mobility. To achieve this consensus is essential to create a Transportation Commission, formed by all interested parties (representatives of workers and company), which will be the entity to negotiate measures to be applied.

Phase II. Drafting and approval of the Plan

An analysis of the baseline, to be described in as much detail as possible the stage of labor mobility. Once completed and agreed on the diagnosis of the current state of mobility, there must be a public presentation of the same and thus move to the next stages of the Plan: development of proposals and defining desired Sustainable Transport Plan.

Phase III. Implementation of the Sustainable Transport Plan

To run the action proposals agree that this task is undertaken by a management body that has the support and confidence of all stakeholders. The management authority may be the Transportation Commission was created earlier.

A very important tool in this regard would be the appointment of the figure of a manager Mobility to carry out the implementation of measures adopted in the Plan. He must have skills and technical functions to coordinate all aspects of transport, mobility and accessibility. He should also actively participate in the development and implementation of policy proposals. It is therefore the figure Commission Executive Mobility.

Phase IV. Evaluation and review

Once actions have been implemented to follow to verify compliance with the initial objectives, take corrective action if necessary and identify new ideas for maintaining momentum.

This measure is complemented by the proposals made in the centres of attraction for domestic travel as well as the measures proposed to improve accessibility on foot, by bicycle and public transport, public transport, shuttle transportation and flexible. Mobility Plan in the Clinic of Ponferrada.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of mobility proposals	Mobility plan for Sykes.	Company who made the mobility plan	At least 4 measures to involve the mobility.
Number of workers who know the service.	Surveys to BIZ workers, at least one time per year.	Sykes /Company that made the mobility plan	At least 80% of Sykes workers know the information.
Number of workers that use the new services	Inventory of the vehicles in the BIZ. Counting vehicles at the exit/entry of the BIZ, at least 3 times per year, for example in March, July and November	Sykes/Company that made the mobility plan	100 vehicles reduced

RESPONSIBLE	Workers, company and Council of Ponferrada
COST COST/BENEFIT	El presupuesto para llevar a cabo esta actuación ascendería aproximadamente: Phase I Impulse to mobility plan: 1.000€ Phase II. Approve of the mobility plan: 12.000 € Phase III. Implementation of the mobility plan: 18.000 € Phase IV. Evaluation: 4.000 €
ENERGY INDICATOR (% OF REDUCTION OF VEHICLES, LITRES OF FUEL) y SAVING (% OF AVOIDING OF FUEL) y ambiental	GENERAL DATA ES
	Eliminated vehicles from/towards the BIZ 105 veh
	Route in Km from/towards the BIZ 3.343,97 Km/year
	Estimated fuel savings 6,5 litres/100 Km
	ECONOMICAL RESULTS
	Economical savings 27.513,5 euros
	ENERGY RESULTS
	Annual fuel saving 22.927,9 litres /year
	21.4581,4kWh/year
	18,47 tep/year
RESULTADOS AMBIENTALES	
Saving emissions in CO ₂ 58,40 t/year	
Saving emissions in NO _x 0,64 t/year	
Saving emissions in Small Particles 0,02 t/year	
BENEFICIARIES	Workers who made the courses.
TIMESCHEDULE	Phase I Impulse to mobility plan: one week Phase II. Approve of the mobility plan: 8 weeks Phase III. Implementation of the mobility plan: 6 weeks Phase IV. Evaluation: along the courses.

IMPROVEMENT OF MOBILITY IN THE CLINICA OF PONFERRADA

From the results reflected in the surveys, it follows the widespread use of private vehicles to travel to the clinic, so it is necessary to improve mobility in the Clinic of Ponferrada.

The end of the action raised is to achieve a strategic planning for parking spaces available, re-use of spaces for other purposes and their use provisions, the principal mode of discouraging private car use destination (in this case the Clinic). An issue as complex as impact on the use of private vehicles through the availability of parking requires a planned strategy, an initial analysis of the potential use of parking and how it will affect potential visitors and the area of influence of BIZ and adjacent streets and residential environment. The study should be based on achieving a major goal (improving the environment and the space available for the clinic proposing solutions to the parking more sustainable mobility), but with goals to be achieved gradually in response to expectations and business plan of their own Ponferrada clinic, evaluating at least the following milestones:

Reorganization of existing parking spaces

Deterrence of parking, with rates adjusting entry to the park.

Regular supply of places for workers to share their vehicle or even for visitors through new technologies

Allocate land use present new clinical services, with the construction of a subway for the parking, preferably regulated access.

Define exclusive parking areas for motorcycles and bicycles, clearly marked.

Prevent illegal parking in emergency access and loading and unloading by automatic detection barriers to the passage of vehicles or door openers, bollards, etc.

Depending on the rearrangement of parking, pedestrian routes should be designed to protect pedestrian safety and pedestrian directing the flow safely.

Another of the problems that were made known in the survey conducted in the clinic is the use of the bicycle, but with several problems as there is ample parking to drop off the bike.



Incorrect bicycle parking at the entrance to the clinic

Therefore proposes to install bicycle parking such as "bike lockers" with 10 places (thus encouraging the use of bicycles through the security of your car) or simple bicycle parks in inverted "U", and clearly marked, preferably in area covered to protect the bikes from the weather factors. In the vicinity, has proposed placing a bicycle hire point (see proposal) that will encourage many visitors and even employees can use as a mode of transport.

This measure is complemented by the proposals made in the centres of attraction for domestic travel as well as the measures proposed to improve accessibility on foot, carpool, bicycle and public transport, public transport, shuttle transportation and flexible. In addition, it is also complemented to proposals for training and communication / marketing.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of new measures implementes	Counting the measures	Council of Ponferrada and Clinica Ponferrada	At least 2new measuress in the clinic

RESPONSIBLE	Clinica Ponferrada and Council of Ponferrada
COST COST/BENEFIT	Reordering of parking slots: 2.500 € New pedestrian access: 945€ Bicycle parking slots: 650 €. Control access: 1.500 €
ENERGY SAVING INDICATOR AND AMBIENTAL	Minimal, only reordering.
BENEFICIARIES	Workers and visitors of the clinic Ponferrada.

TIMESCHEDULE

Mobility plan: 3 months
 Parking studies: 3 months
 Reordering of BIZ zone: 1 mes
 New pedestrian access: 2 weeks
 Bicycle parking slots: 2 días
 Control access: 1 week

TRIP ATTRACTION CENTRE IN BIZ

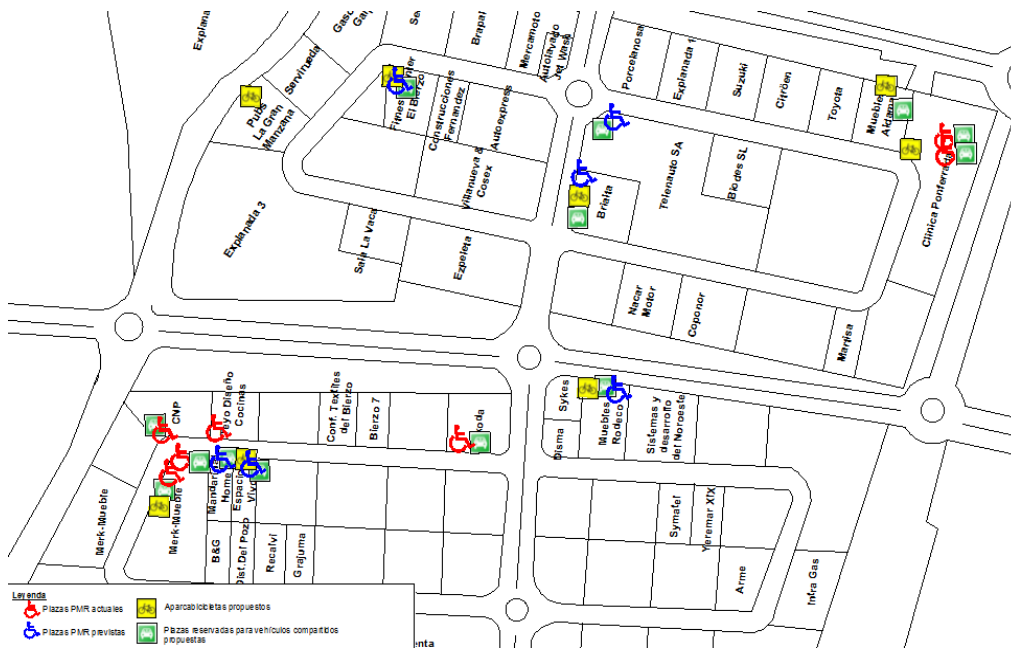
This proposal, which aimed at improving mobility journeys that are made to the attractor centres of BIZ, consists of various measures contained in other proposals of this Plan and which would benefit both visitors to the BIZ as other users. Following those actions are specified singular improve the mobility of these attractor centres:

- **Installation of bicycle parks for customers and employees** (see below in the corresponding proposal "Improvement in the supply of bicycle transportation.")
- **Creating and marking of parking spaces for shared vehicles** (See corresponding proposal: "Proper management of the current supply of parking" in this report.)
- **Encourage attractor center customers who move to the same bicycle or public transport. (See later developed into a corresponding proposal: "Incentives to stop using the private car and promote other more sustainable transport modes.")**

Finally, to improve accessibility, it is proposed:

- Provide and mark parking spaces reserved for disabled vehicles. It is proposed to reserve 5% of parking spaces for each company to disabled vehicles. These places will be located in places closer to the access and the street level and ensure the absence of architectural barriers in the way of places for the company. The companies affected more directly by the measure are Brialta, Gym Fitness Center, Rodeco Furniture and Aldama Furniture.

Below is an image with the proposed location and places reserved bicycle parks:



This proposal should be complemented in its implementation with other actions to improve public transport and cycling, particularly with measures of incentives to stop the vehicle, encourage public transport and bring more supply on bicycles.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of Bike and reserved parking slots	Inventory of the bike parking and reserved parking in the BIZ	Council of Ponferrada	8 bike parking and 18 reserved parking slots.
Number of workers that use the service	Inventory of the vehicles in the BIZ. Counting vehicles at the exit/entry of the BIZ, at least 3 times per year, for example in March, July and November	Council of Ponferrada	Reduction at least of 180 vehicles

RESPONSIBLE	Council of Ponferrada Trip attraction centers Visitors and workers of BIZ
COST COST/BENEFIT	Bicycle parking in companies: 8.200 € Reserved parking signals: 500€ Marketing and promotion campaign “Al BIZ en transporte sostenible”: 10.000€
Cuantificación de ahorro energético	GENERAL DATA ES
	Vehículos eliminados en los desplazamientos al BIZ 181 veh
	Km que deja de recorrer cada vehículo eliminado 3.343,44 Km/year
	Consumo estimado de combustible de cada vehículo 6,5 litros/100 Km
	RESULTADOS ECONÓMICOS
Economical savings 47.420,5 euros/year	
ENERGY RESULTS	
Annual fuel saving 39.517,1 litres /year	
36.517,1 kWh/y	
31,84 tep /year	

		RESULTADOS AMBIENTALES	
ENVIROMENTAL INDICATORS (CO ₂ , NO _x AND SMALL PARTICLES AVOIDED EMISSIONS)	Saving emissions in CO ₂	100,65 t/year	
	Saving emissions in NO _x	1,10 t/year	
	Saving emissions in Small Particles	0,04 t/year	
BENEFICIARIES	Visitors and workers of the BIZ.		
TIMESCHEDULE	New bicycle parking: 2 months		
	Reserved parking signals: 1 week		
	Marketing and promotion campaign " <u>Al BIZ en transportes sostenibles</u> ": 5 months		

2.2.9 BOX 10: NON-STANDARD SOLUTIONS. POLICIES

Policies of transport followed by companies

This section are grouped into those programs and proposals for action that are directed to companies so that policy changes and customs of the same mobility.

RATES AND PASS OF TRANSPORT TO WORK AND INTEGRATION WITH THE CITIZEN CARD

Promote transportation rates and bonds in the movement of work, promote a new bond linked to transport employees and relate BIZ and municipal policy of citizen card management leveraging existing technologies and citizen cards Ponferrada citizens.

Launch this initiative involves a series of agreements between the city of Ponferrada and businesses of BIZ in order to benefit workers, articulating the cost per trip, the mode of billing and collection of bonds.

For its part, the city of Ponferrada needs to adapt the management of citizen card software and the computer system of urban bus to this new form. In the event that further integrate sustainable transport also should adjust the system and collection of travel in these vehicles, as well as potential incentives for number of trips.

The launch of this program requires previous campaigns among workers in the early campaigns targeting BIZ to discourage private car use for their annual cost compared to other transport use and benefit of the citizen card to use transport-specific bonus. The key to articulate commuting bonds, other modes of transport and incentives and promotions, is the computer support and cards, in this case public. This step is already built and in operation long enough to assess what has brought benefits to citizens. The major difficulty of the operation is already done, would require work in the operation of associating a new bond and a new sustainable transport with the articulation of a new operation with the companies linked with promotions that may be made in terms of travel and course with improvements in technology and software.

One of the difficulties about the program is the bond of transportation to work financing, where the price of the bond will be one of the greatest difficulties. It may have some early issues approximate price of this bond:

Considering that most workers do 4 trips per day in 22 days of work are 88 monthly trips. If these trips are charged at 0.71€/trip (1 trip value applies if the bond T10), payment for the 88 trips amount to 62.48€/month.

If companies have a transport money between 21 and 25 € per month and employees contributing with about 18 €/month, slightly less than the monthly fee (€ 20.75), the total contribution would be about from 39 to 43 €/month.

These figures allow at least have a starting point in negotiating the use of transportation to work bonus for public transport.

This measure is closely linked to the actions proposed for sustainable transport so as flexible transport, shuttle or shared.

It would also be essential to integrate this strategy with the measure of "Incentives to stop using the private car and promote other more sustainable modes of transport".

Indicator	How to Measure	Responsible	Expected Result/Target
Number of special fees	Inventory of special transport prices to workers	Council of Ponferrada/ O.R.A. company	At least 20 new cards in the BIZ
Number of workers who know the service.	Surveys to BIZ workers, at least one time per year.	Council of Ponferrada	At least 80% of BIZ workers know the information.
Number of workers that use the service	Inventory of the transportation cards bonds used in the BIZ. Counting the use of these cards.	Council of Ponferrada	32% of BIZ workers use the card.

RESPONSIBLE	Council of Ponferrada that made the card. Companies that finance transportation bonds.																		
COST COST/BENEFIT	Improvements in the software: 15.000 € New cards: 1.000 € <u>Reading cards system: 8.000 €</u> Information campaign: 4.600 €																		
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	<table border="1"> <thead> <tr> <th colspan="2">Reduction of 32% de worker vehicles</th> </tr> <tr> <th colspan="2">GENERAL DATA ES</th> </tr> </thead> <tbody> <tr> <td>Eliminated vehicles from/towards the BIZ</td> <td>300 veh.</td> </tr> <tr> <td>Route in Km from/towards the BIZ</td> <td>3192.00 km</td> </tr> <tr> <td>Estimated fuel savings</td> <td>6,5 litres/100 Km</td> </tr> <tr> <th colspan="2">ECONOMICAL RESULTS</th> </tr> <tr> <td>Economical savings</td> <td>75.037,5 euros</td> </tr> <tr> <th colspan="2">ENERGY RESULTS</th> </tr> <tr> <td>Annual fuel saving</td> <td>63.001,4 litres /year 585.227,7kWh/y 50,4 tep /year</td> </tr> </tbody> </table>	Reduction of 32% de worker vehicles		GENERAL DATA ES		Eliminated vehicles from/towards the BIZ	300 veh.	Route in Km from/towards the BIZ	3192.00 km	Estimated fuel savings	6,5 litres/100 Km	ECONOMICAL RESULTS		Economical savings	75.037,5 euros	ENERGY RESULTS		Annual fuel saving	63.001,4 litres /year 585.227,7kWh/y 50,4 tep /year
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ENVIROMENTAL INDICATORS (CO₂, NO_x AND SMALL PARTICLES AVOIDED EMISSIONS)	<table border="1"> <thead> <tr> <th colspan="2">Reduction of 32% de worker vehicles</th> </tr> <tr> <th colspan="2">RESULTADOS AMBIENTALES</th> </tr> </thead> <tbody> <tr> <td>Saving emissions in CO₂</td> <td>159,27tn/y</td> </tr> <tr> <td>Saving emissions in NO_x</td> <td>1,75tn/y</td> </tr> <tr> <td>Saving emissions in Small Particles</td> <td>0,07tn/y</td> </tr> </tbody> </table>	Reduction of 32% de worker vehicles		RESULTADOS AMBIENTALES		Saving emissions in CO ₂	159,27tn/y	Saving emissions in NO _x	1,75tn/y	Saving emissions in Small Particles	0,07tn/y								
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Saving emissions in Small Particles	0,07tn/y																		
BENEFICIARIES	Workers of the BIZ.																		
TIMESCHEDULE	15 months																		

BUSINESS COLLABORATION AND PROMOTION OF MOBILITY AND TRANSPORT

Promote the clustering of companies in the Industrial Park to meet and negotiate Bierzo common interests that have a valid permit to achieve the aims of the measures proposed in this Plan of Transportation to work.

Enhancing the transport focal that is in contact with the Office of Mobility of the town of Ponferrada to work in coordination in the actions and campaigns planned mobility.

The business collaboration is essential to promote an adequate Estate Companies engaged in their work on it and thus can strengthen the momentum of the business of Ponferrada.

On the topic at hand, the representation of this business partnership will have numerous actions to strengthen, as is made manifest in every measure proposed in the Transportation Plan of BIZ. Mainly as a leading engine for the access of companies in the planned programs, and consequently their workers. Among other actions:

Negotiate with various institutions the preservation and improvement of infrastructure and services of the industrial park.

Updating of company information in order to maintain current issues of property or ownership of land, location, signage, occupancy of the land, and so on.

Conflict resolution by occupation of public space and / or private.

Improve the provision of transport and mobility in the BIZ and promote more sustainable transport modes.

In addition, he would be responsible for negotiating with government's role and resources to allocate to each proposed action. In many cases would an intermediary between the Transportation Office of Ponferrada and the companies themselves.

At first, the seat can be organized from the places where entrepreneurs cede free to do the job and office supplies could be donated by companies to carry out the purposes set out above.

Once the initiative have been consolidated, it can be evaluated to the purchase of buildings or personnel involved in administrative tasks involved in managing the Industrial Park and to disseminate the activities of the same through a website aimed at giving useful information to partners, workers and those visiting or want to invest in BIZ.

This measure is closely related with many proposals, especially those that involve the collaboration of business and the support of the Mobility Office to encourage companies and workers in the development and implementation of actions.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of companies involved	Inventory of companies involved in the new organization	Companies involved in the service/ Local Development Agency	At least 30 companies
Satisfaction with the organization	Surveys to BIZ companies, at least one time per year.	The own association if it would be created	At least 80% of BIZ companies are satisfied

RESPONSIBLE	The companies of the BIZ Local Development Agency
COST COST/BENEFIT	Cost of the new organization.
BENEFICIARIES	Companies of the BIZ
TIMESCHEDULE	Management and organization time, probably few months.

TELEWORKING AND ALTERNATIVE WORK SCHEDULES

Promoting new ways of doing distance work (teleworking), mainly in workers home support through technologies that allow certain administrative tasks without taking traditional place of work in the company.

Promote teleworking means that the worker has a set of tools "telematics" which will allow them their work outside the office, including internet access in the homes of the workers involved, computers, telephones, etc. These costs may be agreed or not by the employer and the worker, who also should install programs on-line control of working time, management and accounting software which you can work remotely and not only in local network the company. Changing work patterns of workers in the BIZ largely improve mobility in the environment of BIZ would be reduced because at least two trips a day. The impact would be positive if the BIZ conditions were suitable for this change. However, what most companies depend on having business hours are from users or clients who visit national schedule and working hours, rest schedules, etc... Therefore, it is expected that this measure has a significant impact on the mobility of the environment because most companies of industrial park have a commercial and dedicated service.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of teleworkers	Inventory of teleworkers	Human resources departments/Trade unions/workers representatives/	At least 5% of workers
Number of companies	Inventory of companies.	Human resources departments/Trade unions/workers representatives/	At least 5% of BIZ companies.

RESPONSIBLE	Companies and workers of the BIZ
COST COST/BENEFIT	No costs

ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	Reduction of 5% total vehicles	
	GENERAL DATA ES	
	Eliminated vehicles from/towards the BIZ	69
	Route in Km from/towards the BIZ	3.192,00
	Estimated fuel savings	6,5 litres/100 Km
	ECONOMICAL RESULTS	
Economical savings	17.258,6 euros	
ENERGY RESULTS		
Annual fuel saving	9.096,2 litres /year	
	134.602,4 kWh/y 11,6 tep /year	
ENVIROMENTAL INDICATORS (CO₂, NO_x AND SMALL PARTICLES AVOIDED EMISSIONS)	Reduction of 5% total vehicles	
	RESULTADOS AMBIENTALES	
	Saving emissions in CO ₂	36.63 tn/y
	Saving emissions in NO _x	0,40 tn/y
Saving emissions in Small Particles	0,01 tn/y	
BENEFICIARIES	Workers of the BIZ, who will doesn't need to go to the BIZ.	
TIMESCHEDULE	Depends on the formalities with the company	

POSSIBILITIES OF BUSINESS AGREEMENTS FOR THE ACQUISITION OF "CLEAN VEHICLES"

This action is to determine the possible agreements to be made by the companies and/or employees for the purchase of "clean vehicles".

Taking advantage of the help lines open for the Economy and Employment of the Junta de Castilla y Leon, the acquisition of certain clean and efficient vehicles, which could be used as a vehicle for businesses or workers, may finance.

Moreover, an adequate information campaign is needed accompaniment actions and filings expressly to convince and motivate these groups in the procurement of clean vehicles.

To this end, management companies and the potential sale of this type of clean vehicles could support the Office of Mobility and businesses of BIZ in the management and consolidation of this line of work. It could also work with companies in the industrial park with car dealers and are offering their customers clean vehicles.

This measure is complementary to others such as marketing and advertising, efficient driving, training and coordination with the Mobility Office.

EREN will asses and inform about the acquisition of sustainable vehicles.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of sustainable vehicles	Inventory of the sustainable company vehicles	Mobility office of Ponferrada	At least 25 new vehicles in the BIZ

Indicator	How to Measure	Responsible	Expected Result/Target
Number of workers that use the service	Inventory of the vehicles in the BIZ. Counting vehicles at the exit/entry of the BIZ, at least 3 times per year, for example in March, July and November	Council of Ponferrada	Number of workers that use the service

RESPONSIBLE	Workers, Council of Ponferrada, companies of the BIZ. Citizens of Ponferrada in general.
COST COST/BENEFIT	Get new clean cars costs around 20.000€ per vehicle, and more than 54.000€ for clean vans
ENERGY SAVING INDICATOR (% OF REDUCTION OF VEHICLES, AVOIDING LITRES OF FUEL)	Reduction of 7% total vehicles
	GENERAL DATA ES
	Eliminated vehicles from/towards the BIZ 76
	Route in Km from/towards the BIZ 3.192,00
	Estimated fuel savings 6,5 litres/100 Km
	ECONOMICAL RESULTS
Economical savings 24.476,1 euros	
	ENERGY RESULTS
	Annual fuel saving 13.754,2 litres /year
	177.565,4 kWh/y
	15,8 tep /year
ENVIROMENTAL INDICATORS (CO₂, NO_x AND SMALL PARTICLES AVOIDED EMISSIONS)	Reduction of 7% total vehicles
	RESULTADOS AMBIENTALES
	Saving emissions in CO ₂ 40,34 tn/y
	Saving emissions in NO _x 0,56tn/y
	Saving emissions in Small Particles 0,02tn/y
BENEFICIARIES	Enviromental benefits, and fuel savings for workers and companies.
TIMESCHEDULE	5 months

IMPROVEMENT IN CONDITIONS, INFRASTRUCTURES AND ACCESS

In this section are grouped all programs and proposals for action that take into account improvements in the conditions, infrastructure of BIZ and its accesses, as well as the more equitable distribution of public space dedicated to mobility.

TRAFFIC IMPROVED AND CONDITIONING ROUNDABOUT GALICIA AVENUE AND JULIO LAREDO STREET:

High crosswalks

The measure means to perform four elevated pedestrian crossings, signage for 4 entries to the roundabout, and crosswalks lighting to enhance the safety of passers-by.

The high crosswalks do not carry an extra cost of maintenance, except repainted the lines of feeding place when they wear out, although they have a useful life that depends largely on the type of paint used and the number of vehicles that pass through.

The modification of the road through high crosswalks compliance with the existing regulations relating to the standard dimensions of these and it makes the proposal potentially viable to implement. It does not imply changes in the

circulation on their journey. However, it will reduce the speed of entry to the roundabout, which will lead to minimize the accidents on the same due to excess speed and poor visibility of the vehicles in the vicinity of the roundabout. Pedestrians and passers-by in the area will be a safer environment for cross from a sidewalk to a street, and the architectural barriers caused by the curbs for pedestrians, creating continuity in the pedestrian itinerary, will be reduced.

The impact of this measure will have several advantages, which include the reduction of the speed of the Galicia Avenue which in turn leads to the reduction of traffic accidents, which in 2009 were 12 and by the year 2010 were 19.

The introduction of the measure involves the awarding of the construction site to a specialized company. Time of execution of the works is estimated at 5 months, and the award of the project in approximately 2 months, so the realization of this measure would take around 7 months.

This measure can be complemented with the introduction of speed radar in Galicia Avenue.



Situation of the proposal measure and simulation of high crosswalks

Indicator	How to Measure	Responsible	Expected Result/Target
Number of high crosswalks	Inventory of the high crosswalks built	Council of Ponferrada	At least 4 new high crosswalks
Number of traffic accidents	Accidents registered by Local Police of Ponferrada	Local Police of Ponferrada	Reducing at least 15% of traffic accidents per year.

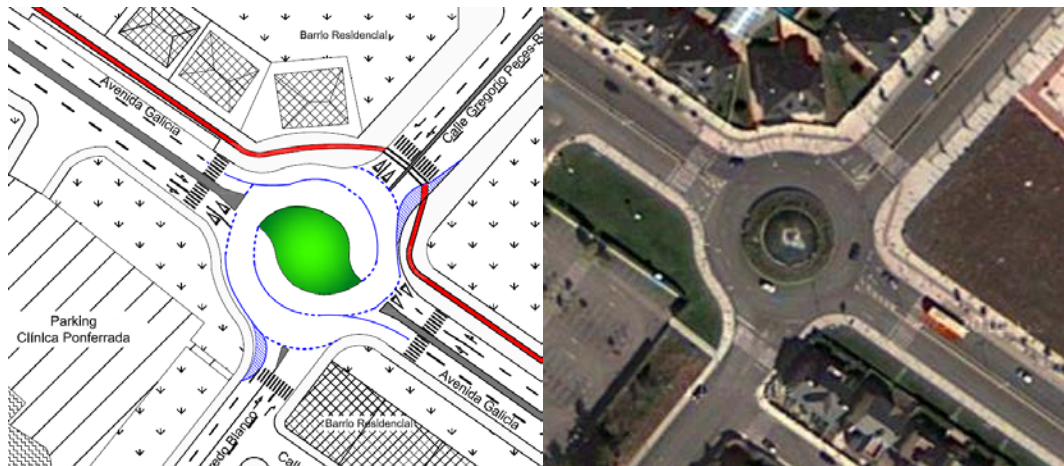
RESPONSIBLE	Council of Ponferrada
COST COST/BENEFIT	Four new high crosswalks: 24.000€ Illumination for the crosswalks: 20.000€ New traffic signals: 1.600€
ENVIROMENTAL INDICATORS (CO2, NOX AND SMALL PARTICLES AVOIDED EMISSIONS)	There are no special enviromental benefits.
BENEFICIARIES	Reduction of accidents
TIMESCHEDULES	5 months

Turbo roundabout

This measure means the modification of the Roundabout located between Galicia Avenue and Julio Laredo Street for a Turbo roundabout.

A turbo roundabout is a new concept of roundabout pioneered in the Netherlands, getting in these country good effective results. In Spain has been installed the first Turbo roundabout in Grado (Asturias), producing good results of fluidity of traffic and reduction road accidents. The main characteristic of this type of roundabouts is the driver is continuously "guided" by lanes towards their destination since makes his entrance at the roundabout until that comes out. In addition, it borders always dangerous change of lane within the roundabout, reason by which the majority of accidents occur. Name it "Turbo" comes precisely by the most fluidity that prints to traffic, and at the same time enhances security.

The modification of the roundabout with a turbo roundabout compliance with existing legislation on the right signage makes the proposal viable. It does not imply changes in the circulation on their journey. However, the safety of the roundabout will be increased to the not be unexpected changes of lane, which will lead to minimize accidents that have occurred on it.



Proposed Turbo Roundabout compared to the current

This measure can be complemented with the introduction of radar speed feedback in Galicia Avenue.

Also, to reduce speed at the roundabout, you can take the following measures:

- The replacement or supplement to the warning signs.
- Placement of signs on the type of notice poster sketch.
- Better visibilities of the brand of "give way".
- An appropriate level of slip resistance in both the access road and in the ring.
- The reduction of excessive width at the entrance, by fractionation or narrowing.
- Placement of speed-reducing signals panels away.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of citizens who know the service.	Surveys to citizens of Ponferrada, at least one time per year.	Council of Ponferrada	At least 80% of asked people know the information.
Satisfaction with the	Surveys to BIZ companies, at least one time	Council of	At least 80% of

Indicator	How to Measure	Responsible	Expected Result/Target
new roundabout	per year.	Ponferrada	citizens are satisfied
Number of traffic accidents	Accidents registered by Local Police of Ponferrada	Local Police of Ponferrada	Reducing at least 15% of traffic accidents per year.

RESPONSIBLE	Council of Ponferrada
COST COST/BENEFIT	Adaptation of the existing roundabout: 10.000€ Horizontal and vertical new signals: 3.500€ Marking during construction: 1.000€. Project design: 2.000€.
TIMESCHEDULES	Project design: 4 months Construction time: 3 months

SLOWING IN THE MAIN ARTERIES OF BIZ: MILAN AVENUE AND. GALICIA AVENUE

This measure proposes the establishment of six high pedestrian crossings for pedestrian use, and other 3-of-way shared bicycle, with a width of plant to provide access to future users of the bike path that passes through these 3 points.

Another measure to achieve the reduction of speed in these two pathways is the implementation of two control points for speed. These fixed points are placed at the midpoints of the two avenues, reducing the rate at inputs to BIZ. Responsible for placement and maintenance of these devices would be the Traffic Department in conjunction with the performance of the local police in Ponferrada.

The proposal aims to reduce the speed at the entrances to the roundabout as stated in the proposals, " Traffic improved and conditioning Roundabout Galicia Avenue and Julio Laredo Street ", so reducing the risk of accidents. As well, it is believed desirable to **reduce the speed at pedestrian crossings between roundabouts**. The speed limit for this stretch is 50 km/h, and suggests that the sections between the roundabouts are limited to 30km/h, in this way allowing a safe passage for the high *pedestrian crossings*.

The following figure can be seen the relative locations of the two types of overpasses.



Proposed provision of high pedestrian crossings

This measure is related and directly concerned with the implementation of new cycle lane routes, because you have to give continuity to these road users. In the same way is related to the vertical signage and information measures of BIZ, since the signals must interact with each other without altering the visibility between them. Furthermore, it is related to continuity with the proposed steps and walkways.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of high crosswalks	Inventory of the high crosswalks built	Council of Ponferrada	9 new high crosswalks
Number of traffic accidents	Accidents registered by Local Police of Ponferrada	Local Police of Ponferrada	Reducing at least 15% of traffic accidents per year.

RESPONSIBLE	Council of Ponferrada
COST COST/BENEFIT	Four new high crosswalks: 54.000€ Illumination for the crosswalks: 45.000€ New traffic signals: 3.600€
ENVIROMENTAL INDICATORS (CO2, NOX AND SMALL PARTICLES AVOIDED EMISSIONS)	No special environmental and energetic savings.
BENEFICIARIES	All citizens of Ponferrada with the decrease of the traffic accidents.

TIMESCHEDULES	Project 2 months and 2 months more for construction.
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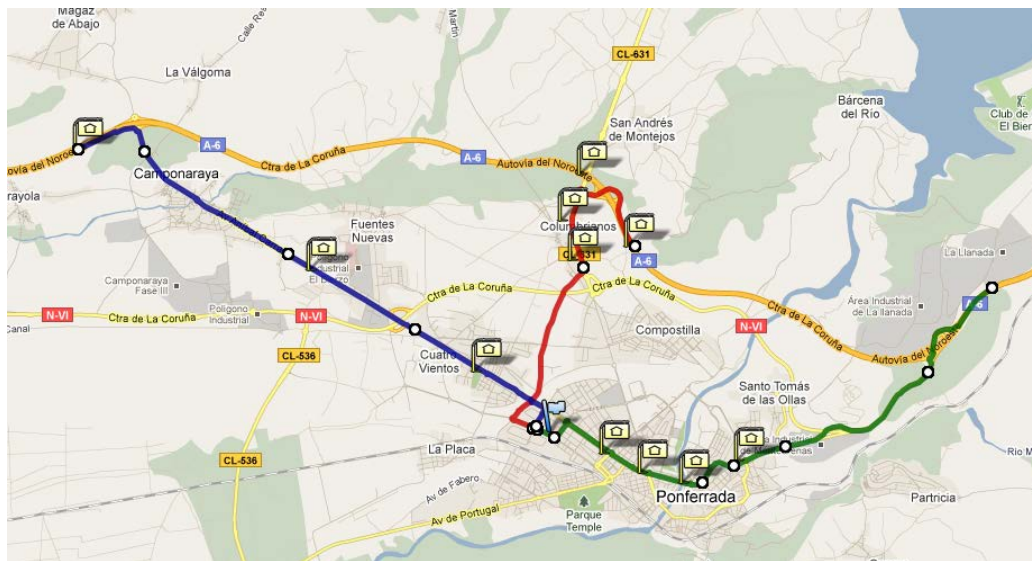
IMPROVED SIGNAGE FOR PROPER ROAD ACCESS TO THE BIZ:

Signage for correct arrival of BIZ

The action aims to facilitate access to BIZ since before the arrival in the city of Ponferrada by placing signs at strategic locations in the different existing access routes. However, the ideal measure would be to route the signal correctly the quickest and easiest route.

Regarding the maintenance budget of this measure does not require a specific expense, since the information panels do not require extra consumption.

This signalling avoid making incorrect routes for users unfamiliar with the way of arrival, avoid tours longer than the distance required and consuming more fuel than necessary on unnecessary trips.



■ Route 1 ■ Route 2 ■ Route 3

Location of proposed signage for the 3 routes of entry to the BIZ from the outside of Ponferrada

This measure is complemented with signage on the BIZ companies.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of new signals	Inventory of new signals	Council of Ponferrada	15 new signals along Ponferrada town.
Reduction of fuel emissions	Surveys to visitors at least 1 time per year to know how they find the accessibility to BIZ.	Council of Ponferrada	5% of BIZ visitors reduced to arrive to BIZ.

RESPONSIBLE	Council of Ponferrada and General Traffic Directorate																										
COST COST/BENEFIT	Signals in the A-6: 3.000€ Downtown signals: 4.000€ 9 more signals along the city: 1.000€																										
ENERGY SAVINGS	<table border="1"> <tr> <td colspan="2">Reduction of 5% vehículos visitantes</td> </tr> <tr> <td colspan="2">GENERAL DATA ES</td> </tr> <tr> <td>Eliminated vehicles from/towards the BIZ</td> <td>23 veh.</td> </tr> <tr> <td>Route in Km from/towards the BIZ</td> <td>480,00 km.</td> </tr> <tr> <td>Estimated fuel savings</td> <td>6,5 litres/100 Km</td> </tr> <tr> <td colspan="2">ECONOMICAL RESULTS</td> </tr> <tr> <td>Economical savings</td> <td>846,3 euros</td> </tr> <tr> <td colspan="2">ENERGY RESULTS</td> </tr> <tr> <td>Annual fuel saving</td> <td>705,2 litres /year 6.600,3 kWh/y 0,58 tep /year</td> </tr> <tr> <td colspan="2">RESULTADOS AMBIENTALES</td> </tr> <tr> <td>Saving emissions in CO₂</td> <td>1,84 tn/y</td> </tr> <tr> <td>Saving emissions in NO_x</td> <td>0,02 tn/y</td> </tr> <tr> <td>Saving emissions in Small Particles</td> <td>0,01 tn/y</td> </tr> </table>	Reduction of 5% vehículos visitantes		GENERAL DATA ES		Eliminated vehicles from/towards the BIZ	23 veh.	Route in Km from/towards the BIZ	480,00 km.	Estimated fuel savings	6,5 litres/100 Km	ECONOMICAL RESULTS		Economical savings	846,3 euros	ENERGY RESULTS		Annual fuel saving	705,2 litres /year 6.600,3 kWh/y 0,58 tep /year	RESULTADOS AMBIENTALES		Saving emissions in CO ₂	1,84 tn/y	Saving emissions in NO _x	0,02 tn/y	Saving emissions in Small Particles	0,01 tn/y
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BENEFICIARIES	Visitors to BIZ who don't know the best way to arrive to BIZ.																										
TIMESCHEDULES	Acceptation of the measure: 2 months Construction of signals: 1 month Information panels: 1 month Placement of signs: 1 week.																										

Signaling of the companies comprising the BIZ

This action, fully complementary to the previous signal to reach the BIZ, is intended to clarify the location of the business to drivers and pedestrians who arrive at the industrial park.

For a clear appreciation of the location of businesses are being carried out in many parks and industrial estates division into sectors by the same colours, and lots of numbers.

Given the rectangular arrangement of BIZ, and taking advantage of two major arteries (Milan Avenue and Oporto Avenue), proposes the division of BIZ into four sectors as shown in the following diagram:



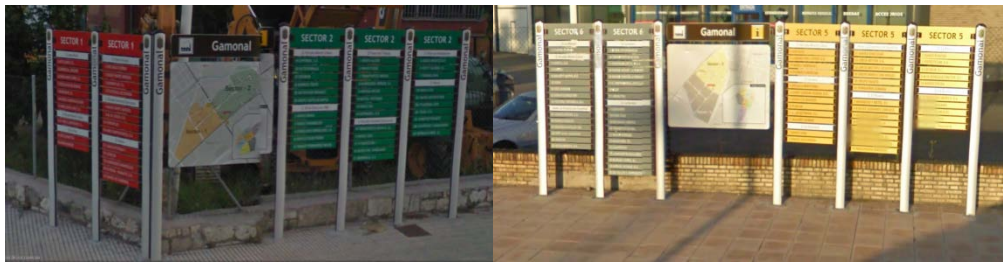
Zoning as proposed by colours and sector

The reason for the colour division is the commodity panels with the names of the companies in each sector.

In this way, it would be placed at strategic points BIZ explanatory panels with the plane and the information on the companies that make up each sector.



A clarifying example to see what the measure seeks to achieve is shown in the pictures below, belonging to Gamonal Industrial Estate in the city of Burgos:



Example of complete information panels at the Gamonal Industrial Estate in Burgos

Considering that the access to the industrial park, it is thought desirable to implement two information panels of the 4 sectors. The first panel would be located in the roundabout located between Milan Avenue and Oporto Avenue. The other one would be located at the entrance between Galicia Avenue and Oporto Avenue.

This measure is complemented with signage on the accessibility to the BIZ from the main arteries of entrance to the city both the city of Ponferrada and the A6 motorway.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of new signals	Inventory of new signals	Council of Ponferrada	15 new signals along Ponferrada town.
Reduction of fuel emissions	Surveys to visitors at least 1 time per year to know how they find the accessibility to BIZ.	Council of Ponferrada	5% of BIZ visitors reduced to arrive to BIZ.

RESPONSIBLE	Council of Ponferrada
COST COST/BENEFIT	Construction of signals: 3.000€ Construction of the four panel zones: 1.200€ Construction of 15 direction panels: 1.800€
BENEFICIARIES	Visitors and clients of the BIZ.
TIMESCHEDULES	From 1 to 2 months

REORDERING AND ADAPTATION OF PARKING SPACES OF BIZ.

With the aim of improving the daily operations of the BIZ and enhance a friendlier environment, closer to users accessing media more sustainable, safer, more orderly and regulated, it is proposed arrangement and adequacy of parking spaces of BIZ by three different proposals, from a more simple to other with more impact and complexity, but very important to sustainable mobility:

Proposal 1

The action is to reorganize and to signal correctly all the parking spaces that are viable within the BIZ. Furthermore, this measure will be accompanied by a series of actions for the design of sidewalks and other measures to prevent parking in these vacant lots.

The objective of this measure is to organize the space for surface parking by road marking of the road, where you will have white dashed lines, as indicated in the regulation of free parking. Similarly, it was properly indicated with solid yellow lines in those areas where parking and stopping is not allowed. The aim is to improve traffic flow by the BIZ, making it more fluid, and where they get some safe and comfortable turn for all types of vehicles, especially for heavy vehicles are more difficult.

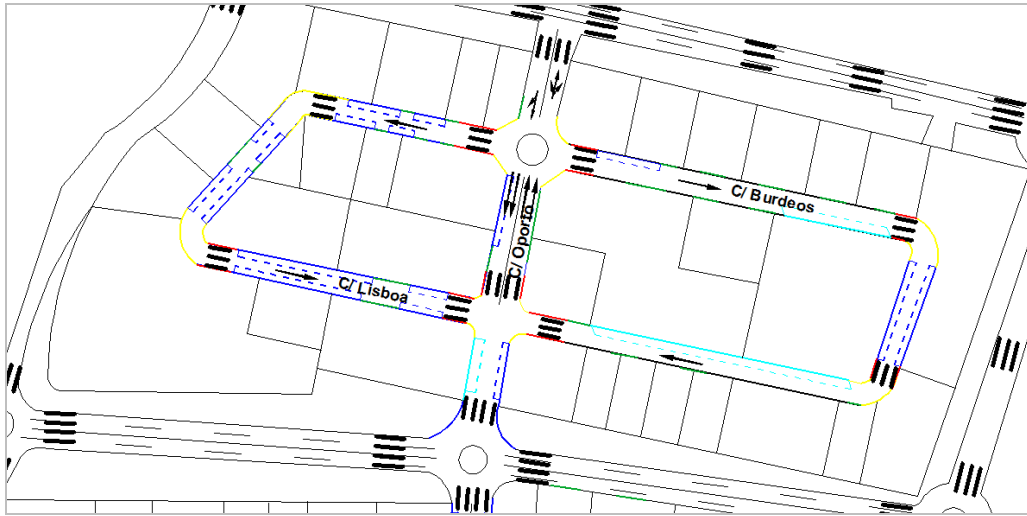
To carry out this measure, the paper looks at different scenarios in which the actions are applied. So, as shown in the attached map, there are areas where parking is applied in line, and areas where parking is implanted side by side. In all the cases described above, it would have at least a sense of wide circulation of at least 4 meters, which allow the passage of vehicles of heavy tonnage.

Situation	Places in public spaces	Places in the plots of companies	Places in vacant lots
Actual	610	493	110
Proposal1	530	493	-

In total, the new parking spaces would amount to an estimated total of:

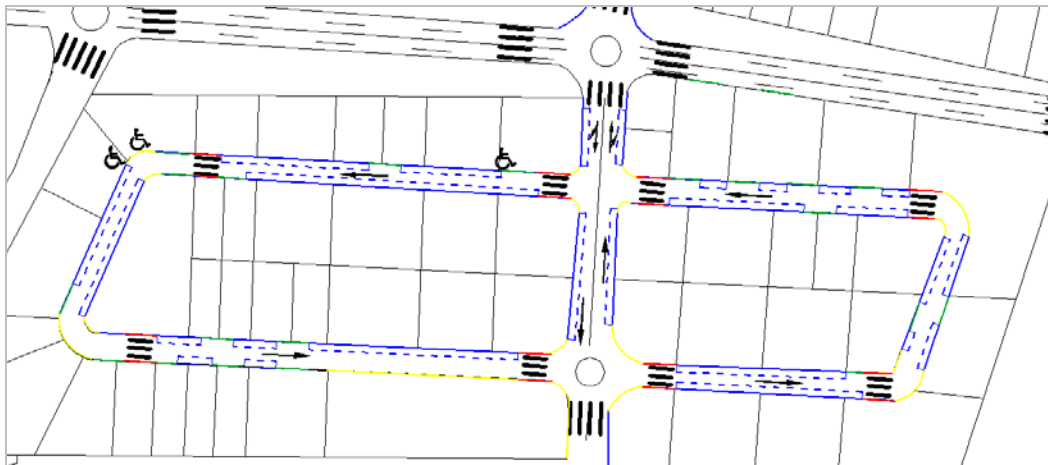
The curves will be marked with yellow paint to indicate that parking is prohibited, because it is a problem area for turning of heavy vehicles. Vertical signaling required as stated in the "Extension of the vertical and horizontal signage."

For BIZ I below:



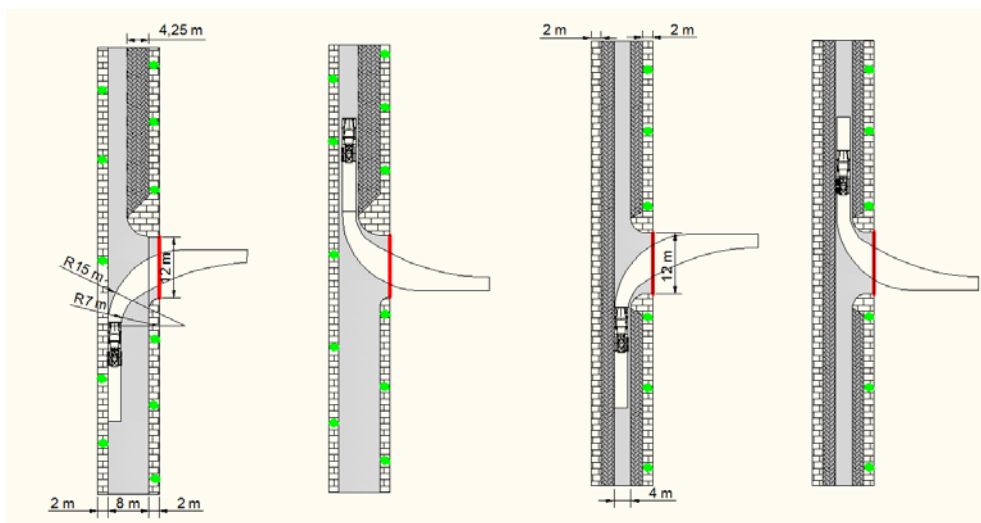
Disposition of Proposal 1 in the BIZ I

And for the BIZ II:



Disposition of Proposal 1 in the IPB II

To ensure access for all vehicles to companies in the BIZ, in those in which it has provided access to large vehicles will be limited parking in the vicinity of the BIZ and conditioned so that sidewalks can turn make the best possible safety conditions as shown in the following schemes, depending on the type of vehicle and where the company is located (in a parking space in line or parking area side by side):



Maximum turning radius for trucks depending on the roadway width of the proposal 1

As for the conditioning measures are consist of sidewalks, as it can be seen in the pictures above, the construction of projecting at the ends of each section of sidewalk.

The maintenance cost of this remedial action is the proper wear of the marking. In this sense it is vitally important to maintain this optimum condition of signals that the parking is done properly.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of parking slots.	Inventory of the parking slots in the BIZ	Council of Ponferrada	At least 80 slots deleted.
Satisfaction with the new roundabout	Surveys to BIZ companies, at least one time per year.	Council of Ponferrada	At least 60% of citizens are satisfied
Number of traffic blocks	Traffic blocks registered by Local Police of Ponferrada	Local Police of Ponferrada	Reducing at least 85% of traffic blocks.

RESPONSIBLE	Council of Ponferrada
COST COST/BENEFIT	<ul style="list-style-type: none"> - White paint (10cm): _____0.40€ per lineal meter – Total aprox.: 1.000€ - Yellow paint (15cm): _____0.50€ per lineal meter – Total aprox.: 900€ - Protection signals:_____200€ - Fences:_____11.80€ per lineal meter _____Total aprox.: 200€ - Material and equipment for signals:_____700€ - Roundabout Oporto with Lisboa and Burdeos:_____3.000€
ENVIROMENTAL INDICATORS (CO2, NOX AND SMALL PARTICLES AVOIDED EMISSIONS) AND ENERGETIC	Little significance
BENEFICIARIES	Workers, companies and visitors of the BIZ
TIMESCHEDULE	<ul style="list-style-type: none"> - Project: 1 month - Construction: 1 month

Proposal 2

The action is to reorganize and to signal correctly all the parking spaces that are viable within the BIZ, carrying out the extension of sidewalks to allow the creation of a coexistence area between pedestrians and cyclists.

The objective of this measure is to organize the space for surface parking by the road marking the driveway. In addition, it will improve space for private vehicles by improving the accessibility of pedestrians and cyclists.

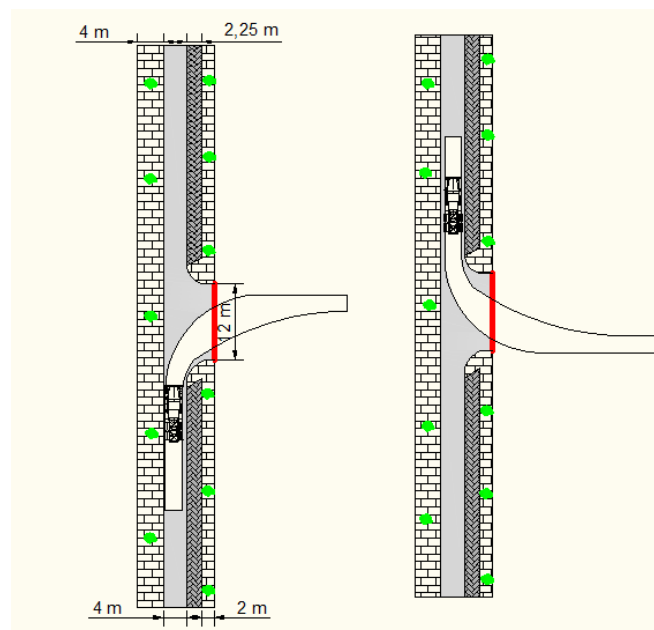
The marking of parking space will be made by white dashed lines, as indicated in the regulation of free parking. Similarly, it was properly indicated with solid yellow lines in those areas where parking and stopping is not allowed. The aim is to improve traffic flow by the BIZ, making it more viable, and where they get some money safe and comfortable for all types of vehicles, especially for heavy vehicles are more difficult.

To carry out the expansion of the sidewalks, the paper looks at different scenarios in which the actions apply. Therefore, as shown in the attached map, there are areas where parking is allowed only on one side line of the roadway, and areas where parking is allowed on both sides, respecting access to the companies themselves.

The parking spaces for this measure would be approximately 265 compared to the current 610 as shown in the following table:

Situation	Paces in public spaces	Places in the plots of companies	Places in vacant lots
Actual	610	493	110
Proposal 2	265	493	-

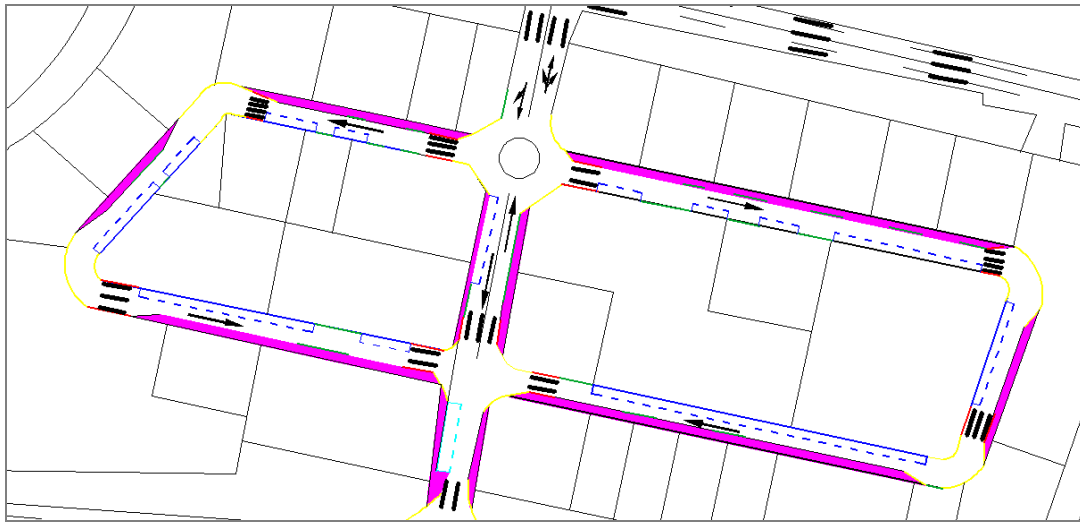
The curves will be marked with yellow paint to indicate that parking is prohibited, as are a problem area for turning of heavy vehicles. The dimensions to allow a shift in normal security conditions specified in the following sketch:



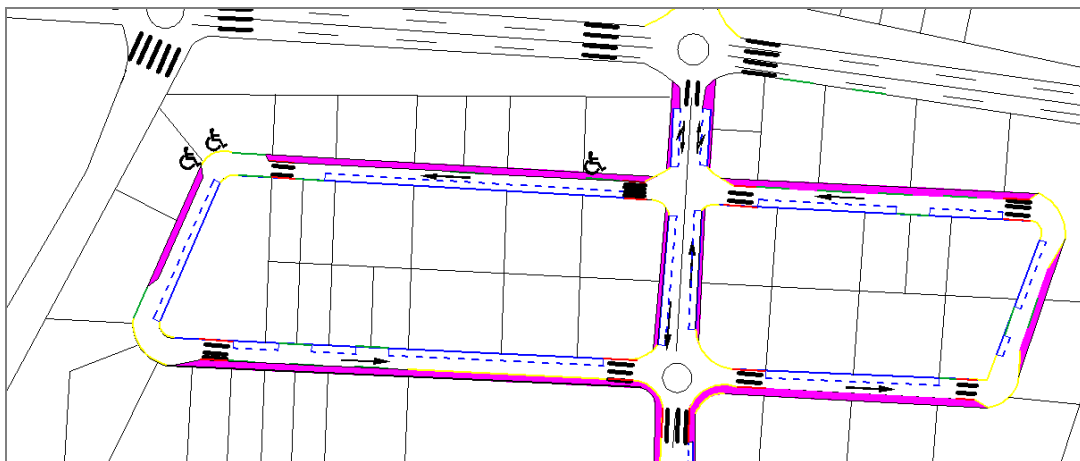
Maximum turning radius for trucks depending on the roadway width of the proposal 2

It can be observed that a provision of parking parallel to the side of the road and widening of sidewalks, the rotation is perfectly protected for all types of vehicles.

Below is a sketch of the layout of parking areas and sidewalk widening.



Disposition of Proposal 2 in the BIZ I



Disposition of Proposal 2 in the BIZ II

Indicator	How to Measure	Responsible	Expected Result/Target
Number of parking slots.	Inventory of the parking slots in the BIZ	Council of Ponferrada	At least 80 slots deleted.
Satisfaction with the new roundabout	Surveys to BIZ companies, at least one time per year.	Council of Ponferrada	At least 60% of citizens are satisfied
Number of vehicles	Traffic blocks registered by Local Police of Ponferrada	Local Police of Ponferrada	Reducing at least 85% of traffic blocks.
Number of users that use the service	Inventory of the vehicles in the BIZ. Counting vehicles at the exit/entry of the BIZ, at least 3 times per year, for example in March, July and November	Council of Ponferrada	Reduction of 9% of BIZ vehicles

RESPONSIBLE	El Ayuntamiento de Ponferrada como actor en la ordenación y señalización de las plazas de aparcamiento. La empresa correspondiente encargada de facilitar la pintura y los equipos.																																
COST COST/BENEFIT	<ul style="list-style-type: none"> - White paint (15cm): _____0.50€ per lineal meter – Total aprox.: _____1.000€ - Yellow paint (15cm): _____0.50€ per lineal meter – Total aprox.: _____900€ - Protection signals: _____200€ - Fences: _____11.80€ per lineal meter__ Total aprox.: _____200€ - Material and equipment for signals: _____700€ - Roundabout Oporto with Lisboa and Burdeos: _____3.000€ - Bette pedestrian lines: _____150.000€ 																																
ENVIROMENTAL INDICATORS (CO2, NOX AND SMALL PARTICLES AVOIDED EMISSIONS) AND ENERGETIC	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="background-color: #e0f2f1;">Estimated reduction of 9% Vehicles used</th> </tr> <tr> <th colspan="2" style="background-color: #3f51b5; color: white;">GENERAL DATA ES</th> </tr> </thead> <tbody> <tr> <td>Deleted vehicles</td> <td style="text-align: right;">125</td> </tr> <tr> <td>Km done</td> <td style="text-align: right;">3.120,00</td> </tr> <tr> <td>Estimated fuel savings</td> <td style="text-align: right;">6,5 litres/100 Km</td> </tr> <tr> <th colspan="2" style="background-color: #3f51b5; color: white;">ENERGY RESULTS</th> </tr> <tr> <td></td> <td style="text-align: right;">25.467,0 litres</td> </tr> <tr> <td>Annual fuel saving</td> <td style="text-align: right;">/year</td> </tr> <tr> <td></td> <td style="text-align: right;">238.344,6 kWh/y</td> </tr> <tr> <td></td> <td style="text-align: right;">20,52 tep /year</td> </tr> <tr> <th colspan="2" style="background-color: #3f51b5; color: white;">ENVIRONMENTAL SAVINGS</th> </tr> <tr> <td>Saving emissions in CO₂</td> <td style="text-align: right;">64,86 tn/y</td> </tr> <tr> <td>Saving emissions in NO_x</td> <td style="text-align: right;">0,71 tn/y</td> </tr> <tr> <td>Saving emissions in Small Particles</td> <td style="text-align: right;">0,03 tn/y</td> </tr> <tr> <th colspan="2" style="background-color: #3f51b5; color: white;">ECONOMICAL RESULTS</th> </tr> <tr> <td>Economical savings</td> <td style="text-align: right;">30.560,4 euros</td> </tr> </tbody> </table>	Estimated reduction of 9% Vehicles used		GENERAL DATA ES		Deleted vehicles	125	Km done	3.120,00	Estimated fuel savings	6,5 litres/100 Km	ENERGY RESULTS			25.467,0 litres	Annual fuel saving	/year		238.344,6 kWh/y		20,52 tep /year	ENVIRONMENTAL SAVINGS		Saving emissions in CO ₂	64,86 tn/y	Saving emissions in NO _x	0,71 tn/y	Saving emissions in Small Particles	0,03 tn/y	ECONOMICAL RESULTS		Economical savings	30.560,4 euros
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ECONOMICAL RESULTS																																	
Economical savings	30.560,4 euros																																
BENEFICIARIES	All BIZ users, companies, workers and visitors.																																
TIMESCHEDULE	Signals: 1 week Construction of the pedestrian lines: 2 months.																																

Proposal 3

The action involves the removal of parking spaces that currently coexist on the road to make way for the launch of plots designed to accommodate 4 parking lots.

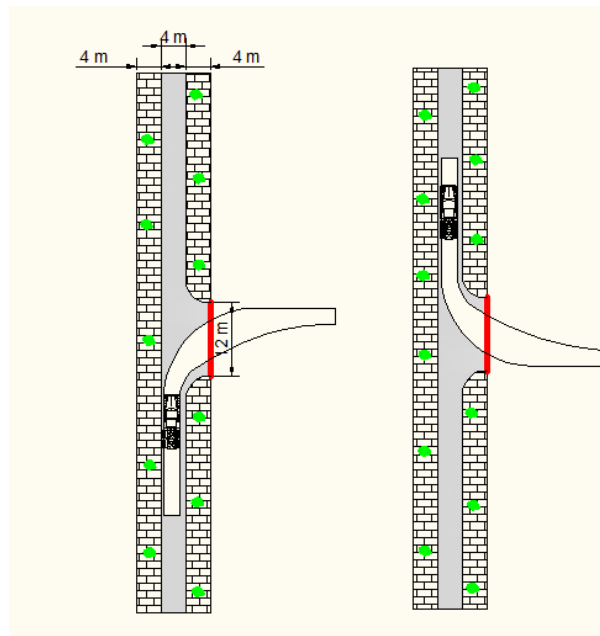
The objective of this measure is to organize the space for surface parking in two areas in the BIZ I and two other areas in the BIZ II. These four areas are currently vacant. Thanks to the implementation of this measure will allow wide sidewalks, resulting in a space of coexistence between pedestrians and cyclists throughout the BIZ. Similarly, to avoid parking, leaving a single lane for access to branches of companies, you get to avoid hampering the road at any time since the stop is only permitted in designated areas or in parking plots of the companies. The achievement of this measure would enhance a high percentage of workers coming to the job by another means of sustainable transport, such as car pooling, urban transport, bicycle, go walking ... all due to the reduced availability parking spaces and the remoteness of the same fate.

To carry out this measure will widen the sidewalks, creating habitable areas for pedestrians and cyclists. Sidewalks will be equipped with benches, trees, and bins.

In this way will widen both sidewalks on the road leaving only one lane in each direction (for example, the Oporto Avenue), and the rest of the streets belonging to the BIZ would remain with the current lane configuration. The designated areas for parking house would get approximately a total of 334 parking spaces, as can be seen in the following table to estimate parking.

Situation	Paces in public spaces	Places in the plots of companies	Places in vacant lots
Actual	610	493	110
Proposal 3	-	493	334

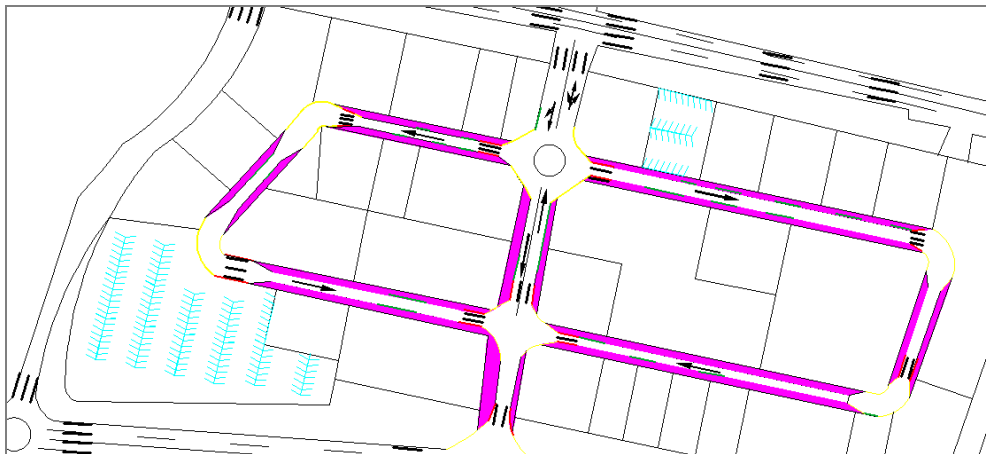
The curves will be marked with yellow paint to indicate that parking is prohibited, as are a problem area for turning of heavy vehicles. Similarly, access to companies for large-tonnage vehicles should be taken into account as specified in the sketch below:



Maximum turning radius for trucks depending on the roadway width of the proposal 3

As you can see, the shift occurs in comfort when the access of companies are 12m wide. However, these measures may be reduced for companies that do not require the entry of vehicles of this size. In this case you must enter only are passenger vehicles or vans, the size of the input may be reduced, and include entry into the sidewalk, the owner must have a reserved parking permit (dropped kerb) as explained in the proposed measure "Improving access to businesses."

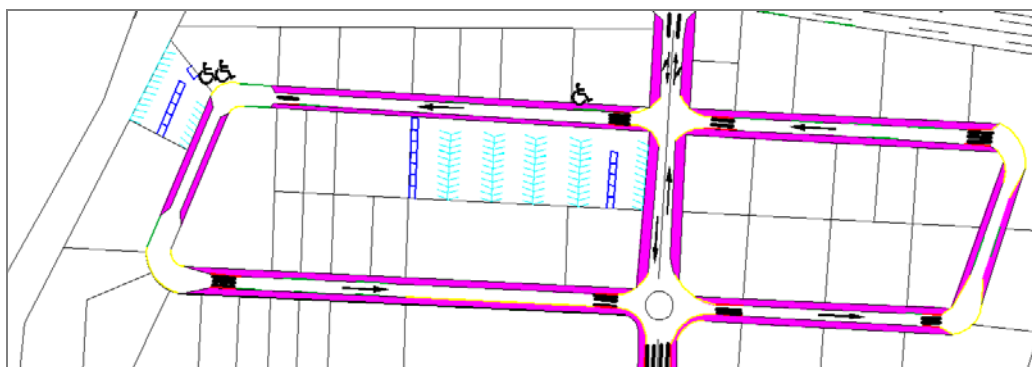
In the plans detailed below you can see the layout of the new parking spaces currently vacant on the concourses.



Disposition of Proposal 3 in the IPB I

In the case of BIZ I, the plot between the Pubs could be replaced partially by other publicly-owned parcel in the rear of the company Ezpeleta.

In the future if the presence of firms increases in the BIZ II would require a plot values on the right side of the same BIZ to service this area.



Disposition of Proposal 3 in the IPB II

As for other potential actions complemented the adequacy of the means of BIZ with the following proposals:

- The **pedestrian access** from Milan and Galicia Avenues these users are architectural barriers that prevent them from relatively direct access from the corners of the BIZ. In order to avoid unnecessary detours to these users is proposed the implementation of the BIZ entries that are reflected in the measure for "Improving pedestrian accessibility BIZ." A total of 8 sections have raised new sidewalk improvement and conditioning Street from Amsterdam Avenue roundabout with the CBSS Street Amsterdam, including the underpass tunnel until reaching the BIZ.
- All changes made to the sidewalks in all 3 options should allow **continuity of the sidewalk and road space pedestrian and cyclist** in certain cases. This will take place recesses of curbs, adapting them to all kinds of mobile users with visual disabilities, facilitating the movement along the sidewalk to all users.
- In the specific case of companies belonging to BIZ II have their facades in Milan Avenue, a **project of adapting** the zone corresponding to the Milan Avenue provide access to businesses. This project will provide continuity for pedestrians and vehicles, providing access to businesses located there, such as the Business Center of Ponferrada, Teyo Kitchen Design, Apparel and Textiles Bierzo "Bierzo 7". This access will reduce the problem of discrepancy between Milan Avenue and Hamburg Street.

- In the specific case of Galicia Avenue in connection with the stations, given the fact that large numbers of pedestrians using this route as input / output to / from the BIZ. Thus, we propose the adaptation of a sidewalk that goes through the station, as explained in the "Improving pedestrian accessibility BIZ." This sidewalk will connect in this way the BIZ with the future proposed bus stop on Amsterdam Street, so as to interconnect the BIZ to urban transport in a much more efficient than today. Remember that the pedestrians passing by the station will be a potential increase in customers from the store.
- In order to improve mobility in the access points **to access the main arteries of the companies** proposes to **reduce the island of the roundabout** for the intersection of Oporto Avenue with Lisboa and Burdeos Streets. The suggested dimensions for turning high-tonnage vehicles are 6 m. It is also recommended the creation of recesses on the curb outside the island, to facilitate the rotation of exceptionally large vehicles that need to use the central island of the roundabout.
- Promote **alternative uses of some existing parking areas** or potential benefit to the community, collecting this proposal as the same name, where some activities conducted by firms in public (in the lane, cutting the normal passage of vehicles) or fill the available space (installation of containers and materials from the company ...).
- Manage the supply of parking spaces for vehicles with higher occupancy, as reflected in various proposals for this to Work Transportation Plan.

In addition, other actions described in this paper are closely related to the rehabilitation and improvement of the road, for example removing barriers, improving the cleaning or for example, improve the environment or vertical signaling regulate vehicle access to companies.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of parking slots.	Inventory of the parking slots in the BIZ	Council of Ponferrada	At least 385 slots deleted.
Satisfaction with the new roundabout	Surveys to BIZ companies, at least one time per year.	Council of Ponferrada	At least 60% of citizens are satisfied
Number of vehicles	Traffic blocks registered by Local Police of Ponferrada	Local Police of Ponferrada	Reducing at least 95% of traffic blocks.
Number of users that use the service	Inventory of the vehicles in the BIZ. Counting vehicles at the exit/entry of the BIZ, at least 3 times per year, for example in March, July and November	Council of Ponferrada	Reduction of 280 BIZ vehicles

RESPONSIBLE	Council of Ponferrada
COST COST/BENEFIT	<ul style="list-style-type: none"> - New parcels: _____ 100.000€ - Roundabout Oporto with Lisboa and Burdeos: _____ 3.000€ - Bette pedestrian lines: _____ 150.000€

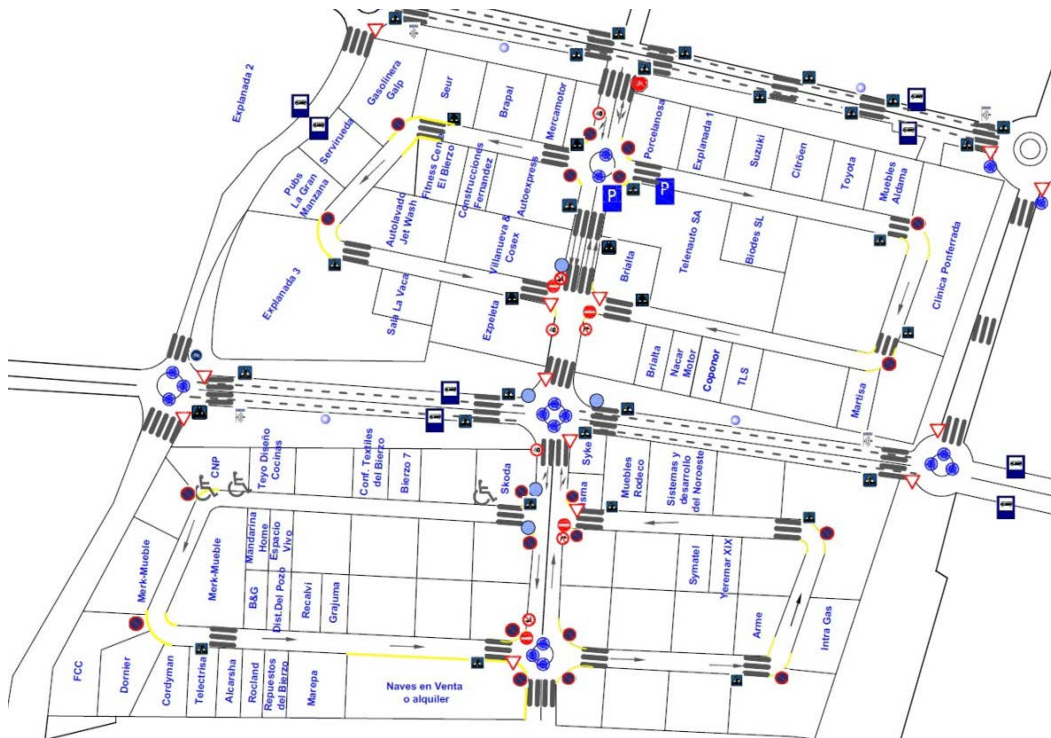
ENVIROMENTAL INDICATORS (CO2, NOX AND SMALL PARTICLES AVOIDED EMISSIONS) AND ENERGETIC	GENERAL DATA ES
	Vehículos eliminados del BIZ 281
	Km recorridos en el BIZ 3.343,97 km/year
	Estimated fuel savings 6,5 litros/100 Km
	ENERGY RESULTS
Annual fuel saving 61.359,5 litros /year	
574.260,8 kWh/y	
49,44 tep /year	
RESULTADOS AMBIENTALES	
Saving emissions in CO ₂ 156,28 tn/y	
Saving emissions in NO _x 1,71 tn/y	
Saving emissions in Small Particles 0,07 tn/y	
ECONOMICAL RESULTS	
Economical savings 73.631,4 euros	
BENEFICIARIES	All BIZ users, as workers, companies and visitors.
TIMESCHEDULE	3-4 months.

IMPROVEMENT OF VERTICAL AND HORIZONTAL ROAD SIGN

The current situation within the Industrial Park of Bierzo is in poor road markings condition, absence of some types of signals, lack of visibility, and so on.

Today is not completely clear signage in the area of BIZ, which requires an improvement for increased security and visibility.

Proposed for this is the proper placement of signage both horizontally (in addition to what has been said as "parking reordering of BIZ") and vertically at different representative points, as is indicated in the next image.



Proposed vertical signs in the BIZ

The markings on the road, it should indicate the direction of flow and stretch in every street, reminding the user which is the current sense. In addition, another horizontal signaling is linked to permit parking areas, vehicle access and exit of firms, whose proposed actions are included in the measure "space reordering of BIZ."

In the existing curves in Burdeos Street, Hamburgo Street, Manchester Street and Lisboa Street will be placed no parking signs and a road marking along the same yellow color to indicate the prohibition of parking. This will get the proper passage of heavy vehicles and have a better turning radius. It will do the same in the curve, both intersections as roundabouts. When approaching a zebra crossing your signage will be placed accordingly.

Be arranged vertically trespassing signs in output hits one direction, where currently no; signs of "give way" in localized areas where there is today, and turn prohibited signs, location of radar, bike lanes or parking.

By changing the route of the public transport line (see measure "Modifying Transport Lines") it have been provided for the same signs in their new locations.

With all this will get better circulation and manoeuvrability of vehicles and a reduction of possible accidents that may occur in more dangerous areas.

This measure will serve as a basis and will be complemented with traffic safety in the park, both traffic and pedestrian as well as being intimately related to the measure of BIZ rearrangement of spaces and vehicle access to businesses.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of traffic accidents	Accidents registered by Local Police of Ponferrada	Local Police of Ponferrada	Reducing at least 15% of traffic accidents per year.

RESPONSIBLE	Council of Ponferrada
COST COST/BENEFIT	<ul style="list-style-type: none"> - Traffic signals: 1.600 € - Paint for horizontal signals: 2.200 € - Construction equipment: 1.200 €
BENEFICIARIES	Every user of the BIZ (workers, companies and visitors)
TIMESCHEDULE	From 1 to 3 months

COMPANIES ACCESS

The measure is aimed at the proper marking of reserve areas of vehicular access across the sidewalk or driveway (Dropped kerb), for all those companies who currently lack it and to consider reserve an entrance area to its facilities across the causeway.

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To this end, employers who request must comply with the provisions of the ordinance regulating the access of vehicles of the City of Ponferrada.

According to Article 8.2 is dropped kerbs must have lag, unless the activity requires permanent use and must justify this application for granting the municipal license

The grant is for the Mayor-President of the Corporation, and the room must allow free entry and exit manoeuvres frontally.

Once the documentation, it shall approve the dropped kerbs.

This measure is linked to the budget of the reorganization of the road, which will give access to companies so that they can apply for dropped kerb on your entries.

The resolution was communicated to the applicant, to proceed to pay the public price and the cost of the construction works of the ford. These rates are set by the City Hall.

The correlation of this measure with the reorganization of the road is complete, and that access to businesses depends on the situation of the road. Similarly, the parking spaces that can be enabled on the road must take into account access to business, interrelating these two measures.

Indicator	How to Measure	Responsible	Expected Result/Target
Number of VADO (control of parking in companies entries)	Inventory of the VADO in the BIZ, and control with Local Police service of Ponferrada.	Council of Ponferrada	100% of companies that need it, have VADO.

RESPONSIBLE	Council of Ponferrada, Local Police of Ponferrada, and companies involved in the measure.
COST COST/BENEFIT	Information campaign to companies: 3.000 €
ENVIROMENTAL INDICATORS (CO2, NOX AND SMALL PARTICLES AVOIDED EMISSIONS)	No environmental indicators.
BENEFICIARIES	Companies in the BIZ.
Plazos implantación de la medida	1 month

IMPROVEMENT OF CLEANING, ORDER AND OBSTACLES ON ROAD

As has been noted in the report of current BIZ, clearing the road in BIZ is very questionable in a lot of points. Given this initial situation, which is generated in BIZ, we propose the following measures:

- **Cleaning at least once a week**, sidewalks and the road that make up BIZ. In areas of nightlife, this cleaning is preferably carried out on Sundays, because this way the wastes generated by the leisure activity weekend night are

collected. This measure should be made by the City Council (in the case that the powers were fully transferred) in the area of road, and the companies themselves in their fields.

- **Actions on gardening:** This section should be performed cleaning and trimming weeds and trees that invade the public space. In the case of invasion of the road, the responsibility for maintenance of the herbs will be on the owner of the place where these weeds grow. For weeds that reproduce in the road, who should be the City Council take care of your retirement (if they are transferred skills). In the case of the empty concourses will require care and maintenance at least twice a year to the owner thereof.

- **Expansion of the container fleet in BIZ.** Currently the inventory of containers is 15 containers of garbage collection in 9 points. Two of them have selective waste separation, as shown on the attached map. Taking account of the distribution of points, the BIZ I have 8 points for one collection only BIZ II.

Therefore, we recommend the introduction of 5 new containers distributed as follows: 3 new organic waste containers in BIZ II, and two containers of glass (one in BIZ II in the existing selective and one in the Great Apple, for the bars).

The disposal of waste containers proposal is as follows:



Proposed final layout for the different types of waste containers

It should be recalled that according to the waste bylaw users are required to deposit waste from 20.00 to 22.00. Also, it recommends expanding the frequency of collection service by the City Council by the daily as the standard mark.

Companies must meet the delivery schedule, though it would be advisable seen times change work schedules and cleaning of BIZ that do not correspond with the schedule contained in this ordinance.

Other recommendations to take could be:

- Placement of bins with ashtrays on sidewalks, at least every 70 m. In business we recommend the placement of ashtrays standing at the gates of the same which they plan to make workers smoking breaks, thus preventing dirt for this reason may be generated.
- Thorough cleaning of the scuppers, at least every 3 months to avoid that at times clogged rain gutters and storm flow generated correctly.

- Information and awareness campaigns trade waste minimization.
- Awareness and control in the management of hazardous waste to traders and businessmen.
- Study of environmental soundness of the systems of treatment, recovery and removal of industrial waste, developing the potential introduction of industrial recycling points for non-hazardous waste.
- Campaigns to improve citizens' habits regarding cleaning of public spaces and pet ownership.
- Campaign against indiscriminate graffiti (especially in the area of the railroad tracks) and creation of agreements for the empowerment of graffiti in spaces designed as a place of culture.

In relation to road obstacles, many motivated to facilitate access to the vehicle companies, , especially large-tonnage, by parked vehicles that impede the turning radius of these heavy vehicles. The adequacy and reorganization of the way to reduce these cases as stated in the "reordering of space."

This measure is related to the reorganization of the road, since part of the equipment necessary for the proper disposal of cleaning should be placed in the reorganization of the road.

Indicator	How to Measure	Responsible	Expected Result/Target
Satisfaction of BIZ users	Surveys made at least once a year, asking about the clean roads and pedestrian lines of the BIZ	Council of Ponferrada	At least 100 new surveys per year with 80% of positive cases.

RESPONSIBLE	Council of Ponferrada and companies of the BIZ.
COST COST/BENEFIT	<ol style="list-style-type: none"> 1. 5 new dumpsters: 1.500€ 2. New bins along the BIZ(included in reordering measure).
ENVIROMENTAL INDICATORS (CO2, NOX AND SMALL PARTICLES AVOIDED EMISSIONS)	Smell and visual benefits, thanks to the control of the order forbidden to throw the trash before 20.00 and after 22.00
BENEFICIARIES	Every user in the BIZ.
Plazos implantación de la medida	1 month

2.4 SUMMARY

The table below summarises the mobility solutions analysed in the present document. Those with priority 1 are the ones that will be implemented immediately, following the approval of EACI, and will be financed by the project MoMa.BIZ. The activities with priority from 2 to 3 represent mobility solutions that are relevant to the BIZ of Ponferrada, but have been discussed and approved by the LMG and should be taken into consideration for future implementation.

CRONOGRAMA DE ACCIÓN																															
MEASURES	MONTHS																														AMOUNT OF THE MEASURE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
BOX 1: CYCLING																															
	Establishment of bicycles lanes																														379.500,00 €
M	Improve the offer of transport cycling																														102.000,00 €
	Bicycle parks																														45.000,00 €
	Bicycles to workers																														57.000,00 €
M	Implementation of bicycle lending system																														101.500,00 €
BOX 2: WALKING																															
	Improvement of pedestrian routes and pedestrian accessibility: high pedes																														45.600,00 €
	High pedestrians crossings																														
BOX 3: PUBLIC TRANSPORT																															
	Extension or little modifications in public transports lines routes																														46.700,00 €
	New sole lines for employers (Bus Company)																														1.200,00 €
	Pick-up time and frequency adjustment																														0,00 €
	Improvements to make attractive use of public transport																														96.300,00 €
	Shuttle bus																														4.000,00 €
M	Flexible transport																														36.200,00 €
BOX 4: CAR POOLING																															
M	Implementation of a car pooling management system																														6.000,00 €
	Restrictions to park vehicles with a single occupant																														0,00 €
BOX 5: CAR SHARING																															
M	Union to share vehicle																														1.500,00 €
BOX 6: PRIVATE/ BUSINESS VEHICLE																															
	Incentives to give up using the private car and encouraging other types of																														28.000,00 €
	Efficient driving courses																														0,00 €
	Appropriate management of the current offer of parking spaces																														2.000,00 €
	Alternative uses of some parking areas																														0,00 €
	Rate application																														85.000,00 €
BOX 8: RAISING AWARENESS																															
M	Information, communication, marketing and dissemination																														1.500,00 €
M	Training of workers																														8.000,00 €
BOX 9: MOBILITY MANAGEMENT SOLUTIONS																															
	Specific Transport Plan in SYKES																														13.000,00 €
	Improvement of mobility in the Clinical of Ponferrada																														4.745,00 €
	Trip attraction centre in PIB																														18.700,00 €
BOX 10: NON-STANDARD SOLUTIONS: POLICIES																															
M	Rates and pass of transport to work and integration with the citizen card																														28.600,00 €
	Business collaboration																														0,00 €
	Teleworking and alternative work schedules																														3.000,00 €
	Business agreements for the acquisition of "clean vehicles"																														108.000,00 €
	Improvement in conditions, infrastructures and access																														119.100,00 €
	Turbo roundabout																														16.500,00 €
	Speed reduction																														119.100,00 €
M	Improvement of signaling in road accessibility																														8.000,00 €
	Correct arrival to BIP																														6.000,00 €
	Signaling companies																														
	Reordering and adaptation of parking lot of BIP																														
	Proposal 1																														2.300,00 €
	Proposal 2																														156.000,00 €
	Proposal 3																														253.000,00 €
	Improvement of vertical and horizontal road sign																														5.000,00 €
	Companies access																														0,00 €
	Improvement of cleaning, order and obstacles on road																														3.000,00 €
MONTH 1=august ■ high priority ■ medium priority ■ less priority																														791.200,00 € 301.100,00 € 343.445,00 €	