

Measure title: **Collective mobility services for target users in Burgos**

City: **Burgos**

Project: **Caravel**

Measure number: **08.05**

A Introduction

A1 Objectives

The general objective is to improve and promote services offered for collective transport. In particular:

- **Objective 1:** 5% more passengers will use private collective transport at the end of the project
- **Objective 2:** A visible increase in companies using collective transport at the end of the project
- **Objective 3:** A 5% reduction in CO2 emissions due to the use of private collective transport per car

A2 Description

New organizational systems will be defined by private transport collectives whereby private companies and industries were able to organize trips with pre-defined itineraries. At present, every company had its own itinerary and most of them do not circulate at full capacity. Also, several buses follow the same routes and use the same bus stops with slightly different final destinations in industrial zones. Reorganization and communication between stakeholders were carried out.

The measure concerning the private collective transport scheme started as the technical specifications were drawn up by the Council to commence the study of collective private transport needs in the industrial area of Villalonquéjar.

Alternative Improvement configured as action to reduce the number of people using the same vehicle to go to work because the companies, 75% were small companies in the business of the city not had specific bus company, empowering one new service to enable the private mass transit between workers and companies that were devoid of it. Therefore, this mode of transport allowed by conducting established routes, a large number of workers travelling together, encouraging the flow of traffic and energy saving. Moreover, it had the advantage that the routes could be modified depending on the client's needs, so they can provide service to areas and times where municipal infrastructures are not adequate.



Image 1: Sustainable Mobility campaign in the Bridgestone Company to promote other transport modes

B Measure implementation

B1 Innovative aspects

This includes the following innovative aspects of the measure are:

- **New conceptual approach:** Development of coordinated actions among companies with more than 150 employees and at least 2 shifts, student organisations and passenger transport companies, in order to assure that the maximum possible number of employees use collective transport instead of their own cars.

B2 Situation before CIVITAS

Collective transport in private buses has been offered for many years by companies in industrial parks with a large number of employees, adapting the transport to the needs of their employees (e.g. shifts, routes). Nevertheless, collective transport represents 20% of all vehicles circulating in industrial areas. Moreover, the rate of occupancy of the private buses is so low. It implies that there are many more companies that could facilitate to their employees travels in private buses if they could organize routes, horary and buses in cooperation.. Moreover, traffic of collective buses is very high in some parts of the city (above all around the clean zone). The overall situation is unsustainable and calls for solutions.



Image 2: Companies with Collective transport (CT) had one route **Image 3:** Companies with CT had two routes

B3 Actual implementation of the measure

The measure was implemented in the following stages:

Stage 1: Analysis of the concept (from October 1st, 2006 – to December 15th, 2008)
– Market analysis to develop a service, design and development of the collective transport scheme of movement and involvement of industrial parks, through their associations, in clean and sustainable transport.

1. Obtaining information: Initially it was necessary to know the needs of business. This contacted from the Association of Entrepreneurs of the Industrial Park of Villalonquejar, with all those companies that had indicated during the diagnosis, which had Transport Company or were interested in sharing this environment with other nearby businesses. These businesses were

conducted a survey on the services demanded, schedules, workers, routes, etc..

2. Treatment of information: The information collected were tested and validated with the information that already exists on mobility in the Industrial Park of Villalonquejar. The data enabled benchmarking companies for compatibility between schedules, the number of workers willing to use this medium, routes, etc., in order to facilitate further planning between business and ADIBUR

Stage 2: Evaluation of the service (from February 1st, 2005 – to September 31st, 2008) – All the evaluation activities have been performed according to the evaluation plan.

B4 Deviations from the original plan

- **Modification of the timetable:** It was thought that in the first months of the measure (which started in month 21 and almost all of the measure remains to be implemented) that ought to start solely with the study in industrial areas. It was due to organizational problems with the Industrial Area and the development of other interrelation projects as configuration a Mobility Office in the Industrial Area and car pooling scheme.
- **Leaving for collective school transport:** The idea initial was not ambitious enough regarding the industrial areas. However in the most schools collective private transport had been implemented and worked correctly; It meant that a very great number of pupils and students was using the collective transport as transport mode and It was not needed to launch a study to promote the collective transport in the schools.

B5 Inter-relationships with other measures

The measure is related to other measures as follows:

- **Measure 9.1. – Car pooling in Burgos** – Management of the activities through Mobility Office which was been created to promote the car pooling system and other systems of clean transport in the Industrial areas and in the city.
 - **Measure 11.2 - Sustainable mobility marketing in Burgos.** – Several campaigns have been developed to aware the citizens to use the service.
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C Evaluation – methodology and results

C1 Measurement methodology

C1.1 Impacts and Indicators

The evaluation of this measure consists in the monitoring, all over the duration of the project, of the development of the level of the service and of its use. Many quantitative and qualitative parameters (derived from direct market analysis, customer satisfaction reports and surveys) have been used to give an exhaustive view of the success of the actions

The evaluation has taken place with a strong interrelation with similar activities under development at a national and international level by ITCL.

8.5.- COLLECTIVE MOBILITY SERVICE FOR TARGET USERS IN BURGOS						
Evaluation Category	N°	Indicator	Units	Source of data	Methodology for indicator construction (survey, modeling, etc)	Baseline date
Economy	1	Operating Revenues or Revenues per pkm	€/pkm or €/vkm	Interview PT operators	Calculated	-
Transport	28	Average occupancy	Number of passengers per vehicle	Interview PT operators	Measured/ Calculated	-
Transport	19	Quality of PT service	5 point scale	Questionnaires	Measured/ Calculated	July 2007
Transport	23&24	Average vehicle speed peak/off peak	km/hr	Traffic equipment	Measured/ Calculated	-
Transport	NM	Increase the number of target users groups/passengers involved	N° target users	Interview PT operators	Measured	-
Society	GI (13)	Awareness amongst businesses/employees	5 point scale	Interview PT operators	Measured	July 2007

Detailed description of the indicator methodologies:

Indicator	Methodology for indicator construction	
	Definition	Methods of Measurement
1. Average operating revenue	The ratio of total income generated from average vehicle-km completed (round trip) by the service in a given time period. Data for private buses 30-40 passengers Unit: €/day	Method of data collection needed is provided by service operators/companies Frequency: once a year until the end of the project. Target group: the transport services operators.
28. Average occupancy	Average occupancy is defined as the percentage of workers with knowledge of a measure on account of provided information Unit : %	Method: Data could be collected by means of surveys. Frequency: At least twice during the project Target group: workers/employees
19. Quality of service	Quality of service is defined as the user's perception of the overall quality of the service provided. Unit: index of the "perception" of service quality	Method: The perception of service quality should be measures on a following scale: <ul style="list-style-type: none"> o Suitable o Non suitable Frequency: Measurements should be made twice during the project Target group: PT or other service users.

Indicator	Methodology for indicator construction	
	Definition	Methods of Measurement
23&24.Average vehicle speed (peak/ off peak)	Average vehicle speed is defined as the average network or route speed by vehicle type. Unit: km/hr	Method: Speed radars Frequency: At least twice during the project. Target group: general traffic
NM. Increase the number of target users groups/passengers involved	Increase the number of target users groups/passengers involved is defined as the number of passenger that used company buses. Unit: number of target users	Method: These data will be obtained by interview PT operators Frequency: Data could be collected on an annual basis. Target group: employers
13. Awareness level	Awareness level is defined as the percentage of the population with knowledge of a measure on account of provided information. Unit: %	Method: Data could be collected by means of surveys (e.g. questionnaires by mail or by face-to-face interviews). Awareness can be at a variety of levels, it depends on the measure. Frequency: Measurements should be made twice during the project Target group: general public (including residents and visitors), operators, PT, customers...

C1.2 Establishing a baseline

Various tools were used to evaluate the 6 performance indicators for this measure. Further information was gathered from data sources of the Mobility Plans in the Villalonquejar Industrial Area and different projects carried out in the Mobility Office. The frequency of measurement and the exact source data are defined in the section C1.1. and C2. of this document.

Moreover, additional survey work took place on July of 2007 to establish the a concrete data result at the begging to carry on the measure which included the awareness and acceptance of workers to initiative and the mobility in the industrial areas.

C1.3 Building the business-as-usual scenario

If the project had not been conducted (do-nothing scenario), the private collective transport would continue to use in companies with a high number of employees, but with a low ratio of workers which use this service. Nowadays it is possible to say that more than 400 workers have been using the system, saving these polluting emissions from private cars arriving to a total percentage of a 64% of the total (see graph 6). The occupation of this service would remain an unsolved problem in the industrial estates and businesses in the city, where access and traffic at peak hours generates significant traffic congestion and numerous accidents. The reduction of the traffic has been reduced a 7,3% in all displacements in the industrial area (around 1680 trips saving pollution and congestion).

With the action taken, has been valued the possibility of increasing the degree of occupation of these vehicles, working directly with businesses, workers and private transport and make it easier for other firms with fewer employees can have this service, thanks a private bus service shared.

C2 Measure results

The performance indicators for the evaluation of Measure 8.5.. are divided into 3 sections: economy, transport and society. Many of these indicators were evaluated using both quantitative and qualitative data collection methods. A full explanation of the indicators and how they were quantified is available in the section C1.1 and C1.2. of this document.

C2.1 Economy

Indicator – Operating revenues

Table 1: Results of economy indicators		
Indicator	Data Result 2007	Data Result 2008
(1) Operating Revenues	45,30 €/día	46,70 €/día

This indicator was obtained by the companies that offer service to transport their workers through private buses. The data is an average of 15 companies through a survey developed on the telephone.

The operating revenues are the revenues of the operator per bus available for the employees of one company.

The result of the year 2008 is according to the prices rising.

C2.2 Energy

N/A

C2.3 Environment

N/A

C2.4 Transport

The data results of **average occupancy, average vehicle speed, increase the number of target users groups involved and quality of service indicators** have been obtained from gauging traffic and surveys of companies and workers.

The gauging traffic was realized in different places of the Villalonguejar Industrial Area.

In the companies' surveys, the same questionnaires were presented to the **companies** in Villalonguejar Industrial Area. The main aim was to understand the general opinion about the collective transport companies and the importance of the mobility dissemination issues.

In the workers surveys, the same questionnaires were presented to the **workers** in different areas of the city and the industrial area. The main aim was to understand the general opinion about the industrial area mobility.

Name of target group	Date of survey	Sample size	Purpose	Relevant question to assess
Traffic gauging	2005/2006	N/A	Average occupancy	Occupancy Rate of collective transport in the Villalonquejar Industrial Area.
	2008	N/A		
Traffic gauging	2006	N/A	Average vehicle speed	Average vehicle speed
	2007	N/A		
Target users groups involved	2005/2006	N/A	Increase the number of target users groups involved	Increase the number of target users groups involved
	2008	N/A		
Companies	2006	100	Quality of service	Quality of service offer by the collective transport companies
	2007	100		
Workers	2007	250	Quality of service	Actions to improve the quality of collective companies.
	2008	250		

Company's surveys

2005/2006 Data results: The results were obtained in 2005 in the Mobility Plan report realized through gauging traffic in the Villalonquejar industrial area.

100 companies completed and returned the survey with the aim to the rate of awareness regarding the quality of service offer by the collective transport companies.

2008 Data results: In the same way, the results were realized through gauging traffic in the Villalonquejar industrial area according to the activities planned in the Mobility Office of Villalonquejar.

100 companies completed and returned the survey with the aim to the rate of awareness regarding the quality of service offer by the collective transport companies.

Workers surveys

2007 Data results: 250 workers completed and returned the survey with the aim to the rate of awareness regarding the use of private car to go to work. 49,3% of the respondents were male and 50,7% female. The age ranges of the respondents were distributed as 5,8% (<20), 29,0% (20-30), 26,1% (31-40), 39,1% (41-65) and 0,0% (>65).

2008 Data results: In the same way, 250 workers completed and returned the survey. In this case, 76,0% of the respondents were male and 24,0% female. The age ranges of the respondents were distributed as 0,0% (<20), 22,0% (20-30), 47,0% (31-40), 30,0% (41-65) and 1,0% (>65).

Indicator – Average occupancy

Table 3: Results of transport indicators		
Indicator	Baseline Result 2005/2006	Data Result 2008
(28) Average occupancy	75 -100%: 12% 25-75%: 19% 0-25%: 43% 0%: 26%	75 -100%: 29% 25-75%: 25% 0-25%: 23% 0%: 23%:

The results were obtained in 2005 in the Mobility Plan report realized through gauging traffic in the Villalonquejar industrial area.

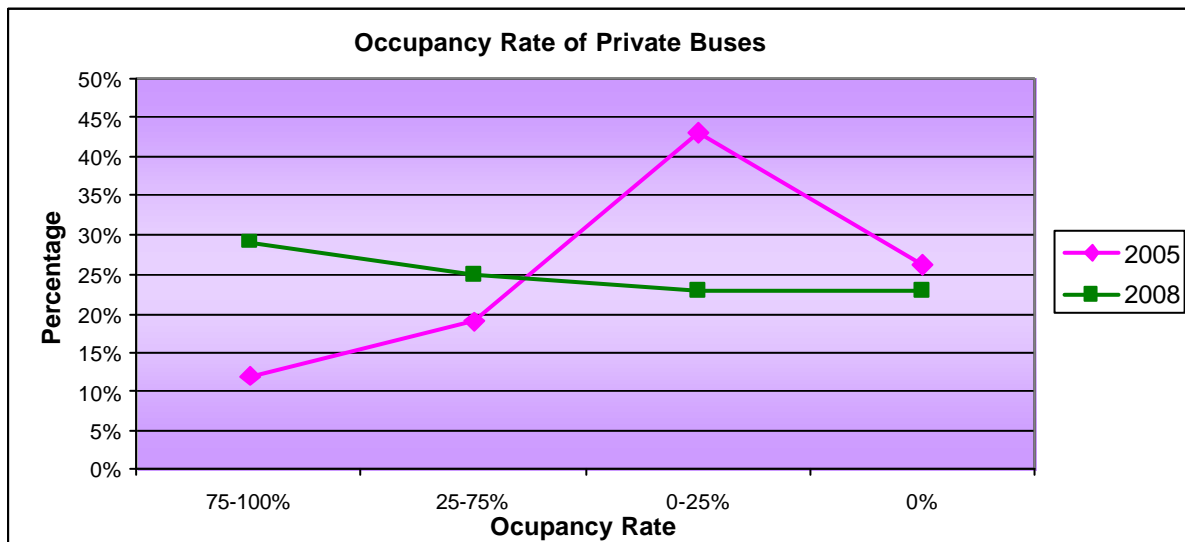
In 2008, the results were realized through gauging traffic in the Villalonquejar industrial area according to the activities planned in the Mobility Office of Villalonquejar.

In these gauging traffics, the occupancy rate was counted by cars, vans, buses, lorries and, motorcycles.

For this indicator, the data shows the average occupancy for the buses which is related to the number of employees used the buses to go to work.

In 2005, the average occupancy of the buses was 12% to 75-100% of the total capacity of the buses, 19% for 25-75% of the bus occupancy, 43% to 0-25% occupancy and 26% to 0% of the occupancy.

In 2008, the average occupancy of the buses was 29% to 75-100% of the total capacity of the buses, 25% for 25-75% of the bus occupancy, 23% to 0-25% occupancy and 23% to 0% of the occupancy.



Graphic 1: Occupancy Rate of collective transport in the Villalonquejar Industrial Area. (Source Mobility Plan in Villalonquejar Industrial Area – 2005 and 2008)

These results show that the average occupancy has been improved in the last three years, with a rate of increment of 17% for 75-100% and 6% for 25-75%. It demonstrates that the use of collective private buses by the workers to go to work has been used by the 54% of the respondents in 2008 respect to the initial data of 31% in 2005.

The most significant reduction can observe in the ratio of 0-25%, 43% in 2005 respect to data in 2008 (23%), a 20% of reduction. It is following the tendency that the buses have improved the number of workers that go to work by private bus and that the number of buses with low occupancy was reduced.

In the traffic gauging realized, the number of buses that operate empty is round 25%. It is due to some trips come back empty after performing the service. It is linked to morning and afternoon shifts. However, another important percentage is with complete shifts of work where the change takes time to make travel then, the service is more profitable for companies.

So the data is quite good and promising of future good results (higher percentage of the buses with a high occupancy rate). IT means that the collective private transport (companies' buses) is the second mean of transport more used in the industrial area with a good rates of occupancy.

Indicator – Average vehicle speed

Table 4: Results of transport indicators		
Indicator	Data Result 2006	Data Result 2007
(23&24) Average vehicle speed	107- 124 km/h	51 – 104 km/h

The data has been obtained of the Department of Transport of Junta de Castilla y León Region which realized annually the map of velocities of each province, included Burgos. The data was obtained in the studies realized during 2006 and 2007 year by this regional department.

As it is observed in the next maps, the velocity round Villalonquejar Industrial area was reduced considerably in the most important access to the area from 107 km/h in 2006 to 51 km/h in 2007. Also, it is important the reduction observed in another access to industrial area from 124 km/h in 2006 to 104 km/h in 2007.

The important reduction in the velocity could be due to new infrastructures introduced in the access and the fining policy as well the radars and other ways of awareness.

In the first case, the access to the north of the city (south of the industrial area) introduced new road which is connected with the round to go to industrial area. The high number of vehicles that used this round has provoked that the drivers should reduce the velocity in this area.

In the second case, the access to the industrial area by the west was reduced 20 km/h. In this occasion it could be due to new road to link to west ring road and the velocity in this road is limited to 90 km/h and the national political of the claims has provoked that the velocity has been reduced in the most roads.

So it is a success in terms of security to go to the industrial area as well as the reduction of the average speed is clear and it means less accidents (and also pollution).

2006 Data Results

2007 Data Results



Graphic 2: Map of velocities in the Burgos Province, Details of Velocity average round Industrial Villalonquejar Area (Source: Velocity Map in the Burgos Province, Junta de Castilla y León – 2006 and 2007)

Indicator – Increase the number of target users groups involved

Table 4: Results of transport indicators

Indicator	Data Result 2005/2006	Data Result 2008
(NM) Increase the number of target users groups involved	5	10

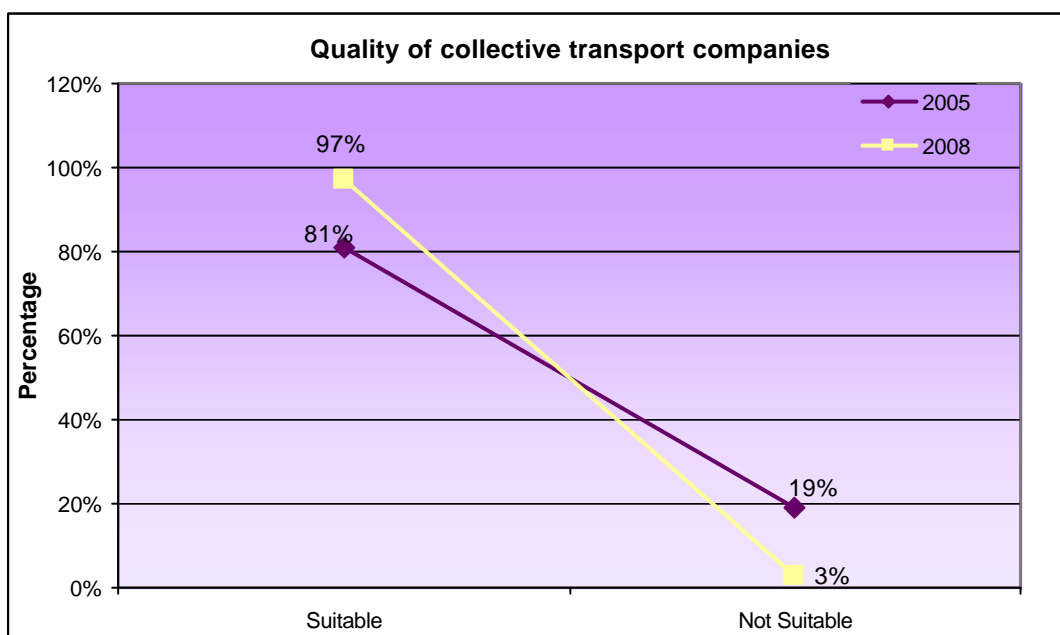
The number of target users groups involved has increased due to the creation the Mobility Office of Villalonquejar and the different measures undertaken in the industrial area.

This data includes enterprises associations, unions, local and regional administration and private companies. On this way these groups of stakeholders are called often to meet to improve the mobility to the industrial area. The answer has been favourable to the initiative and they participate and be involved in the actions performed. Other actions as efficient riding courses, attending in total more than 300 people arriving the survey of the quality of these courses 4,32/5 and 4,17/5. As some visible results of these course, the average decrease of the emissions of CO2 was 2,5 Kg per 100 km for cars, and 7,6 Kg per 100 Km for industrial vehicles (vans, lorries) and an average rate of saving fuel of 18,9 % in cars and 14, 7 % in industrial vehicles.

Indicator – Quality of service

Table 5: Results of transport indicators			
Indicator	Relevant Question	Data Result 2005	Data Result 2008
(19) Quality of service	Quality of service offer by the collective transport companies	Suitable: 81% Not suitable: 19%	Suitable: 97% Not suitable: 3%

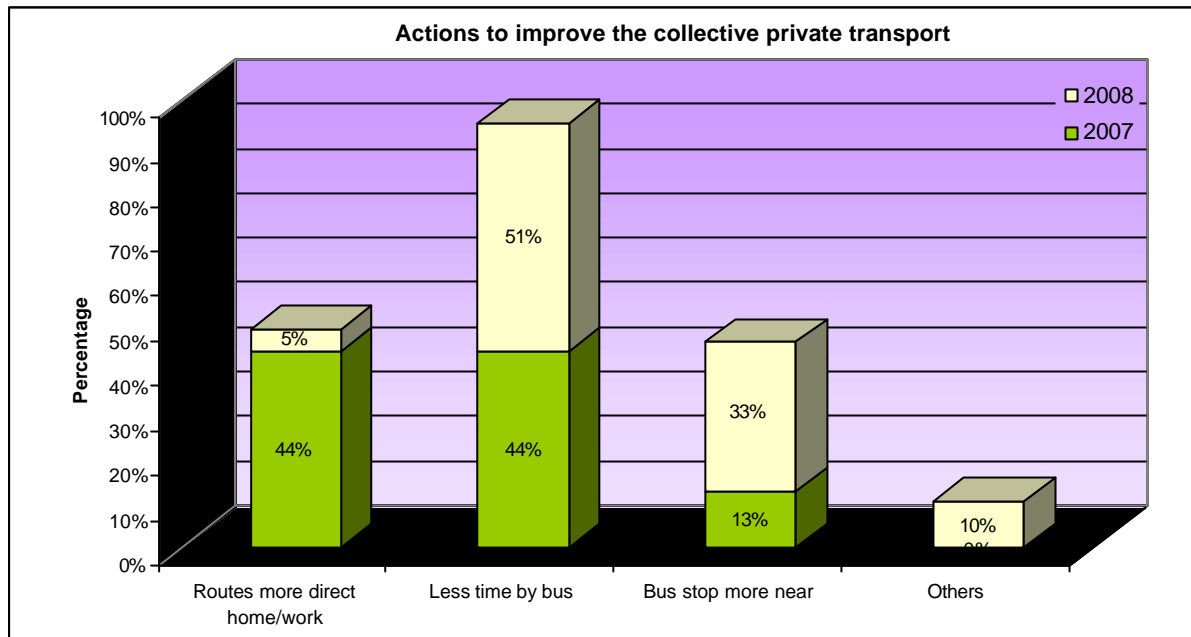
In conclusion, the results in the perception of quality service offer by the collective transport companies are positive because the percentage of suitable quality was increased by 16% in three year which was due to the intense marketing campaigns about mobility and the creation the Mobility Office of Villalonguejar where different measures to improve mobility were developed.



So in general the opinion is good, and that can be one of the reasons of the high occupancy of the private bus to go to work. Despite of that and moreover, other questions related to the quality of collective transport companies, were included in the surveys realized to the workers during 2007 and 2008.

These questions were focus on the **workers opinion** about the **different action to improve the quality of collective companies**.

The answers were recompiled in the next graphic:



Graphic 3: Comparison of improvements that the collective private companies could offer to the users of this transport.

Related to the opinion about “others” actions, in 2007 the workers opinions were null, however this tendency was increased in 2008, around 10%. They can be more comfortable, a car available to the employees in case of emergency, or a economical incentive to the users.

Regarding their opinion about action of “Bus stop more near”, it is as opinion about “others” action, in 2007 the workers opinions were low (13%), however this tendency was increased in 2008, it was 33%.

By contrast the opinion about action of “Routes more direct homework” was reduced in 2008, it was 44% in 2007 and 5% in 2008, due to workers, in 2008, though it was better others actions that this. However, the results obtained about “Less time by bus” were very similar between 2007(44%) and 2008 (51%).

These results showed the same tendency during 2007 and 2008,.The good point is that one of the frequent and difficult requirement (routes more direct from/to home/work) is more or less solved thanks to the improvements performed. The next step can be now to implement a bus preference lane to save time on the way home. The other reason can be solved in a more difficult way, as far as it is logical to walk a distance to take the bus (less than seven minutes in all cases) in order to avoid unnecessary stops and get a faster service.

C2.5 Society

The data results of Awareness level have been obtained from **surveys of workers, companies and representatives of trade unions.**

In the workers surveys, the same questionnaires were presented to the **workers** in different areas of the city and the industrial area. The main aim was to understand the general opinion about the industrial area mobility.

In the companies surveys, the same questionnaires were presented to the **companies** in Villalonquejar Industrial Area. The main aim was to understand the general opinion about the collective transport companies and the importance of the mobility dissemination issues.

In the representatives of trade unions surveys, the same questionnaires were presented to the **representatives of trade unions** by phone in Villalonquejar Industrial Area. The main aim was to understand the general opinion about the industrial area mobility and the importance of the mobility dissemination issues.

Name of target group	Date of survey	Sample size	Purpose	Relevant question to assess
Companies	2007	250	Awareness level	Does your company offer collective private buses for the workers?
	2008	250		
Workers	2006	250	Awareness level	Reasons to use the collective transport to go to work
	2007	250		
Companies	2005/2006	100	Awareness level	Interest of the companies for share private collective transport.
	2008	100		
Representatives of trade unions	2008	70	Awareness level	Actions to promote alternatives modes of transport in the company to go to work

Workers surveys

2007 Data results: 250 workers completed and returned the survey with the aim to the rate of awareness regarding the use of private car to go to work. 49,3% of the respondents were male and 50,7% female. The age ranges of the respondents were distributed as 5,8% (<20), 29,0% (20-30), 26,1% (31-40), 39,1% (41-65) and 0,0% (>65).

2008 Data results: In the same way, 250 workers completed and returned the survey. In this case, 76,0% of the respondents were male and 24,0% female. The age ranges of the respondents were distributed as 0,0% (<20), 22,0% (20-30), 47,0% (31-40), 30,0% (41-65) and 1,0% (>65).

Companies surveys

2005/2006 Data results: The results were obtained in 2005 in the Mobility Plan report realized through gauging traffic in the Villalonquejar industrial area. 100 companies completed and returned the survey with the aim to the rate of awareness regarding the industrial area mobility.

2008 Data results: In the same way, the results were realized through gauging traffic in the Villalonquejar industrial area according to the activities planned in the Mobility Office of Villalonquejar.

100 companies completed and returned the survey with the aim to the rate of awareness regarding the industrial area mobility.

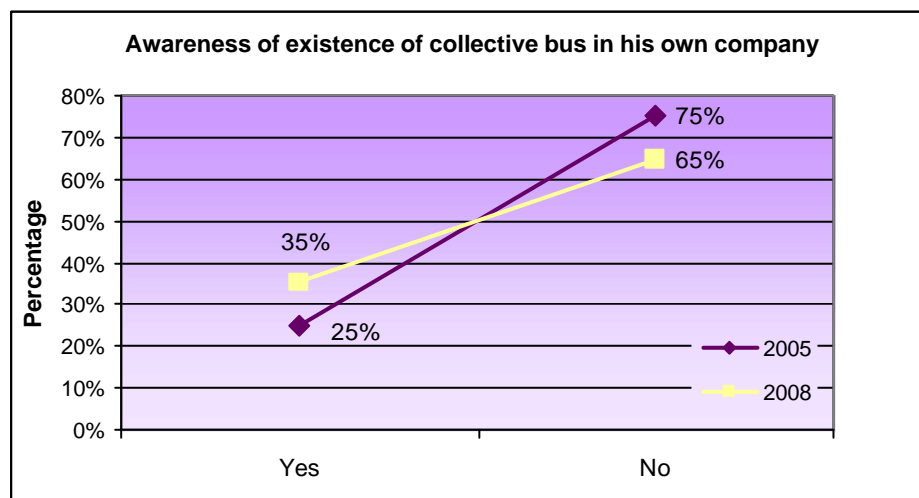
Representatives of trade unions

2008 Data results: The results were realized through phone surveys in the Villalonquejar industrial area according to the activities planned in the Mobility Office of Villalonquejar. 70 Representatives of trade unions completed and returned the survey with the aim to the rate of awareness regarding the industrial area mobility.

Indicator – Awareness level

Indicator	Relevant Question	Data Result 2007	Data Result 2008
(13) Awareness level	Does your company offer collective private buses for the workers?	Yes: 25% No: 75%	Yes: 35% No: 65%

In conclusion, the results in the perception of awareness of the existence of collective bus by the workers are very positive because the percentage of awareness of the existence of collective bus was increased 10% in only one year. It means that more companies have implemented this measure, as well as it is supposed that the companies promote the bus service. More than 75-80% of the enterprises of the city are medium or small sized companies, and in many occasion they don't have the possibility to implement this measure, so it means that at least a big percentage of the big companies have implemented the private bus.



Graphic5: Awareness of the existence of collective bus by the workers

Moreover, **other questions related to the awareness level**, included in the surveys realized to the workers, companies and representatives of trade unions during 2005 and 2008. These questions were focus on the opinion about the different action to improve the quality of industrial area mobility:

- What are your reasons to use the collective transport to go to work?
- Would your company interested to share private collective transport?
- What is your opinion about actions to promote alternatives modes of transport in the company to go to work?

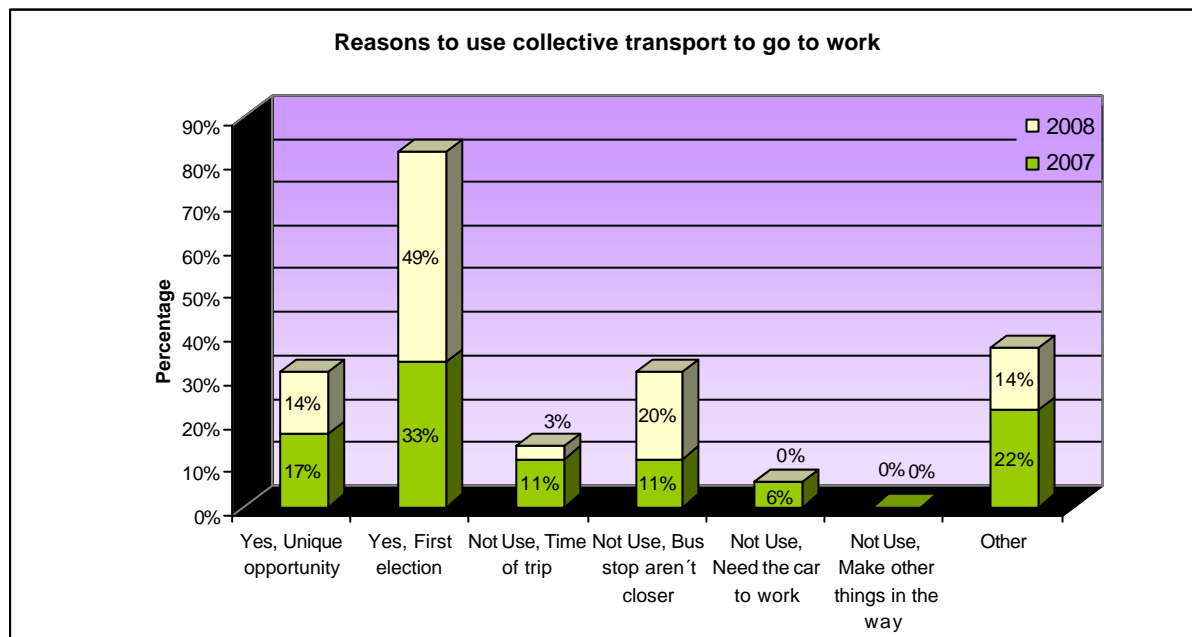
The answers were recompiled in the following graphics:

Related to **reasons of the workers to use the collective transport to go to work**, in 2007 the workers use collective transport were 50%, however this tendency was increased in 2008, around 63%. These results are very positive and principal reasons because people use more the collective transport to go to work is "First election" (33% and 49%, respectively in 2007 and 2008) and "Unique opportunity" (17% and 14%, respectively in 2007 and 2008).

On the other hand, related to reasons to not use the collective transport, the principal reason is "Bus stops aren't closer" in 2008, around 20% while in 2007 it was "other" reasons.

In conclusion, these results showed the similar tendency during 2007 and 2008 about the principal reasons of the workers to use or not use the collective transport to go to work

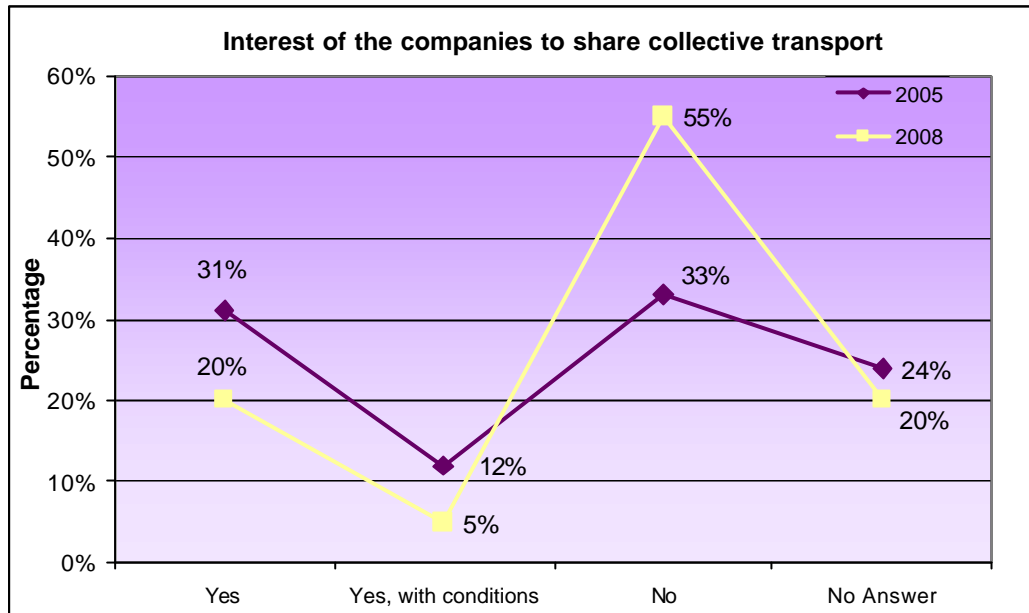
So the main action to perform is the implementation of a better scheme in order to provide closer bus stops to the workers, or to promote the walking to go to the bus stops, thinking that is impossible to have a bus stop close to everybody. Other reason can be ink with the necessities of using private car to drop the children off in the school, or to have to go to shopping.



Graphic 6: Reasons of the workers to use the collective transport to go to work.

Regarding **interest of the companies to share collective transport**, in 2005 the companies that were interested for share private collective transport, were 43%, however this tendency was reduced in 2008, around 25%. These results are very promising, as far as one year ago before the meetings started the view was even worst.

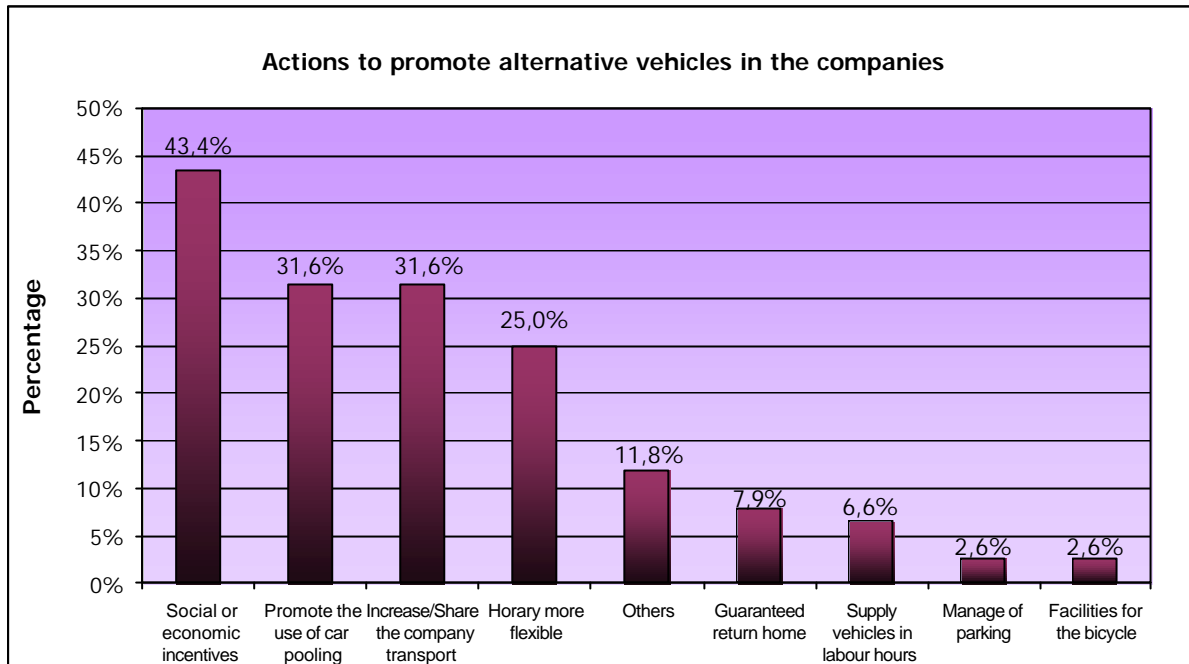
The reasons of "no" can be found in the contract already signed with the bus company, the perception of the bus full or close to be full or the unnecessary stops if more people take the bus. In some cases, the trade unions have signed collective agreements for the workers, specifying that the bus will be exclusively for the workers of the company.



Graphic 4: Interest of the companies for share private collective transport.

Related to Actions defined by the workers in 2008 to promote alternatives modes of transport in the company to go to work, the best actions, according to the opinion of workers representatives, were “Social or economic incentives”(43,4%),”Promote the use of car pooling”(31,6%)and “Increase/Share the company transport”(31,6%).

In conclusion, workers want some incentives to use the private transport, and they don't care to use the car pooling. In many cases they are looking for more independence as they ask for increase the company transport, and on that way, they can have more flexible timetable (possibility to take a higher number of buses in different moments of the day). They are afraid of the new projects and the changes performed in the way to go to work, with actions which depends on the company. These fears can be solved giving the possibility to have a company vehicle in case of emergency, flexible timetables, non penalization in case of arriving late or other actions.



Graphic 5: Actions defined by the workers in 2008 to promote alternatives modes of transport in the company to go to work

C3 Achievement of quantifiable targets

No.	Target	Rating
1	Increasing the number of target-user groups involved	**
2	Increasing the number of passengers from different target groups using collective private transport	**
3	Reducing CO2 emissions per passenger through the use of clean collective transport	**

NA = Not Assessed * = Not achieved ** = Achieved in full *** = Exceeded

C4 Up-scaling of results

Up-scaling of this measure is possible due to its transference of results to other industrial areas. In Burgos exists other industrial areas which could be carried out the up-scaling of the project.

A desktop study was carried out to investigate the potential and initial information of these areas (number of companies, number of workers, companies size and transport infrastructures). So that, some industrial areas and with determinate level of critic mass would be eligible for the future collective transport scheme, similar to analyse in the Villalonquejar industrial area.

A number of assumptions were made in this up-scaling. These were:

- The effect of the measure on encouraging workers is high because they lacked habitually of collective transport to go to company only few big companies have this kind of transport.
- The number of small companies is 80% of the total companies of the industrial areas.

- The measure will be adopted when the adequate policy of agreements will be launched by companies, collective transport companies and local administration.

The same work of analysis in the potential areas were done in the up-scaling period, for example: estimate the cars in the industrial area, the companies and number of workers and the private transport companies were worked.

The results of desktop study had the following conclusions:

- Important deficit of occupancy of collective transport was observed, then the objective to increase the level of occupancy will be the first aim for the up-scaling in these industrial areas.
- Important debates will be arranged with the stakeholders to favour the collaboration of different companies and workers in the scheme.
- The car reduction in the industrial area will depend directly if the workers have reduction on time of travel and the stops are close to origin/destiny
- New organizational and arrangements will be launched to regulate the sharing scheme in collective transport
- Awareness campaign should be defined to inform and promote new services for sharing the collective transport among companies and workers

C5 Appraisal of evaluation approach

N/A

C6 Summary of evaluation results

The key results are as follows:

- **Increase average occupancy** – The use of collective private buses by the workers to go to work has been used by the 54% of the respondents in 2008 respect to the initial data of 31% in 2005.
- **Reduction average vehicle speed** –The important reduction in the velocity could be due to new infrastructures introduced in the access. It was due to the high number of vehicles that used this round has provoked that the drivers should reduce the velocity in this area and also, the new road to link to west ring road and the velocity in this road is limited to 90 km/h and the national political of the claims has provoked that the velocity has been reduced in the most roads.
- **Increase the number of target users groups involved** – The number of target users groups involved has increased due to the creation the Mobility Office of Villalonquejar and the different measures undertaken in the industrial area.
- **High difference about awareness of the existence of collective bus** – The results in the perception of awareness of the existence of collective bus by the workers are very positive because the percentage of awareness of the existence of collective bus was increased 10% in only one year.
- **Increase quality service offer bay collective transport companies** – The results in the perception of quality service offer by the collective transport companies are positive because the percentage of suitable quality was increased

by 16% in three year which was due to the intense marketing campaigns about mobility and the creation the Mobility Office of Villalonquejar where different measures to improve mobility were developed.

- **Similar reasons to use or not use the collective transport to go to work** – So the main action to perform is the implementation of a better scheme in order to provide closer bus stops to the workers, or to promote the walking to go to the bus stops, thinking that is impossible to have a bus stop close to everybody. Other reason can be ink with the necessities of using private car to drop the children off in the school, or to have to go to shopping.
- **Reduce number of companies interest to share collective transport** – In 2005 the companies that were interested for share private collective transport, were 43%, however this tendency was reduced in 2008, around 25%. These results are very promising, as far as one year ago before the meetings started the view was even worst. The reasons of “no” can be found in the contract already signed with the bus company, the perception of the bus full or close to be full or the unnecessary stops f more people take the bus. In some cases, the trade unions have signed collective agreements for the workers, specifying that the bus will be exclusively for the workers of the company.
- **“Social or economic incentives” as the best action defined by the workers** – According to the opinion of workers representatives, were “Social or economic incentives”(43,4%),.

D Lessons learned

D1 Barriers and drivers

D1.1 Barriers

- **Barrier 1** – Encounter competences between private companies and industrial areas to develop the tasks which could delay the measure and the non-adhesion of the stakeholders involved in new strategy of collective vehicles. So that, in case that it could happen, project local committee would promote different internal meetings with the implicated stakeholders to solve the differences.
- **Barrier 2** – Dependency between implementation steps of the measure which could delays implementation time. To resolve possible problems, a plan defining the different steps and their interrelations could be established to prevent dependence between consecutive steps. Moreover, different association will be involve to improve the analysis of the collective transport in industrial areas and reduce the time to obtain the information

D1.2 Drivers

- **Driver 1** – Industrial support in the activities related

D2 Participation of stakeholders

- **Stakeholder 1** - Commuters (workers): Workers that move everyday to industrial area to work. They used the private car as principal medium of transport. With Civitas project defined the alternatives of workers to use the collective transports.
- **Stakeholder 2** – Transport operator: Proprietaries of private buses which were transported the workers in the bigger companies of the industrial area. The project planned the alternatives to increase the occupancy rate of private buses in companies where the number of workers were low through the cooperation and shared the collective transport.

D3 Recommendations

- **Increase the presence of police on the industrial area streets** – Their actions to be more stringent and rigorous, getting through the fines are reduced violations.
- **Installation of speed radars in the industrial area**– To increase control of the speeds cars, drivers are more cautious therefore they drive more slowly and the average vehicle speed peak will be reduce.
- **Information and awareness rising** – It is essential to inform stakeholders on the results obtained thanks Mobility Office of Villalonguejar actions.
- **To promote the use of car pooling and to share the company transport** – Through social a economic incentives is de best form to get it, due to workers want some reward to use collective transport and to share the car, so that car use is more comfortable that this.

D4 Future activities relating to the measure

The results of the project are indicated that new demonstration activities should be implanted in the industrial area for improvement the collective transport. The local administration is working in a plan to implant specific lines of collective transport which will be shared by the workers and companies. Also, the Council want to analyse other industrial areas of the city and realized the same intense work to joint the same interest of companies to the collective transport.