

*Measure title:* **Business District Bus Service**

*City:* **Donostia–San Sebastián** *Project:* **ARCHIMEDES** *Measure number:* **17**

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## Executive Summary

This measure entails the introduction of new bus services for commuters that connect four peri-urban business districts with the ARCHIMEDES high quality public transport corridors and mayor public transport nodes in the city.

Changes in the infrastructure and the bus stops in order to improve public transport operations in the business districts have been undertaken. In particular, priority measures such as dedicated lanes and priority at traffic lights were implemented. In addition, waiting facilities at bus stops were improved.

The new bus services introduced are operated, as the rest of bus lines, using bio-diesel buses to maximise the environmental benefits of commuters choosing to use these services instead of their own car.

The main goal of this measure is to increase the use of the public transport among commuters travelling to the four main business districts in Donostia-San Sebastián by providing competitive and attractive public transport services connecting to these areas. This package of measures is part of an overall strategy to reduce the number of cars entering the city and circulating within its neighbourhoods.

The impact evaluation of this measure has focused on the quality of service dimension and the impact on bus patronage and traffic levels, since environmental and cost issues are evaluated within other related measures, aiming to improve the public transport in the city.

The measure has succeed in these main goals, since the use of public transport has increased in these industrial areas with 123.000 extra travellers in 2010 and 230.500 in 2011, as compared to 2006 levels. While car traffic levels entering these areas have decreased over the same period almost 2.500 cars per day.

Modal shift towards public transport is the result of improved services. The implementations of the new direct bus services to the business districts and the improvement of the infrastructure (bus lanes and light priority) has led to an increased in punctuality, with 97,2% of all expeditions on time in 2011. The travellers' perception of quality of service has accordingly increased (from 7,0 in 2006 to 7,6 in 2011).

The process evaluation of this measure has revealed the importance of flexible approaches to technical solutions, able to be adapted to user's preferences. Although the initial approach was the implementation of shuttle buses connecting with the business areas, the on-going dialogue with stakeholders revealed that commuters prefer one stage trips (from home to work) rather than two or more stage trips using shuttle buses. Then the extension of regular services was decided, yielding promising results, as described above.

If shuttle buses or other two-stage alternatives are to be implemented, special attention to optimal coordination in the provision of optimal intermodal conditions are key element for success.

As with all mobility initiatives in business areas, is not easy to gain support from their managers and companies representatives, which not always see the clear link between improved mobility and better employees performance. On-going dialogue should be established since the beginning stages of the project.

## **A Introduction**

### **A1 Objectives and target groups**

#### **A1.1 Objectives**

The measure objectives are:

(A) High level / longer term:

The main aim of this measure is to build an optimised and user-friendly environment for public transport modes that will encourage people to use clean, collective transport facilities, for the benefit of citizens and visitors of the city.

(B) Strategic level:

The purpose of the measure is to meet the needs of commuters and encourage modal shift towards public transport.

(C) Measure level:

The goal of this measure is to reach an annual number of 100.000 passengers making use of the new service. By reaching this goal the measure will contribute to the following Donostia-San Sebastian objectives on corridor/city level:

- Increase the total number of annual public transport users by 5%
- Reduce the number of cars entering the city centre through the CIVITAS corridors with 5% compared to the 2006 level.

#### **A1.2 Target groups**

The employees of the following business districts:

- Zuatzu
- Miramon
- Belartza
- Poligono 27

### **A2 Description**

This measure entails the introduction of bus services for commuters that connect four peri-urban business districts (Zuatzu, Miramón, Poligono 27 and Belartza) with the ARCHIMEDES high quality public transport corridors and major public transport nodes in the city.

The initial approach was to operate shuttle buses in the business districts, but after a technical study, it was recommended to implement direct bus lines to the four industrial areas connecting them directly to most of Donostia-San Sebastian districts.

Following the results from the technical study, the Municipality of Donostia - San Sebastián realized the necessary changes in the infrastructure and the bus stops in order to improve public transport operations in the business districts. In particular, priority measures such as dedicated lanes and priority at traffic lights were implemented (4 out the additional 5 km of

bus lanes implemented within CIVITAS affect routes connecting with business districts, while all 80 priority measures in traffic lights affect those lines). In addition, waiting facilities at bus stops in business districts were improved.

With this improvements, the business districts benefit not only of the direct public transport connection to the city centre, but also from improved operation conditions, namely increased frequency of services and high quality standards. Also lines 5 and 28, serving Miramon and Zuatzu business areas, are operated with articulated buses, thus increasing the service capacity of the system in these areas.

The new services are operated using bio-diesel buses to maximise the environmental benefits of commuters choosing to use these services instead of their own car.

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## **B Measure implementation**

### **B1 Innovative aspects**

The innovative aspects of the measure are:

- **Targeting specific user groups, regionally:** The measure is targeting new groups of employees in the ARCHIMEDES corridors. The service will be made convenient to potential users as the timetable will meet the needs of commuters entering and leaving their place of work

### **B2 Research and Technology Development**

Not relevant.

### **B3 Situation before CIVITAS**

Before CIVITAS-ARCHIMEDES project, DSS business districts were poorly served by public transport and have large car parks free of charge. Most employees in these areas work in the tertiary sector and their mobility behaviour is based on the private car.

In particular, the situation regarding public transport service was as follows:

- **Zuatzu:** on weekdays, every 20 minutes in peak hours and every 60 minutes the rest of the day (line 5), from Town Centre and Antiguoa.
- **Belartza:** on weekdays, services every 40 minutes (line 25), from Town Centre and Antiguoa.
- **Miramon:** on weekdays, services every 20 minutes (line 28) from Town Centre and Amara, and every 30 minutes (line 31) from Gros and Aiete, and every 60 minutes (line 35) from Antiguoa and Aiete.
- **Poligono 27:** on weekdays, 5 services per day on peak hours (line 26) from Town Centre, Amara and Loiola.

### **B4 Actual implementation of the measure**

**Stage 1: Design Study of the bus services in business districts** (Sep. 2008 – Sep. 2009)

CTSS carried out on September 2009 a design study to assess the needs of public transport in the four business districts. In this study the conclusion was to implement direct bus lines to these business districts instead of shuttle services.

**Stage 2: Changes in infrastructures and bus stops** (Oct. 2009. – Jun. 2011)

ADS realized the necessary changes in the infrastructure and the bus stops in order to improve public transport operations in the business districts. In particular, priority measures such as dedicated lanes and priority at traffic lights were implemented (4 out the additional 5 km of bus lanes implemented within CIVITAS affect routes connecting with business districts, while all 80 priority measures in traffic lights affect those lines). In addition, waiting facilities at bus stops in business districts were improved.



Picture 1.- Improved waiting facility for PT

**Stage 3: Bus services in Zuatzu, Miramon, Poligono 27 and Belartza** (Sep. 2009 – Oct. 2012)

CTSS-DBUS introduced new bus services to connect Zuatzu, Miramón, Poligono 27 and Belartza business districts on the peri-urban area of Donostia - San Sebastian to the CIVITAS high quality public transport corridors (Measure 16) and major public transport interchanges including the regional train network.

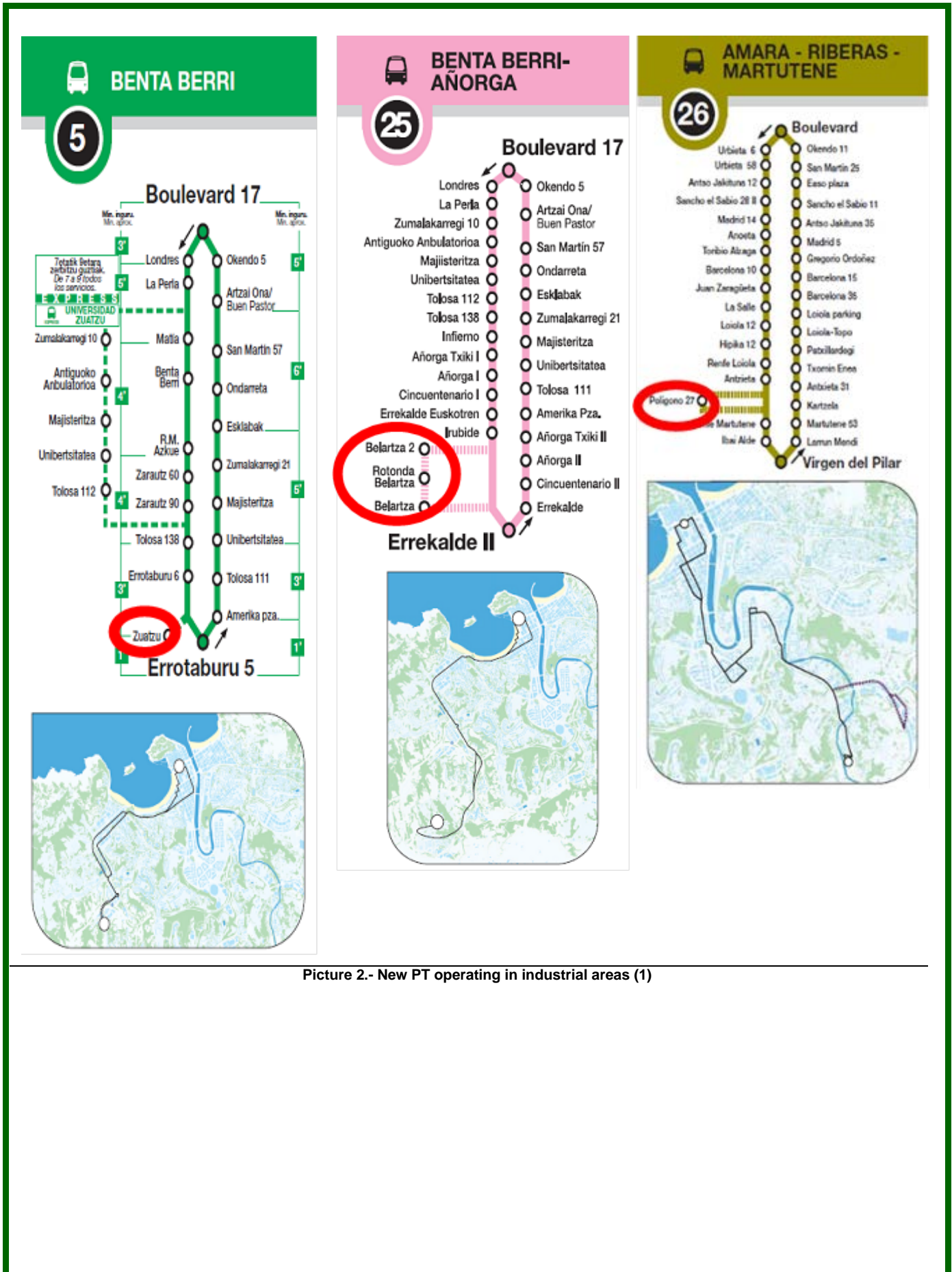
CTSS-DBUS started the operation of the new services by month 24 (Milestone 2.11). The service will be demonstrated up to month 48.

The bus service is being operated by bio-diesel buses to maximise the environmental benefits of commuters choosing to use the service instead of their own car.

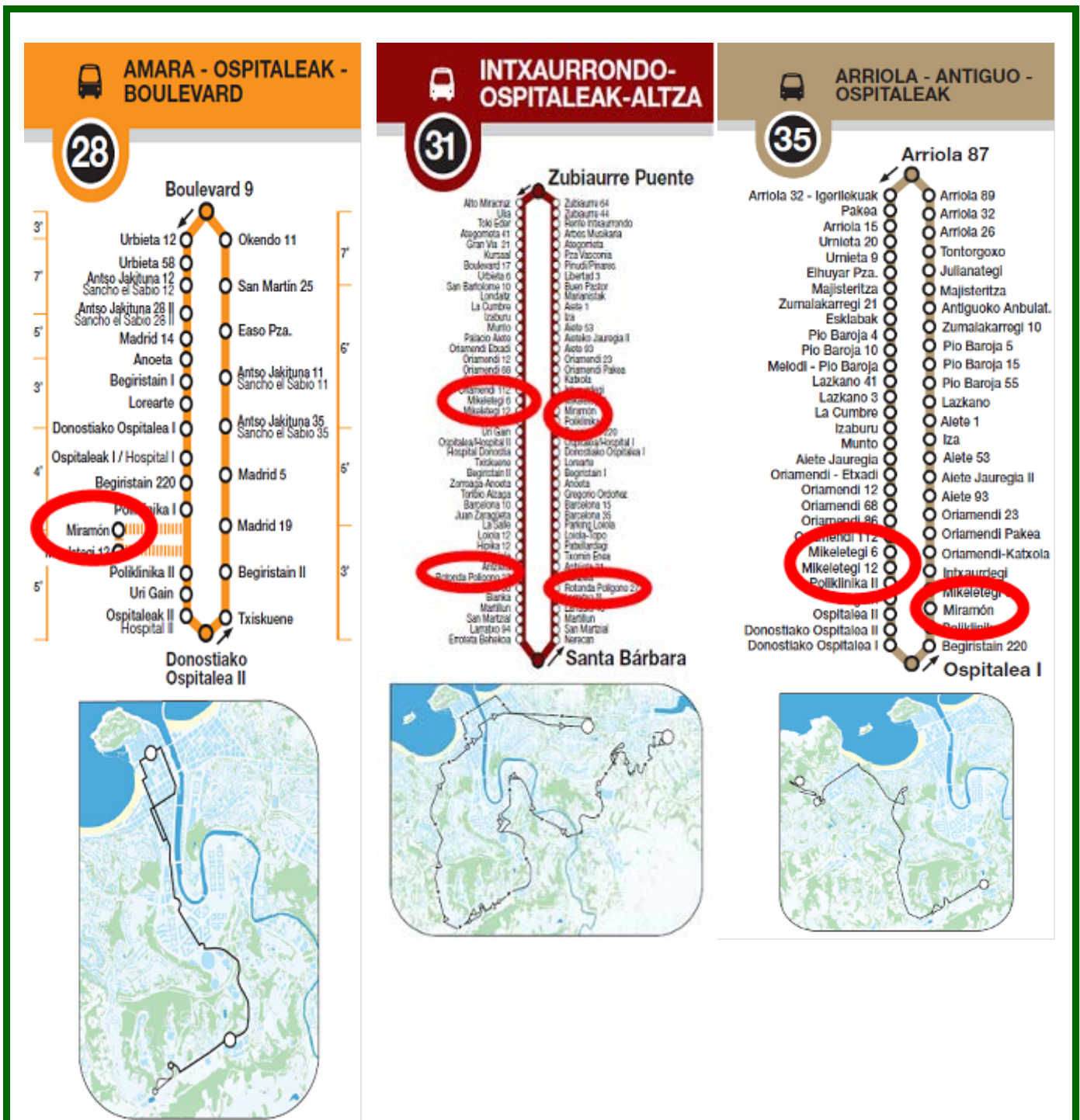
CTSS-DBUS implemented the bus services needed for the four industrial areas of San Sebastian in September 2009 (to those areas defined in the design study), in order to provide the best quality bus service from most of the city districts and more quickly and in only one step. Direct bus lines to connect most of districts to the 4 industrial areas allows commuters to have a direct and therefore better service.

The current situation is as follows:

- **Zuatzu:** on weekdays, every 6-8 minutes before 9a.m. (line 5 Express University-Zuatzu) and every 20 minutes the rest of the day (line 5), from Town Center and Antiguu.
- **Belartza:** on weekdays, services every 20 minutes (line 25), from Town Centre and Antiguu.
- **Miramon:** on weekdays, services every 6 minutes (line 28) from Town Center and Amara, every 30 minutes (line 31) from Altza, Larratxo, Intxaurreondo, Gros, Riberas, Loiola, Poligono 27 and Aiete, and every 60 minutes (line 35) from Arriola, Antiguu and Aiete.
- **Poligono 27:** on weekdays, every 30 minutes on peak hours (line 26) from Town Center, Amara, Riberas and Loiola, and every 30 minutes (line 31) during all day from Altza, Larratxo, Riberas, Loiola, Miramon and Aiete.



Picture 2.- New PT operating in industrial areas (1)



Picture 3.- New PT operating in industrial areas (2)

Besides, CTSS-DBUS has implemented a Bluetooth information system at business district stops: Zuatzu, Belartza, Poligono 27 and Miramón.

With this new information system, travellers won't need to use a SMS system and incur in additional costs. The Bluetooth system has been tested and currently operating at DBUS' bus stops. The information provided is free of charge for travellers.



Picture 4.- Bluetooth post

## **B5 Inter-relationships with other measures**

This measure is closely integrated with the San Sebastian measure on introducing parking charges in the business district (Measure 23) and the measure on travel plans where there is a specific task on travel plans for employees working in the business districts (Measure 33). The measure is linked with the implementation of the high quality corridors (Measure 16)

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## **C Planning of Impact evaluation**

### **C1 Measurement methodology**

#### **C1.1 Impacts and indicators**

##### **C1.1.0 Scope of the impact**

This measure is part of a package of measures (measures nº 16, 17, 73 and 74) aiming at increasing the quality offered by the public transport service in the municipality of Donostia-San Sebastián. The development of an optimised and user-friendly environment for public transport modes is expected to encourage citizens to make a higher use of collective transport, shifting from private cars to public transport.

This particular measure contributes to this goal by providing commuters to four of the main employment areas in the city with fast and reliable bus connections to/from other city neighbourhoods. In order to make these services highly competitive and attractive to users, changes in routes and infrastructure have been undertaken. These improved services connect the main transport corridors and nodes in the city, improving the overall transport system integration.

This package of measures is part of an overall strategy to reduce the number of cars entering the city and circulating within its neighbourhoods, which is expected to provide benefits in the form of better air quality, less carbon emissions and reduced noise levels, resulting in a better health and quality of life for Donostia-San Sebastián citizens.

Modal shift to public transport modes will impact traffic performance, reducing congestion, allowing motorized modes to achieve better travel times, and in the case of public transport services, making it more reliable, thus contributing to increase its attractiveness to users.

Also the increase in the number of users of public transport will increase the operating revenues of the public transport company (as well as will reduce operation and maintenance costs), making it able to invest in higher quality standards for bus service operation.

Nevertheless, the impact evaluation of this measure has focused on the quality of service dimension and the impact on bus patronage and traffic levels, since environmental and cost issues are evaluated within other measures.

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### C1.1.1 Selection of indicators

NO.	EVALUATION CATEGORY	EVALUATION SUB-CATEGORY	IMPACT	INDICATOR	DESCRIPTION	DATA /UNITS
	<b>TRANSPORT</b>					
18		<b>Quality of Service</b>	Service reliability	Accuracy of timekeeping	Number and percentage of services arriving / departing on time	No and %, quantitative, collected, measurement
19		<b>Quality of Service</b>	Quality of service	Quality of service	Perception of quality of service	Index, qualitative, collected, survey
		<b>Transport System</b>	Modal split	Number of PT passengers in business districts	Number of PT passengers	No, quantitative, measurement
		<b>Transport system</b>	Modal split	Number of commuters arriving by car to the business	Number of private cars in business districts	No, quantitative, measurement

### C1.1.2 Methods for evaluation of indicators

No.	INDICATOR	TARGET VALUE	Source of data and methods	Frequency of Data Collection
18	Accuracy of timekeeping	Punctuality Index of 90%	The Automatic Vehicle Location System (AVL) registers the number and percentage of services arriving and departing on time according to UNE-EN-13816 standard (i.e. a maximum of 1 minute before scheduled or 5 minutes later than scheduled)	Monthly
19	Quality of service	Quality Index of 7	Data have been collected through a yearly on-board survey conducted among the users of public transport (undertaken in November every year), complemented by a continuous web based survey throughout the year. The survey will include acceptance in relation to this specific measure and public transport in general. This survey is part of the yearly quality of service survey conducted. A sample of 625 users has been used.	Annual
	Number of PT passengers in business districts	100.000 extra passengers annually using the new service	The Automatic Vehicle Location System (AVL) registers the number of passengers that use PT in the business districts.	Annual
	Number of commuters arriving by car to the business	Reduce by 5% the number of cars arriving to the business compared to 2006	Traffic counts at selected stretches or intersections in the main access roads to business areas.	Annual (average per week-day)

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### ***C1.1.3 Planning of before and after data collection***

<b>EVALUATION TASK</b>	<b>INDICATORS INVOLVED</b>	<b>COMPLETED BY (DATE)</b>	<b>RESPONSIBLE ORGANISATION AND PERSON</b>
Data collection from SAE system regarding bus operation	18	Continuously from M24 onwards	CTSS / Javier Vallejo
Survey to estimate quality of service	19	Months 26, 38	CTSS / Javier Vallejo
Data collection from SAE system regarding number of passengers	-	Months 27, 39	CTSS / Javier Vallejo
Traffic counts and/or traffic modelling	-	Months 27, 39	CTSS / Javier Vallejo

### **C1.2 Establishing a baseline**

In 2006 Donostia-San Sebastian already accounted for public transport services connecting with industrial areas, but the quality of service was rather low. The situation is difficult to curve, since there is a big offer of free parking spaces and commuters mostly use their own cars.

With this context, it is not the scope of this measure to evaluate all dimensions of quality of service in public transport operation (this is already evaluated within other measures). Therefore the evaluation has focussed on the ability of improved public transport services to foster the use of the bus in commuter trips to industrial areas, where there is currently a strong car culture. To that purpose, basic indicators have been collected, such as the evolution in the number of users as well as in the number of cars entering the business areas.

For the evolution in the number of public transport users, the Automatic Vehicle Location System (AVL) registers the number of passengers that use PT in the business districts, providing all the information required to make this analysis.

While in the case of the number of cars entering the business areas, automatic traffic counts at selected stretches or intersections in the main access roads to business areas have been conducted.

In coherence with the usual evaluation procedure for public transport services, system operation and perceived quality has also been assessed. Basic indicators for that purpose have been also selected for that purpose, such as the accuracy of timekeeping and the perceived quality of services by public transport users.

Regarding the accuracy of timekeeping, the Automatic Vehicle Location System (AVL) monitors all services in the systems and registers the number and percentage of them arriving and departing on time according to UNE-EN-13816 standard (i.e. a maximum of 1 minute before scheduled or 5 minutes later than scheduled). In this case, only those services operating in the business areas have been considered, all of which have been analysed. In the table below yearly averages are provided.

As for the perceived quality of service, this information is gathered through a yearly survey (conducted in November each year), consisting in the distribution of questionnaires on-board which are completed by the users during their trip (following the UNE EN-1313816 quality standard criteria, 5% of the daily users of the service are surveyed; in particular, a sample of 625 users has been used). This is complemented by an ongoing web survey throughout the year. Nevertheless, results from the web survey has been omitted from the analysis due to the limited statistical significance of them (an average of 60 questionnaires per year are received through the online questionnaire) as well as for the bias encountered in its analysis (in most cases this online survey is used as a complain tool, rather than a satisfaction survey, thus not reflecting the opinion of the average traveller).

### **C1.3 Method for Business as usual scenario**

If this measure would not be implemented, there would be no high quality public transport services operating in the main employment areas of Donostia-San Sebastián, and the use of public transport to access this peri-urban industrial areas will continue to decrease. On the

other hand, car use will grow, increasing traffic congestion in the main access roads to these areas. Overall, increased emission and noise levels will be favoured if this measure would not be implemented.

For evaluation purposes, the following criteria have been used to estimate the BaU scenario:

- Transport indicators: the BaU scenario has been estimated according to the evolution trend observed in the previous years to the implementation of the measure. In particular, the following yearly growth rates have been used:
  - i. Accuracy of timekeeping: along the 5 years previous to the reference year (2002-2006), a 0,24% yearly increase in this regard has been experienced (from 90,95% to 91,92%, respectively)
  - ii. Quality of service: there is not a clear pattern in this indicator, therefore the average of the 5 years previous to the reference year (2002-2006) has been used, resulting an index of 6,5.
  - iii. Number of PT users in business districts: 0,18% yearly growth, as experienced during the 5 years previous to the reference year (2002-2006)
  - iv. Number of commuters arriving by car to the business areas: this has been calculated in accordance to the evolution trend estimated for the overall traffic levels in the city as provided by the transport model calibrated within the project under the BaU scenario.

## **C2 Measure results**

### **C2.1 Transport**

An important feature of the quality of service is the accuracy of timekeeping of public transport serviced. The Automatic Vehicle Location System (AVL) monitors all services in the systems and registers the number and percentage of them arriving and departing on time according to UNE-EN-13816 standard (i.e. a maximum of 1 minute before scheduled or 5 minutes later than scheduled). In this case, only those services operating in the business areas have been considered, all of which have been analysed. In the table below yearly averages are provided.

For the BaU scenario, the evolution trend experienced along the 5 years previous to the reference year (2002-2006) has been used, resulting in a 0,24% yearly increase in this regard (from 90,95% to 91,92%, respectively)

To complement this information, results on the survey on perceived quality of service are included. This information is gathered through a yearly survey (conducted in November each year), consisting in the distribution of questionnaires on-board which are completed by the users during their trip (following the UNE EN-1313816 quality standard criteria, 5% of the daily users of the service are surveyed; in particular, a sample of 625 users has been used). This is complemented by an ongoing web survey throughout the year. Nevertheless, results from the web survey has been omitted from the analysis due to the limited statistical significance of them (an average of 60 questionnaires per year are received through the online questionnaire) as well as for the bias encountered in its analysis (in most cases this online survey is used as a complain tool, rather than a satisfaction survey, thus not reflecting the opinion of the average traveller).

For the BaU scenario there is not a clear pattern in this indicator, therefore the average of the 5 years previous to the reference year (2002-2006) has been used, resulting an index of 6,5.

#### Table C2.1.1: Quality of Service

Aiming to gauge the success of the new services operating in the industrial areas, the evolution in the number of public transport users has been evaluated, making use of the Automatic Vehicle Location System (AVL) which registers the number of passengers that use PT in the business districts, providing all the information required to make this analysis.

For the BaU scenario a 0,18% yearly growth rate has been used, as experienced during the 5 years previous to the reference year (2002-2006).

Also the number of cars entering the business areas has been analysed. In this case, automatic traffic counts at selected stretches or intersections in the main access roads to business areas have been conducted.

The estimation of the BaU scenario has been made according to the traffic demand model, assuming that no changes in public transport services would be implemented.

Indicator	Before 2006	BaU 2010	After 2010	BaU 2011	After 2011
<b>18. Accuracy of timekeeping</b>	91,92 %	92,99%	96,52%	93,23%	97,20%
<b>19. Quality of service</b>	7,00	6,51	7,60	6,51	7,63

Indicator	Difference: 2010 – Before	Difference: 2010 – BaU	Difference: 2011 – Before	Difference: 2011 – BaU
<b>18. Accuracy of timekeeping</b>	4,60%	3,53%	5,28%	3,97%
<b>19. Quality of service</b>	0,60	1,09	0,63	1,12

The implementations of the new direct bus services to the business districts and the improvement of the infrastructure (bus lanes and light priority) has led to an increase in punctuality, which reached a 96,5% in 2010 and increased to 97,2% in 2011. The traveller perception of quality service has also been increased.

#### Table C2.1.2: Transport System

Indicator	Before 2006	BaU 2010	After 2010	BaU 2011	After 2011
<b>Number of PT users in business districts</b>	122.000 pass/year	122.866 pass/year	245.000 pass/year	123.087 pass/year	352.500 pass/yea
<b>Number of commuters arriving by car to the business areas</b>	22.560 cars per day	20.417 cars per day	20.281 cars per day	20.247 cars per day	20.111 cars per day

Indicator	Difference: 2010 –Before	Difference: 2010 – BaU	Difference: 2011 –Before	Difference: 2011 – BaU
<b>Number of PT users in business districts</b>	123.000 pass/year	122.134 pass/year	230.500 pass/year	229.413 pass/year
<b>Number of commuters arriving by car to the business areas</b>	-2.279 cars per day	-135 cars per day	-2.449 cars per day	-136 cars per day

The bus services to the business districts have been very well accepted by commuters and the use of public transport has increased in these industrial areas with 123.000 extra travellers in 2010 and 230.500 in 2011, as compared to 2006 levels. A consequence of this improvement is that daily almost 2.500 cars have been reduced from those business districts.

### C3 Achievement of quantifiable targets and objectives

No.	Target	Rating
1	Punctuality Index of 90%	***
2	Quality of Service Index of 7	***
3	100.000 extra passengers annually using the new public transport services	***
4	Reduce by 5% the number of cars arriving to the business districts as compared to 2006	***
<b>NA = Not Assessed O = Not Achieved * = Substantially achieved (at least 50%)</b> <b>** = Achieved in full *** = Exceeded</b>		

### C4 Upscaling of results

Up-scaling this measure to the whole city would mean that high quality public transport services will operate in all other employment areas in the city (including not only industrial areas, but business and commercial areas). Modal shift to public transport would be achieved in commuting trips to these other employment areas, in the same proportion as experienced in Zuatzu, Miramon and Belartza. Therefore, care usage in Donostia-San Sebastián will be reduced.

### C5 Appraisal of evaluation approach

It is considered that the evaluation approach is in concordance with the measure objectives, and data collection procedures adequate.

The evaluation scope could have been enlarged to environmental and cost issues but there are other measures were these issues are assessed. Therefore the evaluation has focussed on the ability of improved public transport services to foster the use of the bus in commuter trips to industrial areas, where there is currently a strong car culture.

### C6 Summary of evaluation results

The main goal of this measure was to increase the use of the public transport among commuters travelling to four of the main business districts in Donostia-San Sebastián by

providing competitive and attractive public transport services connecting to these areas. This package of measures is part of an overall strategy to reduce the number of cars entering the city and circulating within its neighbourhoods.

The measure has succeeded in these main goals, since the use of public transport has increased in these industrial areas with 123.000 extra travellers in 2010 and 230.500 in 2011, as compared to 2006 levels. While car traffic levels entering these areas have decreased over the same period almost 2.500 cars per day.

Modal shift towards public transport is the result of improved services. The implementations of the new direct bus services to the business districts and the improvement of the infrastructure (bus lanes and light priority) has led to an increased in punctuality, with 97,2% of all expeditions on time in 2011. The traveller perception of quality service has accordingly increased.

## **C7 Future activities relating to the measure**

Further efforts will be made in order to implement bus shuttle services in the main business districts in the future, including further dialogue in order to gain Business Areas' managers support.

Negotiations to operate a bus shuttle in Miramon business district have already started. It is expected that it will start during the second half of 2012. This pilot project will not imply any changes in the offered service.

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## D Process Evaluation Findings

### D0 Focused measure

X	0	No focussed measure
	1	Most important reason
	2	Second most important reason
	3	Third most important reason

### D1D1 Deviations from the original plan

The deviations from the original plan comprised:

- **Deviation 1 New measure approach** – Once finished the study of the bus services needed in the industrial areas, the conclusions were to start with the implementation of direct bus lines from most of the districts of the city to the 4 industrial areas (Zuatzu, Belartza, Poligono 27 and Miramon), improving the frequency of the service in week days. In ARCHIMEDES project are defined 3 industrial areas, but CTSS-DBUS has finally decided to involve 4 industrial areas.

The reason to start establishing direct bus lines to connect most of districts to the 4 industrial areas instead of the implementation of shuttle buses is to have a better direct service for the commuters. In the surveys taken in the different industrial areas, the commuters prefer to have a trip in one step from their homes to their work places. With shuttle buses, the idea is to connect the industrial areas to the bus lines of the high quality public transport corridors, so that trips will have to be carried out in two steps.

## D2 Barriers and drivers

### D2.1 Barriers

The main barriers encountered for the development of measure 17 are:

#### Preparation phase

- **Cultural:** the extended car culture, with car as the usual mode of transport for those who can afford it acts as a barrier to the attraction of new customers and modal shift (drivers to public transport)
- **Financial:** it is difficult to implement new services concentrated in peak hours that are not sufficiently economically viable.

#### Implementation phase

- **Organizational:** it is not always clear for the industrial areas' managers the link between improved accessibility conditions for their employees and a better performance of them at their jobs. Further dialogue between CTSS-DBUS and industrial areas managers is needed to successfully implement shuttle buses.

### **Operation phase**

- **Cultural:** commuters prefer one stage trips (from home to work) rather than two or more stage trips using shuttle buses.
- **Institutional:** lack of intermodality with Donostia-aldea, the area of influence of DSS with a considerable share of commuters coming from this extended urban area.
- **Problem related:** there are traffic problems affecting the fluidity of itineraries within the city in the main routes towards business districts.

### **D2.2 Drivers**

As for the drivers, the main ones affecting the measure are:

#### **Preparation phase**

- **Political/Strategic:** the measure is part of an overall strategy to improve public transport quality and promote modal shift.
- **Other:** the success in public transport operation in other routes has served as a reference for the development of new services to industrial areas. Public acceptance has also been affected by the success of the bus company operation in the city.

#### **Implementation phase**

- **Financial:** the availability of CIVITAS funding has been a significant opportunity to develop these measures.

### **D2.3 Activities**

In order to handle the above referred barriers and/or to make use of the drivers, the following activities were taken during the implementation of the measure:

#### **Preparation phase**

- **Cultural:** the overall sustainable mobility strategy includes awareness rising campaigns aimed at changing actual attitudes towards transport.

#### **Implementation phase**

- **Communication/Involvement:** on-going dialogue with the industrial areas managers in order to successfully implement new bus services in the concerned areas.
- **Operation phase**
  - **Positional:** additional efforts are being made in order to improve and enforce the measure, creating synergies with other measures to overcome the encountered barriers.

## **D3 Description of organisations and risks**

### ***D.3.1 Measure partners***

Following there is a brief description of all project partners and its level of involvement with the measure:

- **CTSS-DBUS Traffic & Planning Department** - Development and implementation of the bus services for the business districts. Leading role.
- **DSS Municipality Public Works Department** – Infrastructural changes and-or changes in the public space at bus stops areas. Principal participant.

### ***D.3.2 Stakeholders***

The main stakeholders involved in the measure are:

- **Industrial Areas' Managers** – Coordination and cooperation with CTSS in the implementation and promotion of bus services.
- **Employees' representatives** - Coordination and cooperation with CTSS in the implementation and promotion of bus services.

## **D4 Recommendations**

### ***D.4.1 Recommendations: measure replication***

- **Planning:** Public transport improvements must be complemented by car traffic restriction measures.
- **Planning:** To coordinate with the mobility management plans taking place at working
- **Cultural:** To invest in awareness raising processes

### ***D.4.2 Recommendations: process***

- **Stakeholders involvement:** Stakeholders' support should be gained at the beginning stages of the measure planning, seeking their cooperation in the definition of the measure and its future development.

## E Summary time schedule

Task No.	Task name	YEAR 1											YEAR 2												YEAR 3												YEAR 4																				
		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	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48								
2.11	Business District Bus Shuttle Service	[Red]											[Yellow]												[Blue]												[Blue]																				
<b>Evaluation tasks</b>																																																									
	Process evaluation report																			X																			X												X						
<b>Deliverables</b>																																																									
	M12.1 Draft MLEP									X																																															
	D12.1 Final MLEP																									X																															
	D12.2 Baseline and first results Temp																																				X																				
	D12.3 Draft results Temp																																											X													
	D12.4 Final result temp																																														X										