Executive summary

The purpose of this measure is to implement an experimental carpooling service for RAT, The Public Transport Company in Craiova.

Carpooling is the sharing of car journeys so that more than one person travels in a car. By having more people using one vehicle, carpooling reduces each person's travel costs such as fuel costs, tolls, and the stress of driving. Carpooling is also seen as a more environmentally friendly and sustainable way to travel as sharing journeys reduces carbon emissions, traffic congestion on the roads, and the need for parking spaces. Craiova Municipality together with RAT management decided to promote this service and to start a first experimentation for RAT employees. So it was decided to set up a special software able to set up the car poolers crew, to promote this service among RAT employees.

Moreover it was decided to arrange a special parking place for car-poolers; this one of most effective way to encourage this type of transportation.

For the measure implementation, a software program was developed. The software program was a website application which groups the people willing for carpooling, taking into consideration their address. The software application allows the identification of groups of maximum 5 employees (that have the shortest moving on foot distance between them).

As a result of software implementation, 33 groups of people involved in car-pooling were created.

The Municipality provided to car-poolers from RAT a special parking place, limiting its access to vehicles transporting at least three people. The plates of the allowed cars were recorded in a database and the access allowed to the parking place only if the car has been registered in the database and transports at least three people.

Even if the measure implementation was delayed and the operation period was short, only two months, the first results and the social impact evaluation sorted very fair results both in the service use than in costs savings and on users willingness to continue the experimentation.

Craiova Municipality is going to decide to implement this measure to other industrial companies, and in several areas of the town.

Even if the operation period was shorter than foreseen, the start-up of the service revealed a good appreciation of the measure. RAT direct involvement and the availability of a car parking place represented an essential tool for a good start up. At the moment RAT have more request from the employees to apply the service than the available reserved places in the parking lot.

Measure title: FLEXIBLE SERVICES FOR INDUSTRIAL AREAS IN CRAIOVA

City: Craiova Project: MODERN Measure number: 06.04

A1 Objectives

A. High level / longer term:

- To optimise the traffic flow

B. Strategic level:

- To reduce congestion in crowded industrial area by promoting car pooling

C. Measure level:

- To decrease the using of private cars by 10% in industrial area building parking facility for car poolers

A2 Description

City of Craiova has several modes of public transportation, but they do not cover the whole area of the city. There are limited solutions to reach industrial zones by bus or by tram, in peak or off-peak of the day.

Public transportation beyond the junction area between residential zone and West industrial platform is provided only by tram at large intervals (every hour) which cause discontinuities in transport. The only way of transportation which ensures mobility and independence remains the own cars.

Figure A2.1

The number of cars in the streets in this zone is approximately 2500 standard vehicles/hour in peak and 2880-3000 standard vehicles/hour in the next 3 years.

In the industrial zone, the parking places are an important problem for RAT Company. This company, located in the Western industrial platform has parking spaces but they are not sufficient for all cars. The traffic flow, in the area around RAT Comapany, is crowded because the cars are parked on the street.

CIVITAS Measure 06.04 consists of the implementation of a carpooling service to encourage this transportation mode for RAT's employees. This type of transport is used mainly for employees transportation to work and refers to pooling a car with other 3 or 4 working colleagues.

The new car pooling service was implemented in four steps:

1. Design of the service scheme

2. Development of a software application able to support the use of the car pooling scheme by the potential users
3. Identifying people that should adopt the car-pooling service
4. Set up of the reserved carpooling parking lot.

The selected scheme is supported by the developed software whose main functions are:

- To provide a support to create the car pooling crews
- To manage the parking spaces reservations
- To calculate the trips parameters and the savings in driven km

The software application allows the identification of groups of minimum 3 - maximum 5 employees (having the shortest walking distance among them). An e-mail is automatically sent to each person containing the addresses of the 4 closest colleagues. If at least 3 members accept the creation of the crew and decide to subscribe for the car pooling service the group is composed and saved in the database. If one or more members do not agree, the program tries to match other people living in the same area and send others e-mails to complete the group.

The figures below show details about the members of the group.

Figure A2.2 Main screen of the cap-pooling application

To facilitate the start-up of the service, Craiova Municipality provided to RAT car-poolers a reserved parking place, close to the RAT facilities.

The following picture shows a schematic drawing of the parking lot. The parking lot is highlighted in grey color.

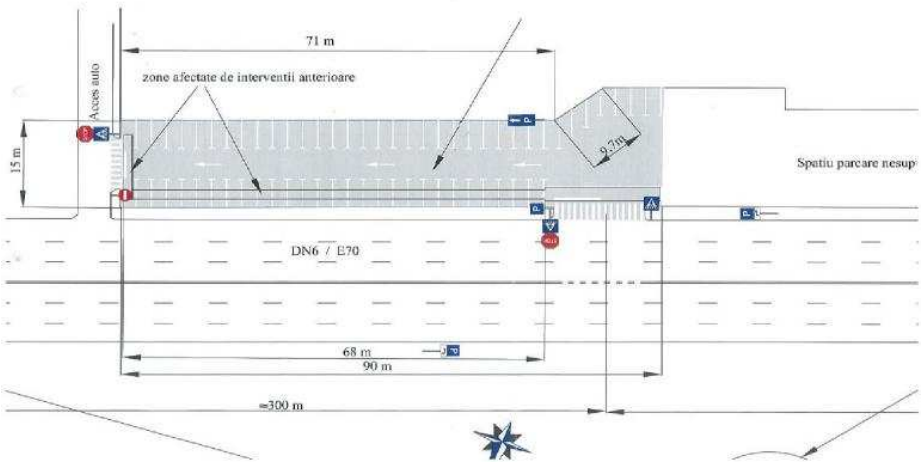

Figure A2.3The reserved parking lot

All the cars involved in the carpooling scheme have to be recorded in the application software database and the access to the parking place is allowed only if the car is registered in the database.

The work program foresaw the following activities:

- Development of the carpooling matching application (software tool) and upload data in the web application;
- Locating the place for the parking facility; .
- Elaboration of the technical requirements for the arrangement of the parking area;
- Launching of the procurement procedure;
- Arrangement of the parking place: division, markings for parking spaces and access ways in the parking;
- Dissemination activities to promote the service among the potential users;
- Launch and exploitation of the carpooling service;

B Measure implementation

B1 Innovative aspects

The innovative aspects of the measure are:

New mode of transport exploited - This measure introduced a new mode of transportation for RAT employees, to the West industrial area of Craiova - carpooling system.

Targeting specific user groups - Carpooling service addresses only to RAT employees.

New physical infrastructure solutions - Municipality set a parking place for RAT employees that use the carpooling service.

B2 Research and Technology Development

Analyzing the possibilities of building a parking for carpooling service

Some parking spaces have been analyzed for carpooling parking building, in the industrial area in the west side of the city. This research activity resulted in finding a of parking lot near the Public Transport Company's headquarters

Traffic study, alternative and flexible services

A traffic study was carried out in the industrial areas where the predominant transportation mode is the private car because public transport is limited in these areas.

This analysis showed that the development of a carpooling service and building of a special parking for carpooling would be an alternative to existing transportation mode in the area.

B3 Situation before CIVITAS

Because of the location of RAT headquarter and because of the working time before the implementation of the car pooling service RAT employees had no other option for transportation to/from work place than their own cars or taxi.

The huge number of cars parked on street or around the RAT headquarter showed how relevant was the necessity to find other solution; moreover the not regulated parking contributed to crowd the area in the industrial zone. The vehicles flow during peak hours was approximately 2.500 standard vehicles / hour and there is a forecast of 2.880-3.000 standard vehicles / hour for the next 3 years.

The set-up of a car pooling service should lead to double the benefits: to reduce up to 1/3 the vehicle flow (if most of the companies start with the same scheme); to reduce of the same percentage the parking space needs. Moreover there would be advantages coming from fuel savings; emission reduction and so on.

This is the reason for that RAT Company together with the Municipality decided to set a carpooling service and to create a parking lot dedicated to RAT carpoolers.

In any case it has to be observed that is the first carpooling parking and service in Craiova and perhaps the first in Romania.

B4 Actual implementation of the measure

The measure was implemented in the following stages:

Stage 1: Planning and design of the measure (Sept 2009-Sept 2012)

In this stage two different aspects of the design matter were analyzed: the existence of transport services in the area and the need to develop a carpooling type service in the area as a transportation alternative system to the methods currently in use.

The analysis carried-out showed that the development of a carpooling service and the arrangement of a special parking for carpooling could be a possible alternative way to the existing transportation mode in the area.

According to these outcomes the service has been designed. During this phase become evident the need of a software application to manage the service, mainly to match the components of the car pooling group and the demand of parking lot for the related cars with the parking space availability. Moreover, the identification of the potential users was done, and the practical methodologies and rules for the service itself were defined.

Stage 2 : Traffic study, alternative and flexible services (March 2010- Sept 2010)

In the first versions of DoW the parking place was foreseen for several companies operating in the "junction area" between the residential zone and the west industrial platform or commuters coming from out of the City.

Several considerations led to a restriction of the objectives:

- The 1st one was that this represented the first experiment of a "professionally based car pooling scheme" in Romania, so that an experimental phase was needed to check the procedures to avoid errors on a large scale;
- The 2nd was more practical: the number of parking spaces available to be reserved to car poolers was too small compared to the need for the whole area of interest.

These considerations led to the conclusion to restrict the service to a first experimentation constituted by the RAT employees. So, the parking place was experimentally devoted to RAT employees who adopt the car-pooling as a transportation mode for their journeys home to work and vice versa. So the location of the parking lot has been selected close to RAT headquarter. The technical requirements for the arrangement of the parking lot were elaborated. The following actions were done:

- Definition of a parking space - Marking the parking places

- Setting the entrance and the exit of the parking lot and marking the access ways inside the parking lot.

The first idea was to equip the parking lot with an automatic plate recognition system based on OCR to recognize the cars entitled to enter the parking and command an electrical barrier. A market analysis was developed in this sense.

The parking place was finalized in terms of arrangement on September 2012.

Launching of the procurement procedure.

Unfortunately at this step organizational and bureaucratic problems arose regarding the property registration of the land where the parking place has to be allocated. This situation led to a first delay and changed the implementation plan.

The Municipality had to organize the public procurement, as owner of the land. The procedure was launched only on August 6, 2012 and recorded a further delay as no bidder was available. The public procurement had to be repeated three times. Finally it was assigned by DOMARCONS SRL on September 2012.

For this reason, the measure implementation was delayed and led to a shortening of operation period.

Stage 3: Implementation of the parking facilities and setting up flexible services (Sept 2010-Sept 2012)

Arrangement of the parking place: division, markings for parking spaces and access ways in the parking.

The accumulated delays made evident that there was no possibility to follow the foreseen way, as the times to install the electrical barriers and finalize the work (given also the winter period which made it difficult the works) were not compatible with the Project schedule. To have the possibility to finalize the measure within the project lifetime and to carry out as much as possible the evaluation, on August 2012 it was decided to renounce to the automatic control of the parking and to exploit the control of the entitled cars by a guard person employee of RAT.

Figure. B4.1 The parking

Development of the carpooling matching application (software tool)

A specific software program was developed for car pooling service in order to be used by the employees of Public Transportation Company.

The main function of the application software was to identify RAT employees living close one to each other (distance walking between them being minimal) and to communicate them via e-mail about the four nearest colleagues in order to create a group of at least 3 people who can travel together to work, by one car only, to manage the matching, the distances for each person, to calculate the reducing of the distance by applying this services.

The software program is a web application which reserves the places in the parking lot and groups the people willing for carpooling, taking into consideration their home address. Employees, who can set up a group in order to travel by one car, can use the available parking places free of charge.

The first step in searching for potential carpool matches is to enter the personal carpool information. Basically, users can create profiles on the website, and specify whether they are looking for carpooling as a driver or not.

An e-mail is automatically sent to each person in the group announcing about the closest 4 colleagues considering the home address. If at least 3 members accept the creation of the group and want to subscribe through a link found in the initial email, this group will be saved in the software database.

In figure is shown the main page of the software application

Figure B4.2 – The main page of the software application

Using these details the system can provide the most accurate matches possible. An important step in the data recording is to map the address, and pick the closest address from an interactive map (Figure B4.3).

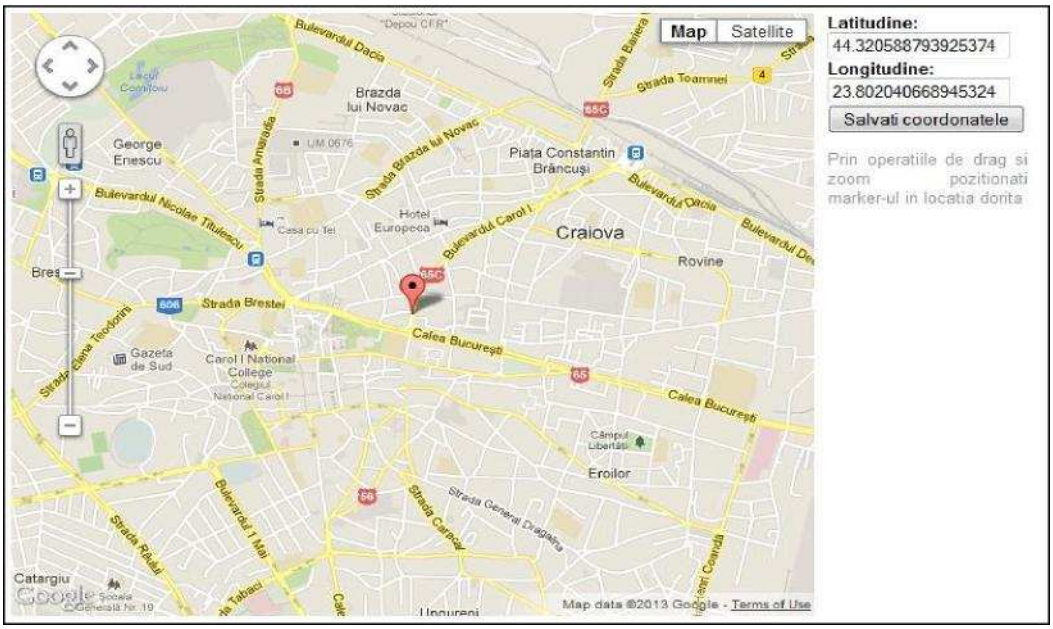

Figure B4.3 – Car-pooling software tool - The interactive map

When the data were recorded, the driver start searching for potential carpool matches. The data recorded are compared with data recorded by other users. The user receives a list with potential matches. Once the user has selected the preferred match, he may contact that person by sending him an e-mail, via site (Figure 9).

Under certain conditions, the system allows the user to be able to choose from a list of potential car poolers.

If one or more members do not agree to this subscription, the program tries to find other people leaving in the same area and send the information e-mail when the group is complete.

Nr. crt.	Nume	Adresa	Date de contact	Firma	Stare	
1	Popa Antonel	Ulmului, 34, , Centru	ppdoru@yahoo.com 0769085909	RAT Craiova	Membru	X
2	Barbu David	Basarabia, 4, , Gara	david-barbu@yahoo.com 0720547911	RAT Craiova	Membru	X
3	Cernea Lucian	Decebal, 66, 23, LAPUS	marianlcn@yahoo.com 0765214071	RAT Craiova	Membru	X
4	Marinescu Virginia	Simion Stoilov, 5, D8, Rovine	virginia_marinescu@yahoo.com 0769198704	RAT Craiova	Membru	X

Figure B4.4 – List of the registered persons

The windows below (Figure B4.5, Figure B4.6) show details about the members of the group.

Figure B4.5 – The users list contains: names, postal address, e-mail address List of the registered persons

Figure B4.6 - Menu for adding the users

Automatic calculation of the distances

When users create accounts, in addition they must enter personal data and geographical coordinates of their location, on the software interactive map and save their relevant coordinates.

Every day the RAT front guard inputs the data regarding who comes at RAT using carpooling system (name of each persons of the group, groups and drivers, using check box of software program for carpoolers and different check box sign for drivers.

Thus RAT has an exact record of groups who come to work every day using this system.

The system calculates and displays the number of kilometers saved based on several criteria:

- Presence of each person that is found inserted by the guard in the daily software database table present day;
- Distance that should have been covered with the cars of all the group components (the driver is excluded). This distance is calculated automatically by the system based on GPS coordinates as the distance between the GPS coordinates of RAT Craiova and GPS coordinates of the person. Distance is not a straight line and is calculated based on designed route.

The software has been tested, implemented and uploaded on the RAT website www.ratcraiova.ro. The first data were uploaded on January 2012 and the application was made available to the RAT employees for its use on September 2012.

Stage 4 System operating (Oct 2012–Nov 2012)

The real scale launch was done on October 2012. The data entered into the system were related to 122 RAT employees over a total of 224.

B5 Inter-relationships with other measures

The measure is not related to any other measure.

C Impact Evaluation Findings

C1 Measurement methodology

C1.1 Impacts and Indicators

Table C1.1: Indicators.

No.	Impact	Indicator	Data used	Comments
Local indicator 1	Transport	Number of car poolers	Number of RAT employees that agree the carpooling service	Data provided by RAT related to people that want to involve in car pooling
Local indicators 2	Energy	Fuel saved Kms saved	Kms saved by carpooling	Calculated for 2 months of demonstration
Indicator 13	Society	Awareness level	Percentage of respondents with knowledge of the measure	Face to face questionnaire

Detailed description of the indicator methodologies:

Local indicator 1 (Number of car poolers) – Is the number of people involved in carpooling

Local indicators 2 (Fuel saved, Kms saved) – The quantity of fuel saved as a result of Kms saved by car owners from RAT involved in carpooling service.

Indicator 13 (Awareness level)

The survey was made to see the impact of the measure on RAT employees. Taking into consideration the RAT employees traveling to work by own car, face to face questionaires have been circulated.

The most important questions are:

1. Gender.

2. Do you know about the measure progress?

3. Do you understand the benefit of the measure?

C1.2 Establishing a Baseline

Before the start up of the carpooling 214 employees from RAT came to work by their own car, so the parking place around RAT was much crowed especially in peak hours. All the indicators were set to "0".

The base line is the year 2010 when the indicators had the following values:

Local indicator 1 – Number of car poolers

Indicator	Ex-Ante values
Number of car poolers	0

Local indicators 2 – Fuel saved, Kms saved

Indicator	Ex-Ante values
Fuel saved (litters)	0
Kms saved	0

Awareness level

214 questionaires have been circulated to potential car pooling people (RAT employees)

Questions	Ex-Ante values
Do you know about the measure?	Yes 70% No 30%
Do you understand the benefit of the measure?	
Do not understand	20%
Well understand	37%
Very well understand	20%
Don't know	23%

C1.3 Building the Business-as-Usual scenario

In absence of MODERN project, carpooling service would have not been implemented, so, RAT assumed that all the indicators keep the ex-ante values.

Local indicator 1- Number of car poolers

Indicator	BAU values
Number of car poolers	0

Local indicators 2- Fuel saved, Kms saved

Indicator	BAU values
Fuel saved (litters)	0
Kms saved	0

Awareness level

Questions	BAU values
Do you know about the measure?	Yes 70% No 30%
Do you understand the benefit of the measure?	
Do not understand	20%
Well understand	37%
Very well understand	20%
Don’t know	23%

C2 Measure results

C2.2 Energy

The total number of the RAT employees is 786. The employees in the administrative area (where the carpooling service was implemented) are 224.

The service started as demo on January 2012 (based on the RAT own parking and on the same scheme), as a real scale service on October 2012.

During October and November 2012, the main obtained results were:

- 122 - persons recorded in the RAT car pooling data base.
- 33 - carpooling groups.
- 843 - trips exploited (round trip).
- 6'187.62 driven km saved.
- 711.58 l – fuel savings (11.5 l/100Kms).
- 3.67 Km - trip medium length.

By considering the group of car-pooling users (RAT employees), the kilometers saved by the service have been estimated together with the amount of fuel saved for 2 months of demonstration (Fig. C2.2.1). For the calculation of the fuel saved, we used a consumption of 11.5 liters/100 Km as result of the question (face-in-face) asked to the RAT employees that use the carpooling system.

This consumption was calculated as a yearly mean value: 4 month x 13.5 l/100 Km + 8 month x 10.5 l/100Kms.

Table C2.2.1: energy indicators results

Indicator		Before (date)	BAU	After (date)	Difference: After – Before	Difference: After –BAU
Local indicators	**Fuel saved**	0 (2010)	0 (2011) 0 (2012)	339.53 (October 2012) 372.05 November (2012)	339.53 372.05	339.53 372.05
	Km saved	0 (2010)	0 (2011) 0 (2012)	2'952.382 Km (October 2012) 3'235.237 Km November (2012)	2'952.382 3'235.237	2'952.382 3,235.237

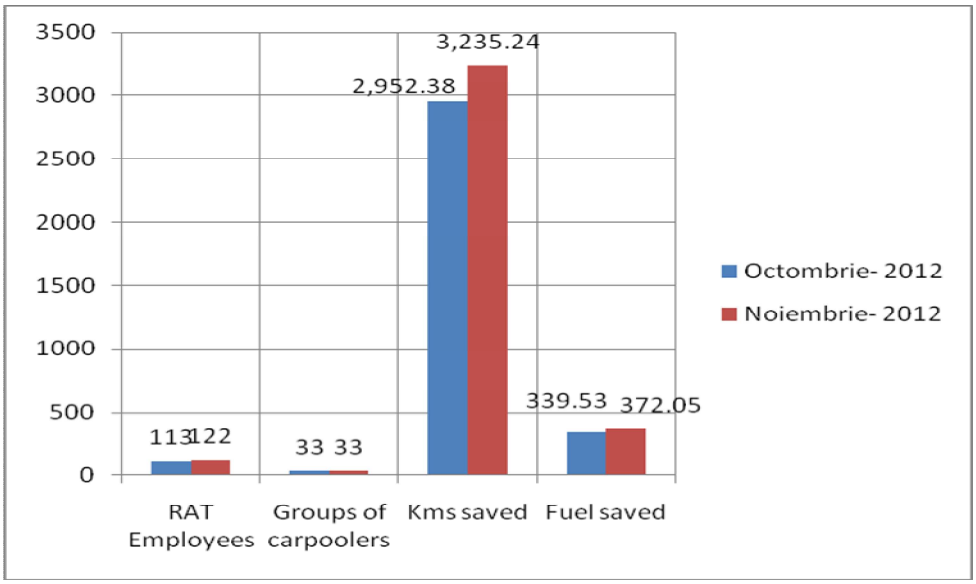

Figure C2.2.1

C2.4 Transport

The people that wanted to involve in car pooling were recorded in a RAT data base starting to January 2012. In January 2012, 1 person recorded in the list and month by month, number of people increased.

During this first period the service was provided using the general RAT parking.

In October and November 2012, when the parking place was available, 113, respectively 122 people that formed 33 groups were involved in carpooling.

Table C2.4.1: transport indicator results

Indicator	Before (date)	BAU (date)	After (date)	Difference: After –Before	Difference: After –BAU
Local indicator Number of car poolers	0 (2010)	0 (October 2011) (November 2011) 0 (October 2012) (November 2012)	113 people involved 33 groups (October 2012) 122 people involved 33 groups (November 2012)	113 people involved 33 groups 122 people involved 33 groups	113 people involved 33 groups 122 people involved 33 groups

Year: 2012	Nr. angajati	Grupuri
January	1	0
February	2	1
March	4	2
April	5	3
May	6	4
June	6	4
July	10	5
August	23	9
September	88	31
October	113	33
November	122	33

Table C2.4.1 – the carpooling groups created

The table C2.4.1 show the groups have been created by carpooling system

C2.5 Society

In ex-post evaluation of awareness level the results of the survey carried out for the deliverable "Social Impact" were used. The survey was applied to 122 RAT employees involved in carpooling, in November 2012

Table C2.5.1:

Indicator	Before (date)	BAU (date)	After (date)	Difference: After – Before	Difference: After – BAU
Awareness level	Know the measure 70% Do not know 30% Do not understand- 20% Well understand 37 % Very well understand 20% Don't know 23 % (2010)	Know the measure 70% Do not know 30% Do not understand- 20% Well understand 37 % Very well understand 20% Don't know 23 % (November 2012)	Know the measure 100% Do not know 0% Do not understand- 0% Well understand 80 % Very well understand 20% Don't know 0 % (November 2012)	30% increased 30% decreased 20% decreased 43% increased 0 23% decreased	30% increased 30% decreased 20% decreased 43% increased 0 23% decreased

Car pooling service started only in October and the survey was made in the first days of November. So the results of this report on socio economic analysis must be evaluated with some concerns:

1. The general perception of the car pooling service is good, and the current users are willing to preserve this service and recommend for an extension to their colleagues and other Companies.
2. In general even the users seem not well informed about the finality of the service; they appreciate very much the advantage to have a reserved car parking place but no more else.
3. The most important obstacle foreseen is the personal mobility limitation due to the car sharing. Even in other European towns, this seems to be the greater obstacle for an extension of this type of mobility mode.
4. The economic advantage seems not well understood by the users.

In any case it is possible to try some conclusions and a few suggestions for future developments:

a. Carpooling is a environmentally friendly and sustainable way to travel through sharing journeys, which could decrease driving stress and contribute to the reduction of pollutant emmissions, decreasing of the traffic on the roads and of parking lot occupancyIt is necessary to improve communications about finality and real advantages of this service; this should help other possible deployments (especially in cases where no reserved car parking place will be available).
b. It seems important to define car-pooling rules (about organization, car parking access, cost division and so on; the app to generate crews is only one starting point.
c. Another opportunity is to create a Car pooling Community to exchange experiences to enforce the use of the service and to start something as a viral dissemination of it.

In conclusion the car-pooling scheme was judged as a good initiative for Craiova and so this demonstration site could became the starting point for this sustainable.

C3 Achievement of quantifiable targets and objectives

No.	Target	Rating
1	Promoting car-pooling and providing a parking facility as a motivation for car-poolers;	★★ = Achieved in full
2	To decrease the using of private cars by 10% in industrial area building parking facility for car poolers The people that wanted to involve in car pooling were recorded in a RAT data base starting to January 2012. 1 person recorded in the list and the number of people have increased month by month. During this time the service was provided at the RAT parking. In October and November 2012, when the parking place was available, 113, respectively 122 people that formed 33 groups were involved in car pooling services.	★★ = Achieved in full

	The number of cars decreased from 122 to 33(which means a decrease of 73%)within this operation period of 2 months.	
NA = Not Assessed O = Not Achieved ★ = Substantially achieved (at least 50%) ★★ = Achieved in full ★★★ = Exceeded		

C4 Up-scaling of results

This project was an opportunity for the municipality to apply this new approch of flexible services for the industrial areas of Craiova by implementing this measure for the first time in the Western industrial area.

The implementing of this measure highlights that carpooling reduces the costs involved in repetitive or long distance driving by sharing cars and paying the main car owner. More than that, it was demonstrated that car pooling could also help reduce congestion and pollution in the industrial areas where the level of the pollution is a very high one. Replacing private automobiles with shared ones directly reduces demand for parking spaces, especially in the industrial areas where there are not enough parking places. The fact that only a certain number of cars can be in use at any one time reduced traffic congestion at peak times. Even more important for congestion, the strong metering of costs provides a cost incentive to drive less.

The municipality intends to further develop this measure to other companies from the Western industrial area and then, to other industrial areas from the Northern and the Eastern part of the city.

C5 Appraisal of evaluation approach

The evaluation of this measure focused on some indicators across the areas of transport, energy and society, which were to be measured in different ways and calculated.

Because of delays in implementation, the people that have expressed their willingness to involve in car pooling service used the parking place a short period of time, for 2 months, in October and November. The short period of operation has not allowed a full impact assessment of the measure.

The emissions indicators were cancelled because of difficulties in evaluation by COPERT software which need information related to EURO category and fuel type for each car involved in car pooling . The emissions were replaced by the local indicators -fuel saved and Km saved- which cloud be calculated for 2 months, only.

The indicator Acceptance level was cancelled because we considered that the people recorded in the car pooling data base, accepted the measure.

Also, it was not possible long-term monitoring of the reaction of people involved in car pooling

Even if the operation period was shorter than foreseen, the start-up of the service revealed a good appreciation of the measure. RAT direct involvement and the avalaibility of a car parking place reprepresented an essential tool for a good start up. At the moment RAT have more request from the employees to apply the service than the available reserved places in the parking lot.

Carpooling is a environmentally friendly and sustainable way to travel through journeys sharing which could decrease driving stress and contribute to the reduction of pollutant emmissions.

The measure and the concept of car-pooling in general were apparently not very well understood by the people. In fact the boards delimiting the parking area use a different wording (in Romanian – reserved parking - service for matching the passengers) to better get the message across.

The promotion of the concept and the dissemination of the pilot service system are very important.

Local administration can offers a number of facilities for car-poolers. These interventions would increase the number of people who use the service.

C6 Summary of evaluation results

The key results are the following:

Key result 1: 122 people that joined the car pooling

Key result 2: 33 groups for car pooling

C7 Future activities relating to the measure

The results of the measure will be further disseminated at the local level in order to inform citizens and, especially, representatives of companies about the benefits of carpooling in the city.After its implementation, the Municipality will extend this measure first of all to the 3 public companies and after that to other companies on the Northern and Eastern industrial areas of Craiova.

The Municpality will organize seminars to promote and disseminate this measure and its benefits and will discuss with all the reprezentatives of public and private companies in order to make them understand that carpooling is a suitable alternative of transport and by adopting this concept all the employees, the companies and not at last Craiova community will be helped.

By this the Municipality will explain them the benfits of reducing the fuel costs, reducing the pollution and contribute to decrease the traffic congestion, especially in the industrial areas where the level of pollution is a very high one.Municpality will highlight during the seminars developed with the

reprezentatives of public and private companies that this measure is part of its local policy of sustainable transport and that’s why the municipality embraces this concept from the very beginning and will try to extend it successfully to others companies from the industrial areas.

D Process Evaluation Findings

D.0 – Focused measure

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

D.1 Deviations from the original plan

The deviations from the original plan comprised:

Deviation 1: ***Defining of the parking service*** – The original measure description form focused on setting up a parking lot placed at the junction between the urban and industrial area of the west side of Craiova. This parking lot had to be located as close as possible to public transport station. People like commuters who came to the city had the possibility to leave their personal cars in this parking lot and they were able to enter the city by public transportation to reach the city centre or their working place. In the same time, this parking lot had to provide a carpooling service for several companies located in the junction between the urban and industrial area of the west side of Craiova. As the number of parking spaces is too small compared with the need for the area of interest, the parking place was experimentally devoted to the Public Transport Company employees who choose to adopt the car-pooling as a transportation mode for commuting to work

Deviation 2: *P**arking equipping*** – In the original measure description form the parking place had to be equipped with one video camera connected to the RAT dispatching center and 2 electronic barriers controlled by the dispatcher and activated by the signal from the camera OCR. When the OCR recognizes the car plate number as entitled to enter the parking lot, opens the barriers.

All the arrangements of the parking place suffered a lot of delays because of procurement procedure.

Unfortunately at this step the Municipality encountered organizational and bureaucratic problems regarding the registration of the land allocated for the parking place in the land register. The property of the parking lot was not well defined in documentation, even the land allocated belongs to the Municipality, so it wasn't clear who could be entitled to call the tender for the electric barriers. This situation led to a first delay and changed the implementation plan.

The Municipality had to organize the public procurement, as owner of the land. The procedure was launched only on August 6, 2012 and recorded a further delay as no bidder was available. The public procurement had to be repeated three times. Finally it was assigned by DOMARCONS SRL on September 2012.

For this reason, the measure implementation was delayed and led to a shortening of operation period, hence a long-term monitoring of the reaction of people involved in car pooling was not possible

D.2 Barriers and drivers

D.2.1 Barriers

Preparation phase

No barriers encountered.

Implementation phase

Institutional – The Municipality could not prove that is the owner of the land where the parking should be arranged . This was the reason for that The Municipality could not organise public procurement for electric barriers purchaising and installing. This situation led to delays and changes in implementation plan

Organizational – The Municipalily had to organise public procurement for parking arranging. The procedure delayed because no bidder available. The public procurement had to be repeated two times. For this reason, the measure implementation was delayed and led to a shortening of operation period

Operation phase

Problem related – Very short period of operation, only 2 months.

D.2.2 Drivers

Preparation phase

No drivers encountered.

Implementation phase

Technological – Development of a software application as a tool supporting the car-poolers.

Involvement, communication –organizing a public event during which municipality promotes and presents this measure. They spread questionnaires concerning on the measure objectives and ask for people feedback.

D.2.3 Activities

Preparation phase

No activities have been performed.

Implementation phase

Involvement, communication – Enhance the communication actions in order to make known and promote the car-pooling service and the use of IT tool.

Institutional – The Municipality changed the implementation plan and found solution for parking place arrangement which does not involve construction work. The solution was giving up the electric barriers and put road markings and signs and paved damaged area.

Operation phase

RAT made all the efforts to encurage the people to join the car pooling .

D.3 Participation

D.3.1. Measure Partners

Measure partner 1 – IPA Occasional participant

IPA SA is a 47 years old Romanian industrial R & D company and is the Romanian national institute for research and development, engineering in energy, automation and IT, with a large experience in European projects in technology transfer and in information dissemination.

IPA was responsible for the dissemination activities and carrying out the research activity and technical studies in the measure. IPA Craiova developed the software tool for matching RAT employees, by groups and by destinations. Since 2011 IPA took over the evaluation activity.

Measure partner 2 – RAT Principle participant

Craiova Public Transport Company is the main public transport operator in the whole Oltenia region. RAT provides the citizen transport by trams, buses and micro-buses.

In this measure, the employees of RAT Craiova are involved in car-pooling service.

Measure partner 3 – LCM Leading role

The Local Council of Craiova Municipality (Primaria Municipiului Craiova) was organized and functions according to Law No. 215/2001 regarding Local Public Administration with the subsequent modification and completion.

LCM was the coordinator of the project and since 2009 and assumed the responsibility for the management and administration activity in the MODERN project. Between 2009-2011, LCM made the evaluation activity. In this measure, LCM made decisions on parking lot arranging and implementation of the signs for a good visibility of the parking lot.

D.3.2 Stakeholders

Stakeholder 1 ELPRECO SA is one of the manufacturers of construction materials in Romania, constantly concerned with upgrading products and customer satisfaction. ELPRECO produce masonry blocks and boards for insulation brick, cement tile, road and pedestrian paving, curbs, sewer and pressure pipes.

Stakeholder 2 Craiova Brewery was the first brewery in the country to determine the amount of bitter hops, a company owned by Brau Union Romania (owned by the Austrian group BBAG), became a member of the Heineken Group

Stakeholder 3 Baumax offers a wide range of products including building materials, interior and exterior decorations, sanitary products, furniture, electronics and appliances, gardening products.

Stakeholder 4 Praktiker offers over 40’000 products including building materials, interior and exterior decorations, sanitary products, furniture, electronics and appliances, gardening products. The variety of products and services belong to the tailored plus range, which are available right in the store: special orders, paint color, financial services, transportation, return guarantee, wood cutting and sewing services. In early 2008, the DIY retailer had 20 stores, each about 100 people working unit.

All these companies used the parking place up to measure implementation.

D.4 Recommendations

D.4.1 Recommendations: measure replication

Recommendation 1: Communication related- Enhance the communication actions in order to make known and promote the benefits of the car-pooling service.

D.4.2 Recommendations: process (related to barrier-, driver- and action fields)

Recommendation 1: Approvals related – Take into consideration and prepare all necessary approvals for parking arrangement and be aware that all these documents take time.

Measure title: FLEXIBLE SERVICES FOR INDUSTRIAL AREAS IN CRAIOVA

City: Craiova Project: MODERN Measure number: 06.04

Annex 1- Questionaire

Instructions

This survey is part of the FP7 MODERN project (Mobility, Development and Energy Reduction) and aims to collect experiences in your travels downtown.

The main objective of the measure is to decrease the using of private cars by 10% in industrial area building parking facility for car poolers

Your answers will be treated confidentially.

Thank you for your participation!

Ex-ante questionnaire for RAT employees

Measure 06.04 – FLEXIBLE SERVICES FOR INDUSTRIAL AREAS IN CRAIOVA

1. Gender: F ☐ 30% M ☐ 70%

Awareness level

2. Do you know about the measure?

70% ☐ ☐ 30%

yes no

3. Do you understand the benefit of the measure?

Do not understand	well understand	very well understand	Don't know
20%	37%	20%	23%

4. Which is the first reason for that you want to involve in car pooling action?

☐1	Environment concerning
☐2	Economical benefits 70%
☐3	Traffic jam 30%
☐4	Others, specify:……..
☐5	Do not know