

*Measure title:* **Implementation of a new car-sharing service linked to PT services in Toulouse**

*City:* **TOULOUSE**

*Project:* **MOBILIS**

*Measure number:* **9.2**

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## **A Introduction**

Car-sharing constitutes an innovative way to make the citizens reconsidering car ownership and guide them to a more sustainable use of the transport modes. Toulouse partners wanted to carry out an experiment to analyse its potential and added value to the existing public transport offer. Understanding the brakes of such a service and developing a financial sustainable service fitting to the users' expectations were the primary objective of this measure.

### **A1 Objectives**

The measure objectives were :

- **Objective 1** Experiment a car-sharing service for the Toulouse conurbation,
- **Objective 2** Propose an integrated solution completing the PT transport service,
- **Objective 3** Change the behaviour towards the private vehicle

### **A2 Description**

The aim of the measure was to develop a car-sharing service as a complementary mobility service for a target panel of users that will have access with specific and interesting conditions to others mobility services, especially to PT.

**Research and Technical Development related activities were to :**

- Analyse the overall context to develop a car-sharing service, and the potential brake to go beyond : regulation and juridical context, operational and organisation constraints, sociology study, existing experiences (MOSES project, and local projects), geographical reach, ...
- Compare the experimentation evaluation results to the analysis studies to verify the positive and negative factors permitting the development of the car-sharing,
- Realise a marketing study to identify car-sharing potential users and complementary needs to develop and promote the integration of the car-sharing and the PT services,
- Realise a feasibility study and implementation plan for the development of the car-sharing service, and its integration with PT and other mobility services proposed,
- Definition of the experimentation plan (the UPS University seems to be a good place, to propose this service to students, that have particular mobility habits, and could change easily of behaviour),
- Implement a car-sharing service and experimentation during 1 year,
- Integrate the car-sharing service in the mobility card to be created within the renewing of the ticketing system,
- Evaluate the car-sharing service and identify the main brakes for the development or the management of this kind of service,
- Implement and define business plan.

### **Expected results and targets**

The main targets of this measure were:

- To demonstrate a car-sharing service composed of around 20 cars (to be refined within the feasibility study) that will be used by 50 users per month.
- To integrate the car-sharing in the mobility car to be developed within the project.
- To understand brakes and best practice in this domain.

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## **B Measure implementation**

### **B1 Innovative aspects**

The innovative aspects of the measure are:

- **Innovative aspect 1** – understand the brakes for the development of carsharing : at the local level (but also at the national level), the carsharing is not really developed. The aim of this measure would be to understand the brakes for the development of such kind of service and propose a service fitting to the users' expectations.
- **Innovative aspect 2** – to set up and demonstrate the interest of proposing an integrated multimodal service : at a wider level, the experimentation of Toulouse aim to set up and demonstrate the interest of proposing an integrated multimodal service combining the carsharing, the PT transports and other transports modes, with the same sustainable objective of reducing the place of the private car in our society.

### **B2 Situation before CIVITAS**

Like in many French cities, the car-sharing was not yet functional in Toulouse.

An experimentation has been launched in 1998 (Wallgreen society) obtaining interesting results, but so far this operation was limited mainly due to the lack of promotion.

### **B3 Actual implementation of the measure**

This measure initially should take place in 5 stages:

- **1<sup>st</sup> stage:** constitution of a multi-partnership work group with the aim of drawing up the specifications for providing service to analyze the potential of a carsharing service and to define the method for its implementation, specifying the possible role of local communities in this measure;
- **2<sup>nd</sup> stage:** performing the market study and defining the carsharing service to be implemented – political validation;
- **3<sup>rd</sup> stage:** implementation of this service or assistance in the implementation of this service – framing of the experiment;
- **4<sup>th</sup> stage:** evaluation of the service – measurement of the impacts and the client feedback;
- **5<sup>th</sup> stage:** correction and reframing of the service with a view to perpetuating it

Since these stages follow one another by principle, it is obvious that the political validation expected at the end of the second stage conditioned the execution of the entire measure as foreseen initially. Also note that the conclusions of the market analysis/ feasibility study should condition the political decision.

## B4 Deviations from the original plan

First of all the launching of this study was delayed (for lack of availability of internal resources to ensure the piloting). The 1<sup>st</sup> stage ended at the end of 2006 with the production of specifications to appoint a service provider in order to intervene on the 2<sup>nd</sup> stage. The latter (Caisse Commune et Transitec) was appointed in July 2007 and performed this study in the following semester, in relation with the work group consisting of Tisséo, the city of Toulouse, Greater Toulouse, SICOVAL and CETE / ZELT.

The political validation (critical milestone located at the end of the second stage) obtained in January 2008 (by deliberation of the Comité Syndical du SMTC) with a powerful positioning of Tisséo, to support the development of carsharing at the Toulouse agglomeration level.

However, in March 2008, the political majority (municipal election) changed and the new team which wished to start a very large scale public consultation procedure: the Assises de la Mobilité, to gather the expectations / ideas of the public has delayed the launching of the project (the time to perform this consultation). In June 2008, the conclusions of the Assises de la Mobilité confirmed the interest to see a carsharing service develop on the local level.

However, meanwhile a local association was set up precisely proposing to start its own service: MOBILIB';

It turned out that the founder of MOBILIB' had participated within the framework of research work for the MOBILIS project, insofar as his work took place in parallel with the study conducted by Tisséo. Hence, the implementation plan of the carsharing service proposed in the framework of the works carried out by Tisséo was questioned. Therefore it was necessary to support the MOBILIB' association for the starting of its service. This repositioning was made formal through 2 deliberations by SMTC, the latter specifying the entry of SMTC in the capital of the collective interest cooperative society created.

In parallel, the Toulouse city did the same and deliberated last February to define a carsharing label and to attribute the 11 parking places necessary for the launching of the carsharing service.

Commercially, the MOBILIB' service started on 23<sup>rd</sup> March 2009 just before the end of the MOBILIS project. It is evident that the initial objectives were not attained, in spite of the fact that reserves were made on the launching of this service by Tisséo (according to the conclusions of the upstream studies). However it can be considered that the launching of the MOBILIB' service could be carried out quickly because of the awareness of decision makers and technicians of the interest and the stake of such a service, in the framework of work carried out in the MOBILIS project. This fact leads us to think that the analysis of the processes of this measure is interesting to deal with: since the public authorities do not have the monopoly over initiatives aiming at developing services included in a sustainable management of mobility.

## B5 Inter-relationships with other measures

The measure is related to other measures as follows:

No.	Measure title	Relation
5.1.T	Large-scale operation of clean bus fleets in Toulouse and preparation of sustainable supply structures for alternative fuels	The cars to share should be clean vehicle and the CNG seems to be the adapted solution. There will be a link with the demonstration of CNG micro-compressor.
7.1.T	Innovative multimodal PT contracts, services and electronic ticketing in Toulouse.	The car-sharing service would be integrated in the mobility card.
9.1.T	Promotion of car-pooling and integration with PT services in Toulouse.	The integration of these 2 services is considered as an improvement field that would be analysed.

9.4.V	Expansion and diversification of the car-sharing scheme in Venice.	These measures would be done within a share of experience between the different sites.
9.5.O	Creating alternative mobility options for owners of old cars in Odense.	
11.3.T	Set-up of a mobility agency and customised services in Toulouse.	The car-sharing service would be integrated in the Mobility Agency.

## C Evaluation – methodology and results

As mentioned above, the setting up by Tisséo of a carsharing service could not be worked out as foreseen initially in the framework of the MOBILIS project. This is not due to the result of the conclusions of the market study performed in the framework of the project and for which it is interesting to describe some elements, even though the latter could not be proved concretely.

It is however useful to specify that the analysis made by MOBILIB' is perfectly consistent with this study and that the main figures converge with those of the study performed in the framework of MOBILIS.

The delays occurring in the launching of the carsharing service (see chapter B) did not allow the evaluation of the carsharing service. Nevertheless, it is useful to recall that the main aim of this measure was the launching of the service and not the measurement of its interest / impact, since the studies performed upstream and the experiments carried out in other cities had proved this.

### C1 Measurement methodology

Not relevant for the reasons developed before.

### C2 Measure results

The information taken up in this chapter thus corresponds to the market study performed in the framework of the project. It does not correspond to the values really measured following the setting up of the MOBILIB' carsharing service, too late (end of March 2009), but constitutes an interesting economical analysis which we wish to put forward within the framework of the project.

#### C2.1 Economy

The study of the already existing services shows that 80 % of the costs of a carsharing service are fixed and that 80 % of the earnings variable. Thus, the management of the growth, and notably of the car population, is primordial to control the profitability of the system and its cash flow.

An over dimensioned fleet with respect to the demand is very costly whereas a small size project is structurally subjected to deficit.

Besides, taking into account of the uncompressible overheads (financing of the fleet, parking, insurance, personnel, on-board computers, racks, general public communication, server and professional software), only an ambitious project can have a future.

In fact, carsharing is a capitalistic activity (financing of the automobile fleet) which requires a large shareholder's equity. The expected service quality (opening round the clock, every day of the year) also requires professional competence from the start.

The key figures are the following:

- the cost of investment for a two-vehicle station is 5500 € (on-board computer, racks, panels) ;
- the operating cost of a vehicle is 800 € per month, i.e. 9600 € annually.

It has been shown, in the framework of a national study (PREDIT), that a carsharing system attains a bare balance (balance between the operating costs and the earnings) at about 45 vehicles, i.e. 1500 members. Beyond this, the higher the figures, the better the profitability of the service is ensured.

In its cruising period, the operation of a carsharing service with 45 vehicles earns a turnover of more than 400 k€ with 5 employees plus 1 manager.

It is usual, taking into account the size of the service, for the reservation center to be subcontracted and for the “carsharing professional software solutions” to be hired from a back-office service provider.

Below this threshold, the earnings do not cover the fixed structural costs. Every project whose dimensions are lower than this ambition must obtain recurrent public support.

At the Toulouse scale, 24 alternate scenarios were studied, depending on the location, the type of station, the range of vehicles, the pricing grid, the organization method, etc.

As a result, the developments in the agglomeration areas such as company clusters can be profitable. On the other hand, experimental sites such as intermodal or agglomeration poles cannot be profitable.

On the other hand, it is better to favor small surface station operating in a network than large station in built-up parking and from a strictly economical viewpoint, a restricted range of vehicles is a token of efficiency.

Besides, a cost reduction policy for the use of the service will not increase the number of clients nor lead to additional consumption. Thus it will have a negative effect on the result.

In all cases, public help at starting and an encouragement in the form of reduction of costs for parking and communication media are necessary to reduce the risk taken by the operator and to improve the profitability of the operation at Toulouse.

For the basic scenario in downtown Toulouse, with a gradual increase in capacity (15 vehicles at the end of year A0, 50 vehicles at the end of year A0+5), the amount of the total deficits at the end of 5 years for this operation would be 480 000 €.

However, the bare balance would be attained at the end of these 5 years.

An operation for which 50 % of the stations would be located elsewhere than downtown and whose increase in capacity would be faster (i.e. a start with 20 vehicles in year A0 and passage to 50 vehicles in year N+1) would have, according to the economical simulation performed, a total deficit of 1.2 M€ at the end of the 5<sup>th</sup> year and an annual deficit of 100 k€. The practice of carsharing would however be much greater.

Finally, the scenario selected by Tisséo (in January 2008) aimed at the deployment of 22 vehicles in the downtown area (11 stations of 2 vehicles) and a gradual increase in capacity aiming at a bare balance at the end of 5 years, operating between 40 and 50 vehicles and the objective of having 2000 frequent clients.

The service finally launched in March 2009 by MOBILIB' will be more modest insofar as only 11 vehicles will be deployed on 6 stations in the downtown area. Their objective is however to reach the bare balance within the next 3 years while increasing the fleet of vehicles (objective to increase to 20 and then to 35 vehicles respectively at the end of the 2<sup>nd</sup> and 3<sup>rd</sup> year).

## **C2.2 Energy**

No measurement.

### **C2.3 Environment**

No measurement.

### **C2.4 Transport**

No measurement.

### **C2.5 Society**

No measurement.

## **C3 Achievement of quantifiable targets**

Not relevant

## **C4 Up-scaling of results**

One of the lessons which can be drawn from the market study performed in the framework of the MOBILIS project is that there is a threshold at which a carsharing service becomes profitable.

This threshold corresponds to a service of 40 vehicles for 2000 users. Once this critical mass has been attained, any extension of the service (on condition that one remains in a relatively densely populated geographical area where the demand exists) will necessarily generate new profits and accentuate the practice of carsharing, thus diminishing the use of the private car.

## **C5 Appraisal of evaluation approach**

Not relevant

## **C6 Summary of evaluation results**

Not relevant

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## **D Lessons learned**

### **D1 Barriers and drivers**

#### **D1.1 Barriers**

First of all, one of the main obstacles, noted also in many other French cities is the lack of knowledge of what is carsharing. A study performed in the Paris region showed that only 20 % of the population (for which the carsharing service is already available) knows of this service. The remaining 80 % did not know what the service was about or confused it with 'carpooling'. This problem of lack of knowledge concerns both the general public and the politicians and decision makers who, since they do not have knowledge do not necessarily make the efforts for such a service to be developed in their agglomerations.

The financial analysis performed on the Toulouse agglomeration, corroborates the findings on other French agglomerations. It proves that this type of service is not a lucrative service in which financial benefits can be soon drawn and that the setting up of a carsharing service corresponds to a heavy investment (notably if the service provider buys). This is also one of the reasons for which this type of service has developed under the initiative and encouragement of local authorities or, more generally, following the initiatives taken by local associations in a “citizen ecology” approach.

These first two points show the importance of support (communication or financial) of the local public authorities, at least during the first years of launching the service. However, in the French institutional context, the sharing of competence makes their positioning / implication rather difficult. This notably concerns the organizing authorities (such as Tisséo) charged with developing alternate mobility modes and the communes (notably the city of Toulouse) charged with managing public locations and parking. The absence of legislation / regulations (juridical vacuum) on the carsharing services thus does not facilitate the taking of position / participation of these authorities in the development of carsharing.

## D1.2 Drivers

The development of carsharing calls for three pre-requisites on a town planning / transport level:

- first of all, the density of the population, guarantees a minimum of potential clients for a given car-sharing station. On a deployment area such as that of downtown Toulouse, it is proved that the potential target must be 2000 clients (i.e. for a population between 120 000 and 130 000 inhabitants, a penetration rate of about 1 to 2%);
- then the existence of a pertinent and complete public transport offer allowing the proposal of a real alternative for the private automobile for the majority of the trips. In fact, it is also proved that the attractiveness of carsharing only takes place occasionally, in very specific situations (since beyond 10 000 km per year, the service is no longer profitable for the client);
- finally, the implementation of a policy of parking management including a pricing which represents a real restriction for the private automobile user. The integrated approach developed for the downtown area of Toulouse consists in coupling this service of carsharing with the local parking plan and thus propose a real alternative to the private automobile. The residents being led to get rid of their second vehicle have thus an alternative for their existing trips.

As specified above, since a carsharing service does not suffice by itself, its development includes the implementation of an integrated transport policy, coupling the offer of parking and the offer of transport (or even other services for mobility such as the bicycle) as well as the problems of town planning and urban density.

Besides, on a sociological plane, we can evoke the change in mentalities and practices (noted with the bicycle hiring systems) which can serve as leverage for the development of carsharing. The fact of no longer being the owner of one vehicle is beginning to enter into customary practice, all the more since the recent increases in the cost of gasoline have facilitated the awareness of the real cost of an automobile. The economical aspect is clearly the element to be taken up in a communication plan in favor of development of carsharing.

This is one of the most important levers which allow getting the service known, convincing the target users to make use of it and slowly modifying their behavior concerning mobility. The role of the public authority is fundamental here insofar as its support gives credibility / legitimacy to the service offered while explaining that this service, as explained above, forms part of an integrated policy of sustainable mobility management. With this objective, it is foreseen, on the Toulouse agglomeration, that the mobility companies (even though they do not necessarily propose vehicles in free service) pass on the information and sensitize the general public about the existing services and thus that of MOBILIB'.



## **D2 Participation of stakeholders**

As developed above, the Toulouse example shows the complexity of the action of players in the setting up of a carsharing service. The following players can thus be mentioned:

- the associative environment, melting pot of this type of initiative, will allow launching such services and which require, after passing of a certain point, to become professional; its main advantage is that on one hand it can group around itself persons ready to change their behavior and thus guarantee a minimum of clientele to start a service and on the other hand, when it launches out in this procedure, the lucrative interest is not a priority and it is thus ready to accept sacrifices to launch this type of service;
- the transport operator which must see in carsharing a complementary service integrated in its own offer of service and consider the notion of integrated pricing as an advantage to win over / keep the loyalty of new clientele. This is also the reason why some carsharing services are developed by the carsharing operators themselves (Connex / Keolis)
- the transport organizing authority, entrusted in France with developing / supporting the development of this type of service to mobility and to integrate it when working out the urban traveling plans;
- the commune, in charge of management within the framework of the application of the policing authority of the Mayor, managing the parking and attributing parking places along the road (more visible and more accessible than places located in private built up parking lots);
- the other private transport operators and notably the taxi drivers who can see carsharing more as a competitor of their activity. The market study showed however that in practice car-sharing does not develop on the same 'type' of trip and these two markets are more complementary than competitive;
- the private sector and notably the vehicle rental companies which do not touch the same segment of clientele, except if the rental company proposes a short duration offer. This is moreover the reason for which rental companies are beginning to position as carsharing operators (Europcar / Hertz / Wallgreen at Toulouse);
- the managers of parking lots, which can be asked to provide parking places; their role is limited unless they wish to diversify their offer of service (e.g. de Vinci).

It can be seen in this part that the carsharing market exists, concerns numerous players and will probably develop in the coming years. However, this market requires large investments at its launching and the private sector experiences difficulty (notably in a recession period) in mobilizing the funds necessary to launch this type of service. The intervention of the local authorities can support this type of approach, at least at its launching. The other alternative is to mobilize the players of civil society and the associative environment. It is highly probable that when the market grows to maturity, the roles of each will clarify. It remains to be known, however, if carsharing should be considered as a public service. For this only the legislation can intervene.

## **D3 Recommendations**

Taking up the elements described above and work at Toulouse allows extracting the following main recommendations:

- the carsharing service must have a place in an integrated policy of mobility management; it must be considered complementary to the service of public transports and other

traveling modes (hiring of bicycles / taxis, etc.) while being integrated in a restrictive parking management policy;

- the market study shows us that the carsharing service, to grow and become profitable, requires the setting up of numerous stations, covering a complete and rather dense mesh of the zone selected and thus propose a pertinent and complete offer (the providing of a few vehicles will never succeed in affecting a critical mass of the clientele, make profit from such a service and above all allow its development);
- the growth in capacity must be gradual, notably because of the investments to be made; however, it is interesting to reach, as quickly as possible, a critical threshold for car-sharing vehicles, allowing on one hand to guarantee a pertinent offer for the clientele and, on the other hand, to give a maximum of visibility to the service created (see the example of bicycles in free service at Toulouse, Lyons, Paris, etc.);
- finally the communication / promotion of this type of service must be really high and this notably for the general public (and also the decision makers) to show the existence and above all the advantage of such a service; the integration in a communication made by the public authorities is also necessary in so far as it gives a larger credibility and visibility to the car-sharing services.

#### **D4 Future activities relating to the measure**

The MOBILIB' service which will be launched (March 2009) aims at a deployment on the agglomeration scale over 3 years. It forms part of an approach to make this service long-lasting.



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The business plan of the MOBILIB' company consists in proposing 11 vehicles at its launching then 20 vehicles for the 2<sup>nd</sup> year and after this 35 vehicles for the 3<sup>rd</sup> year when it should attain the critical threshold allowing it to ensure the "bare balance" of its activity.

Beyond the launching of the offer of service, work will soon be begun to allow proposing a pricing integration with the public transport and notably with the PASTEL card.

Even if initially the development of carsharing in the framework of the MOBILIS project was not proposed in such a manner and hence measure 9.2 did not take place as foreseen, it can be

considered that the MOBILIS project will have contributed to the launching of a carsharing service on the Toulouse agglomeration. The result is thus rather positive and the analysis made in the deliverable WD2.3.2 (Glossy Magazine) illustrates the process with which this service was developed, showing that sometimes the objective for the community can be attained without having followed the plan initially foreseen by some.