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Context and Purpose

Bologna is one of the first cities offering Car Sharing service in Italy:

- in 1999 ATC had the financial support of the European Community (TOSCA project) for the realization of the first application with 9 cars and about 600 users.
- In 2002 ATC started in Bologna the car sharing service "io guido carsharing" in cooperation with ICS the Italian association of car sharing and with the financial support of the Ministry of the Environment. From then onwards the service increased and now it counts 30 vehicles and 17 parking locations in Bologna and 10 vehicles and 8 locations in the Province.

The Municipality confirmed in the Urban Traffic Plan the willingness to further develop car sharing as an alternative to private cars in strict integration with the public transport network.

The plan aims to double the number of cars in the urban area (from 30 to 60) and to increase parking locations to at least 25.

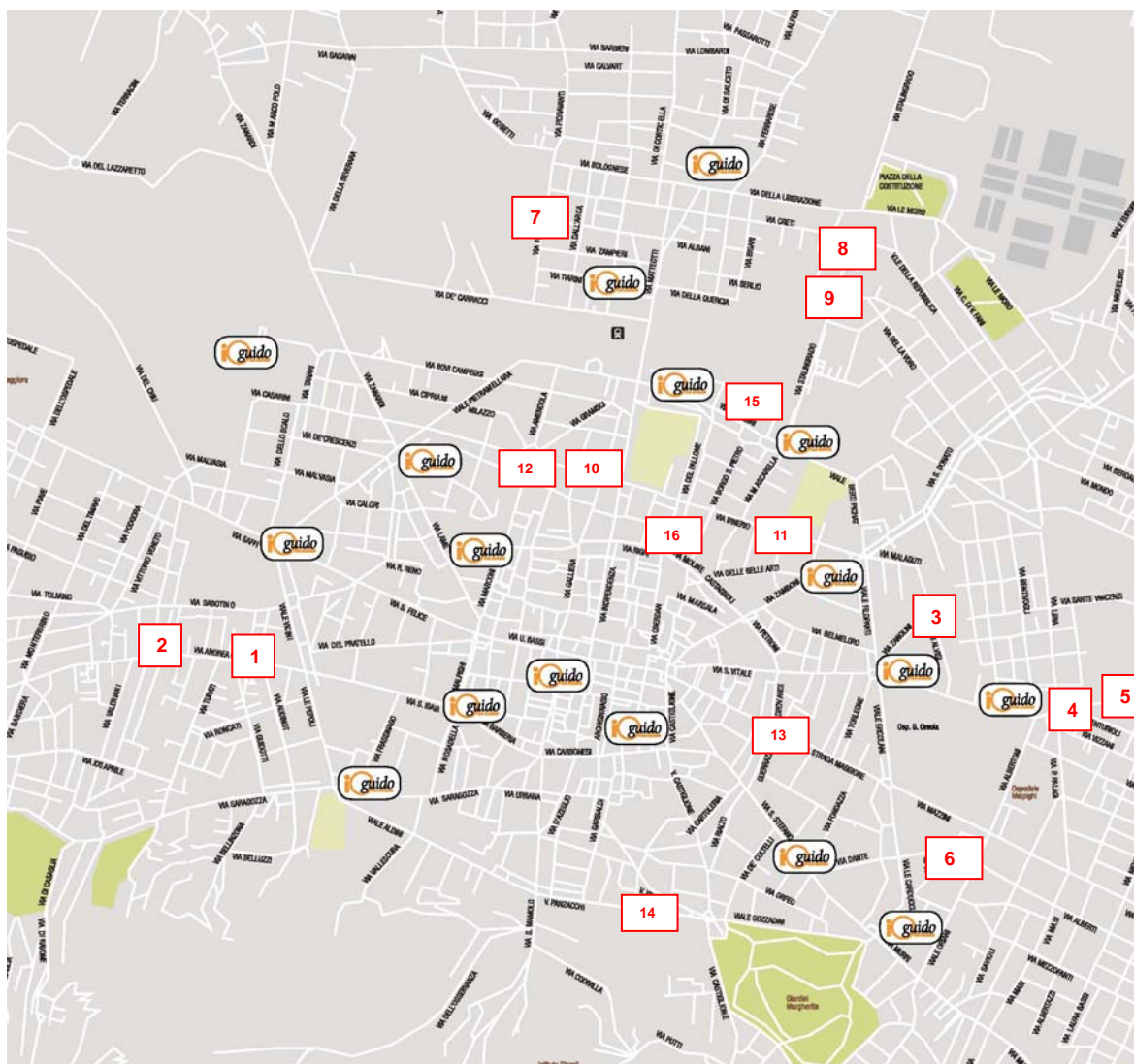
The Municipality in cooperation with ATC presented a plan for the purchase of new cars within a financing programme of the Italian Ministry of the Environment that is ongoing for approval.

The aim of Deliverable 6.1.3 is to provide an overview on the extension and the improvement of the car sharing service in Bologna foreseeing the creation of new locations and the protection, with physical "barriers", against unauthorized parking of the car sharing parking areas.

Summary Contents

New car sharing locations plan:

A first plan for 16 new locations was defined (see the map below).



	New location		New Location
1	Via A. Costa angolo Pacchiomi	9	Via del Lavoro angolo Stalingrado
2	Via A. Costa angolo Guerrini	10	Via dei Mille
3	Park Zaccherini Alvisi	11	Via Imerio
4	Via Massarenti angolo Libia	12	Piazza dei Martiri
5	Via Massarenti angolo Azzurra	13	Piazza Aldrovandi
6	Piazza Trento Trieste	14	Viale 12 giugno
7	Piazza Liber Paradisus	15	Via Barozzi
8	Via Creti angolo Stalingrado	16	Via Capo di Lucca

The planning of the locations takes into consideration the Urban Traffic Plan giving indications and criteria to realize the car sharing parking areas:

- close to the bus stops of the main public transport lines - some locations will be equipped also with bike racks of the bike sharing service allowing free use of public bicycles.
- close to the local train stations.

The characteristics of locations are:

- area with appropriate lighting in order to guarantee security conditions for users;
- open area with few trees in order to avoid leaves or dirt on the cars;
- clear indications on the ground and with vertical panels of the car sharing area in order to avoid confusion with other reserved zones.

Examples of locations with these characteristics are in the pictures below:



Each locations will have a maximum of two cars parked.

The final car sharing location network should guarantee a well distributed service in order to have the possibility to reach an alternative pick-up point with a short trip by bus or by walking.

The final position and realization of the new locations will be identified following the steps below:

- a set of locations is defined based on the provisions of the Urban Traffic Plan and taking into consideration the number of cars available;
- the parking areas are realized along a defined public transport ;
- after a first period of test an evaluation concerning each location will be done: it will be based on data concerning the use, suggestions from users, particular conditions existing at the location;
- if necessary, some locations can be changed or moved from the original position.

The definitive location plan and the start of the realization phase is depending on the final approval of the programme of the Ministry of the Environment that provides funds for the purchase of new cars.

Protection of reserved car sharing spaces from unauthorized parking:

One of the main problems for car sharing users is that when having to park the car in the reserved parking space they find it occupied from unauthorized vehicles.

In cooperation with the Municipality ATC will test at the car sharing location of Via Zanolini an automatic "parking post" to prevent unauthorized parking.

The parking space will be equipped with a device (see Annex A for technical details) automatically managed by a software that through a video camera recognizes vehicles and let down or up the physical barrier.

The system is based on sensor able to communicate via GPRS to the control centre that let down the barrier for authorized cars. The testing phase will start during spring 2010.

A second test will be carried out in the location of Via Paolo Fabbri and will test an innovative system that will use sensors in the ground of the parking area. The system will communicate with protocols like ZigBee to a concentrator (the parkmeter) that will send via GPRS the state of the parking space to the control centre as follows:

- free;

- occupied by an authorized vehicles (equipped with a tag);
- occupied by a unauthorized vehicle.

Via web, the control centre has a map of the current situation of the parking spaces.

This test application is in the definition phase and will involve also other cities of the Italian car sharing association.

Functional Use

Deliverable 6.1.3 summarizes the planning activity of the new locations and is the basis for the further development of the measure.

Attachment

Annex A – brochure with the “parking post” characteristics

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