



CiViTAS

Cleaner and better transport in cities



01

POLICY ADVICE NOTES

Achieving more efficient car use



The CIVITAS Initiative is a European action that supports cities in the implementation of an integrated sustainable, clean and energy efficient transport policy. Lessons learned during the planning, implementation and operation phases of the activities are summarised in twelve Policy Advice Notes and give an idea on how to cope with urban transport problems which cities of the European Union have to face in the future.



Achieving more efficient car use

New forms of vehicle use and ownership

In many European cities only one car out of five is occupied by more than one person during peak hours. Many empty seats in private cars are currently unused, contributing to congestion. Moreover, cars are usually parked most of their lifetime, often on private ground, for which there is limited availability of space.

Within CIVITAS II (2005–2009), co-funded by the European Commission, several measures were implemented aimed at a more efficient car use in order to reduce the number of cars on the road. The most important information about the implementation of these measures and the experiences of these cities are summarised in this Policy Advice Note in order to support and inform local politicians and other decision-makers interested in these actions.

Overview

DESCRIPTION OF THE MEASURES

To support a more efficient car use by urban dwellers, car-pooling or car-sharing can be initiated and supported by cities.

Car-pooling

Two or more people, who have the same or similar origin and destination at a similar time of travel, agree to travel together using one only car and to share the travel and parking costs. Each city can stimulate this form of behaviour through information campaigns conveying the benefits of travelling together. They can support car-poolers by offering matching services on the internet or via call centres, which provide information about users potentially interested in car-pooling. Such a service can be offered to the wider public or smaller, dedicated groups (firms, schools).





Car-sharing

A group of people share a fleet of cars by paying an annual fee and for each kilometre travelled. The general idea of car-sharing is “pay-as-you-drive” which leads to more effective car usage and decrease of individual car mileage. Car-sharing fleets are usually organised by a private company or association subsidised by the city, region or the public transport authority and can be offered to individual citizens but also to business customers. Car-sharing services have proven to be very successful in different cities all over Europe and they have a great potential to support sustainable transport in urban areas in the future.

TARGET GROUPS

Car-pooling

The main target group for car-pooling is workers in a given commuter area, who are travelling to their working place in the city on a regular basis. The database of interested commuters can be restricted to a registered group of users, but can also be enlarged for a whole business or industrial area or even for all inhabitants of a city or region. Companies are encouraged to support car-pooling among their employees in order to save parking spaces on their private land.

Car-sharing

Car-sharing services are addressed to persons who have occasional need for a car (less than 10,000 km/year), e.g. for shopping or weekend trips only. However, the service is also for people who do not want to own a car, because of its annual costs or because they live in narrow, historical city centres or other areas where parking spaces are rare. Companies can use this service to provide their staff with a car for business trips. Furthermore, visitors, who come to the city for shopping, leisure, tourism

or large-scale events without their own car may use the car-sharing service. The services are usually available at any time and at both central and suburban locations, offering the possibility of short-time use.

IMPACTS AND BENEFITS

For the public

Car-pooling and car-sharing reduce the number of car trips and therefore reduce tailpipe emissions and energy consumption. For example, within an industrial area in Burgos (Spain) a car-pooling platform was offered for 450 employees. About 325 of them use the service now and the average car occupancy rate raised from 1.15 to 1.53 persons per vehicle within three years. With fewer cars on the road, and fewer parked vehicles, traffic congestion and time for finding a parking place can be reduced. Accessibility within the area is enhanced and more urban space is available for public use.

Car-pooling

Even though comparisons with public transport potential are relatively poor, estimates within CIVITAS II show that car-pooling schemes with about 2,200 members are able to save up to 300 tonnes of green house gas emissions (CO₂) and to remove about 1,600 single occupancy vehicles from peak time traffic within 33 months.

Car-sharing

Car-sharing users are more rational in their mobility behaviour and use the car less than persons who have a car available permanently. It appears that after joining a car-sharing scheme, most members drive less than before. Each vehicle of a car-sharing system has a potential to replace 4–8 individually owned cars. Evaluation of Bremen Mobilpunkt has shown that 30% of private customers got rid of a



private car after joining the car-sharing system, as well as 21% of business customers¹. Swiss experience shows that each active car-sharing user saves up to 290 kg of CO₂ per year².

For individuals

Car-pooling

Each person who shares a ride can save money because the costs of travel and parking are divided by the number of persons using the car. With a reduction in congestion and the simple act of travelling together, journeys become less stressful and more sociable.

Car-sharing

For car-sharing users, acquisition and operation costs for owning a car are avoided. For example, in Norwich (United Kingdom) 26% of members of a new car-sharing club gave up one car and 48% of the members did not buy a car as a result of joining the car club. For others who cannot afford to own a car, it provides a chance to use one (social inclusion). Car-sharing enables inhabitants to have access to a car when necessary, but additionally encourages walking, cycling and the use of public transport. For example, in Norwich (United Kingdom) the number of journeys covered by foot increased by 9% and journeys made by bicycle rose by about 12% among the members of a car-sharing club introduced for a University campus and the city centre.

For companies

As private companies often offer parking spaces on private land to their employees they can decrease the number of parking spaces needed by encouraging their employees to share a ride and to use fewer cars. It also provides benefit to an employee, thereby helping to recruit and retain workers.

In the case of car-sharing, the use of shared vehicles avoids expensive leasing contracts or fleet ownership. Companies using a car-sharing scheme may decrease the level of fleet costs by changing part of the fixed costs of possessing cars into variable costs of using them.

FRAMEWORK CONDITIONS FOR SUCCESS

Car-pooling and/or car-sharing schemes can be implemented more successfully in inner suburbs, along busy corridors, in city centres, commercial areas and district centres as a high density of potential users is needed. Serious transport problems, such as congestion or scarce parking or a lack of parking areas at companies raise the awareness and acceptance of these measures.

It is advisable to initiate car-pooling measures, in particular, at companies with a significant number of employees in order to use co-workers to overcome social resistance to share a ride with unknown people and to establish a critical mass for the database of potential car-poolers. Moreover, matching trips is easier with the same destination, especially when the database of potential car-poolers has not yet built to this critical mass. Later, the matching database can be extended and opened to other companies (nearby) or to the general public. It is advantageous if the public authority officially supports car-pooling and car-sharing initiatives

¹ W. Loose: Car Sharing in Germany. BUSTRIIP Workshop "Sustainable Urban Transport Planning – from Theory to Practice", Bremen, May 2007

² Result of a Swiss INTERFACE/INFRAS survey of 520 households over a use period of one calendar year. Source: Evaluation Car-Sharing / Bundesamt für Energie BFE, Bern (Switzerland), 2006



(e.g. by promotion on the official website of the city or public transport authority).

The public transport operator should be interested in supporting car-pooling or car-sharing measures as it can strengthen their own public transport offer. They can offer special tariffs or tickets in order to achieve a seamless transfer between these sustainable transport modes (e.g. for persons using public transport for their trips from home to work, a special price for car-sharing vehicles for returning from work to home can be offered).

Implementation steps and timeline

When implementing measures, such as setting up a car-pooling or car-sharing service, the following considerations must be taken into account, as well as supportive measures and a reasonable timeline for implementation.

WORKING STEPS

1. Data requirements

- Collecting information about existing car-pooling and car-sharing services and appropriate technical equipment (software, vehicles, on-board computers etc.)
- Launching a market study of potential users and the willingness to participate as a car-pooler or car-sharer
- Analysing the current traffic and parking situation
- Identifying appropriate sites or companies for implementing the measures

2. Decision requirements

- Decision about the technical system to be used (e.g. on-board units for car-sharing vehicles, or matching software for car-pooling)
- Decisions about additional incentives offered to the users (e.g. dedicated or free parking places, discount cards for public transport for both car-pooling and car-sharing users)
- Defining the organisational and institutional structure of the services offered (for both car-pooling and car-sharing services)
- Ensuring that the car-pooling system complies with the laws of personal data protection

3. Development of the concept

- Finding good practice examples from other cities, exchange experiences
- Cooperation among local organisations adopting a car-sharing system or promoting car-pooling
- For car-sharing services, decisions about the software used, locations of call centres and car-share stations, as well as the tariff system are needed
- For car-pooling services, a database which contains information on potential car-pool users should be established
- Attention should be focused on avoiding a modal shift from public transport, walking or cycling to car-sharing or car-pooling, in particular in areas which rely on good public transport

4. Initial phase

- Testing the systems on a smaller scale



5. Upscaling of the service

- Identify additional companies, sites or areas where the car-sharing or car-pooling services can be offered (e.g. at park and ride sites to support an intermodal inter-urban transport)
- Car-sharing services can provide more vehicles and more parking locations
- Car-pooling services can be made available for more potential users
- Promotion of the positive effects and the ease of use in order to increase the number of participants and reach the critical mass for a successful long-term continuation of the measure
- Further training activities for institutions interested in the new facilities are useful

6. Promotion of the initiative

- The car-pooling initiative, in particular, needs a strong lively promotion to obtain and maintain viable results

7. Evaluation

- Evaluation (e.g. participation records, car-pool placement statistics, customer satisfaction survey) and permanent improvement of the service

ACCOMPANYING MEASURES TO AMPLIFY POSITIVE EFFECTS

Intensive promotional campaigns are necessary in order to raise the awareness of the population and, therefore, potential users. In particular, the provision of dedicated parking spaces or dedicated lanes, the creation of mobility guarantees for car-pooling users (e.g. taxi provision home when car-pooling arrangements break down or for unexpected overtime or illness) and award schemes (e.g. bonus points for sustainable travel behaviour

at companies) help to support the success of the measures. Also, Eco-Driving courses can be offered for free to the users of the car-sharing or car-pooling system. To support the use of car-pooling services, road pricing schemes can be designed in a way that cars with higher car occupancy are favoured (e.g. by a lower or zero road charge).

TIMEFRAME

The duration mainly depends on the organisation of the implementation process and how enthusiastically the involved parties work together. Establishing a car-pooling scheme on a small scale is a short term measure, but it should be taken into account that a period of approximately 1–2 years is necessary to fully evaluate the effectiveness of a car-pooling measure. This is because it is a long process to establish the system in the community on a broader basis and to allow people to test the system, to build confidence in it, and then make it part of their normal mobility pattern. Setting up a car-sharing scheme takes about two years as well. However, positive impacts can already be realised in the first year but should be measurably be increased after two to five years (e.g. modal shift, people selling their second cars, increased synergy with cycling and public transport, etc.).

Pendelnetz Stuttgart





What are the investments involved?

Car-pooling

Car-pooling has comparatively low start-up and operating costs. Usually, the service is free of charge for the users. Efficiency increases when the number of participants hits a certain critical threshold, since matching trips becomes easier. The following costs factors have to be considered:

- License fee for matching software
- Service provider and operation of the website
- Costs for marketing
- Costs for dedicated parking spaces and incentives
- Staff of the call centre

The operation costs for a car-pooling system, e.g. for 180 members starts from EUR 570 per year. A system for about 1,000 clients ranges between EUR 2,000 and 4,000 per year. In Preston (United Kingdom) about EUR 4,500 were spent for the promotion and information campaign of the car-pooling service.

Car-sharing

Setting up a car-sharing service is more expensive than organising car-pooling and the following cost factors need to be considered:

- Investment and maintenance of the cars provided as well as the onboard units for charging. On average one car should be available for about 50 car-sharing club members.
- Parking spaces for the cars required on private ground or in garages
- Personal costs for organisation, operation and maintenance of the system
- License fee for booking software
- Service provider and operation cost of the website

The operator of the service might charge a monthly or annual fee of each user (about EUR 30 to 110 per year) as well as a rate per kilometre and per hour. Normally, the operating costs are covered by the operating revenues.

Main drivers that serve as precursors to success

The factors listed below are the main drivers for the initiation as well as for an efficient and successful implementation of the measures described above:

- Strong support for the car-pooling or car-sharing idea by the head of the entity that would logically implement the measure (politicians, company, university, etc.)
- Promotional activities and strategies by local media
- Existence of national policies allowing preferential benefits for car-sharing users (e.g. driving permission in restricted areas) or stipulating incentives for car-poolers or sharers
- Guaranteed financial resources, particularly during the initial phase
- Inclusion of the measures into the local transport masterplan
- Inclusion of the measures into the urban development plans (e.g. car-sharing places instead of conventional car-parks in new housing areas)
- Integration into intermodal offers (e.g. offering a special car-sharing rate for public transport season ticket holders)
- Simultaneous implementation with company travel plans



Strategies for a successful implementation

All work phases have to be accompanied by discussions and working group meetings to identify barriers in advance and to react to potential problems immediately.

Political support

In general, the risk of not gaining political agreement for the measure is minimal. However, it is advisable to appoint a person as champion of the measure who presents all advantages in public discussions and who convinces inhabitants or employees of the usefulness of the measure.

Acceptance

People can be reluctant to offer rides in their own cars or to use available places in other cars. The reasons given by potential users are often security concerns or their unwillingness to change their behaviour. To counteract this problem, awareness-raising activities, as well as the demonstration of benefits and dissemination of case studies should be undertaken. It is also advisable to establish private user groups (e.g. exclusively for women to enhance the feeling of safety). It is important to choose very simple tools as well as to develop an appealing and attractive website. Also different working hours of potential users hinders the formation of car-pooling. This can be solved by enlarging the number of users in the database enhancing the chances to achieve a “match”. Furthermore, the unwillingness of companies to introduce car-pooling or car-sharing systems hampers the development of the measures. Since this barrier is linked to social pressure, a strategy for overcoming this problem

can be the direct involvement of the top management of the companies in the project (e.g. through the mobility office). Public transport operators can hamper the introduction of car-pooling initiatives as well, if they view this service as a competitor. To overcome this barrier it is important to communicate with this stakeholder in an early phase of the planning process to show that the service is complementary to public transport. People, who don't own a car and use car-pooling services, will use public transport in many cases as well.

Financial management

A lack of financial resources can be a problem, e.g. for collecting the required data, for allocating priority car-share spaces or for promotional activities. Therefore, it is advisable to integrate the planned measures into the urban transport and climate protection policy of the city to ensure the financing of the actions. A long-term financial and business plan has to be set up in order to ensure that after the initial phase the service can be offered to the users. It is advisable to apply for private, local or national funds. Also European funds are available to support the measures, for example:

- Seventh Framework Programme for Research, Technological Development and Demonstration (RTD) (2007–2013, 50 to 100% funding, link: <http://cordis.europa.eu/>)
- Competitiveness and Innovation Framework Programme (2007–2013), one operational programme is Intelligent Energy for Europe II (up to 75% funding, link: <http://ec.europa.eu/energy/intelligent/>)
- LIFE+ (2007–2013, up to 50% funding, link: <http://ec.europa.eu/environment/life/>)
- URBACT (<http://urbact.eu>)
- Structural and cohesion funds in general
- European territorial cooperation programmes (former INTERREG, supporting cross-border cooperation (A), transnational cooperation (B) and interregional cooperation (C))



Institution & Organisation

Delays in implementation can be overcome by negotiating contracts with potential operators which include quality assurance and firm time-tables, or which nominate a trustworthy entity that will be responsible for the purchase of software, vehicles, etc.

Legal framework condition

In the national laws of different European countries, the legal framework for the introduction of such services has not yet been clarified. Therefore, the necessary legal conditions (for such things as registration, handling of data, responsibilities, passenger insurance, etc.) have to be analysed in advance. This is particularly important for services provided in schools, where parents take other pupils to school together with their own child. The responsible authority must be made clear from the very beginning of the measure implementation, in other words, which authority is responsible for the organisation, monitoring and/or financing of the car-pooling or car-sharing service.

KEY ELEMENTS TO BE CONSIDERED

- Offer services in dense inner suburbs, along busy corridors, in city centres or commercial areas
- Ensure compliance with the laws of personal data protection and passenger insurance
- Offer additional incentives like dedicated or free parking for car-pooling or car-sharing users
- Develop a strong marketing and awareness raising strategy

Who are the key people to be involved?

Different persons and institutions have to be involved in the measures. It is important to know, who is needed as a direct partner in the project in which stakeholders have to be involved as informal advisors and supporters.

STAKEHOLDERS

Potential users

Being the core target group of the services, potential users of both services should be included in the planning of the measures. They can be involved through surveys and interviews as well as by promotional activities, awareness raising campaigns, and presentations of the car-pooling or car-sharing system.

Potential users might be classified into more detailed groups, including³:

- Public transport users and public transport oriented persons
- Persons with higher formal educational qualifications
- Persons in a life cycle period with serious changes (e.g. persons who moved recently to another home)

Companies

Car-sharing

It is essential to engage businesses as users of vehicles during working days (private persons tend to use a car primarily in the evening and for the weekends).

³ W. Loose: Car Sharing in Germany. BUSTRIP Workshop "Sustainable Urban Transport Planning – from Theory to Practice", Bremen, May 2007



Car-pooling

Companies (especially those with a high number of employees) are a key stakeholder in building a carpool matching database.

Media

For the promotion of the service, the media play an important role, especially given the somewhat new and innovative nature of the measures.

Others

Different local interest groups, such as organisations which advocate gender equality, can be asked to support the measures. Further, different occasional participants like local/regional administrations, private companies, event organisers as well as sport clubs might be involved. Local and regional administrations (e.g. highway agency) can strongly support the measure and politicians can be supportive for a fast introduction of the legal framework conditions required. Employees and business associations which have an interest in car-use should be involved as well.

MAIN PROJECT PARTNERS

Decision makers

Car-pooling

The leading role for the implementation of the measures is usually assumed by the local or regional administration, a company or an organisation, which desires to provide a new mobility service to the citizens or the employees within a mobility management scheme. The management of the implementing organisation is responsible for designing, coordinating and evaluating the measure.

Car-sharing

Car-sharing services normally are established by private enterprises (e.g. a transport operator) or dedicated associations in cooperation with the local government. Companies which are responsible for the maintenance, cleaning and repairing of the vehicles might also be engaged, as well as those for the maintenance of the homepage and online booking system.

Operators

The operation is usually the responsibility of a software and hosting company. In addition to hosting the website the promotion should be also accomplished by this company. It is advisable that the municipality is involved in promoting the system as this will provide trust in the system among users. Dedicated call centres can take over the telephone and internet activities of the operator.

Financers

Usually, the costs for establishing a car-pooling system will be paid by the local/regional administrations (transport/traffic department, town planning department, etc.), ministries, companies, schools or other organisations. Car-sharing platforms are financed by private companies (e.g. public transport companies) with start-up subsidies from the municipality, region or the public transport authority.

Others

Important partners are usually the local authorities, research institutions and enterprises which support the implementation and evaluation of the service, however, green-orientated non government organisations also might be interested in participating in the planning process. Furthermore, higher federal or regional authorities and politicians ("local champion") should back the implementation of the measure.



Enumeration of practical examples from CIVITAS II

Within CIVITAS II 12 cities implemented measures dealing with car pooling or car sharing:

Burgos (Spain): Car-pooling, Collective mobility services for target users

Debrecen (Hungary): Car-pooling service for students

Genoa (Italy): Car-sharing service

Krakow (Poland): Car-pooling system, Policy options for car-sharing

La Rochelle (France): Deployment of new car-sharing fleet

Malmö (Sweden): Car-sharing for business & private persons

Norwich (United Kingdom): Car-pooling, Development of a car-sharing club

Potenza (Italy): Development of a car-pooling

Preston (United Kingdom): Promotion of car-sharing and car clubs

Stuttgart (Germany): Car-pooling and mobility marketing

Toulouse (France): Promotion of car-pooling and integration with PT services,
Implementation of a new car-sharing service linked to PT services

Venice (Italy): Expansion and diversification of the car-sharing scheme

www.civitas.eu

The CIVITAS website contains information about CIVITAS-related **news and events**. It provides an overview of all **CIVITAS projects, CIVITAS cities** and maintains **contact details** of over 600 people working within CIVITAS.

In addition, you get in-depth knowledge of **more than 650 innovative showcases** from the CIVITAS demonstration cities.

Visit the CIVITAS website and search for **prime examples of experiences** in sustainable urban transport currently being undertaken in cities. If any of the ideas suit your city, or you are just interested in learning more, you may then contact the relevant person responsible for this measure.



Contact

CIVITAS Secretariat
C/o The Regional Environmental Center
for Central and Eastern Europe (REC)
Ady Endre út 9-11, 2000 Szentendre
HUNGARY

E-mail: secretariat@civitas.eu
Tel: +36 26 504046, Fax: +36 26 311294



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