

Increasing efficiency of administration's fleet management – Car-sharing in Bremen

Clean Fleets Case Study

- CO₂ emissions reduced to 102 g CO₂/km
- Reduced cost per km, and staff costs
- Easy to use system and high user acceptance



Contract:

- Fleet of 9 passenger cars for one administration department in Bremen replaced by car-Sharing booking platform
- Pilot project ran from 2011-1013, followed by full-scale implementation

Targets and planning considerations

As part of a wider Climate Protection Action Plan, the City of Bremen Senate Department for Environment, Construction and Transport wanted to reduce its business travel related CO₂ emissions. The department is also EMAS¹ certified, which requires continuous improvement in environmental performance.

A secondary goal within the Department was to improve efficiency and reduce costs related to the municipal fleet. Fleet management is not centralised in Bremen, meaning that each department is responsible for managing its own passenger car demand, budget and procurement decisions.

The Department (and its predecessors) have a long tradition of initiatives on sustainable mobility. These include making walking and cycling more attractive, introducing newer public transport buses and passenger vehicles which meet more stringent environmental criteria into the fleet and developing a car-sharing scheme for the city to reduce space consumption and car usage.

In order to embed these political goals into the administration, the Senate Department had already introduced CNG cars into its own fleet and allowed employees to use the Bremen car-sharing service, cambio, to supplement its own fleet cars.

¹ EMAS (Eco-Management and Audit Scheme) is an environmental management scheme based on EU-Regulation 1221/2009, <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32009R1221>



Inaugurating a public Car-Sharing station near the administration building (December 2003) : the business director of cambio Car-Sharing (Kerstin Homrighausen), of the parking management company (Peter Rienäcker) and the responsible Senator Jens Eckhoff

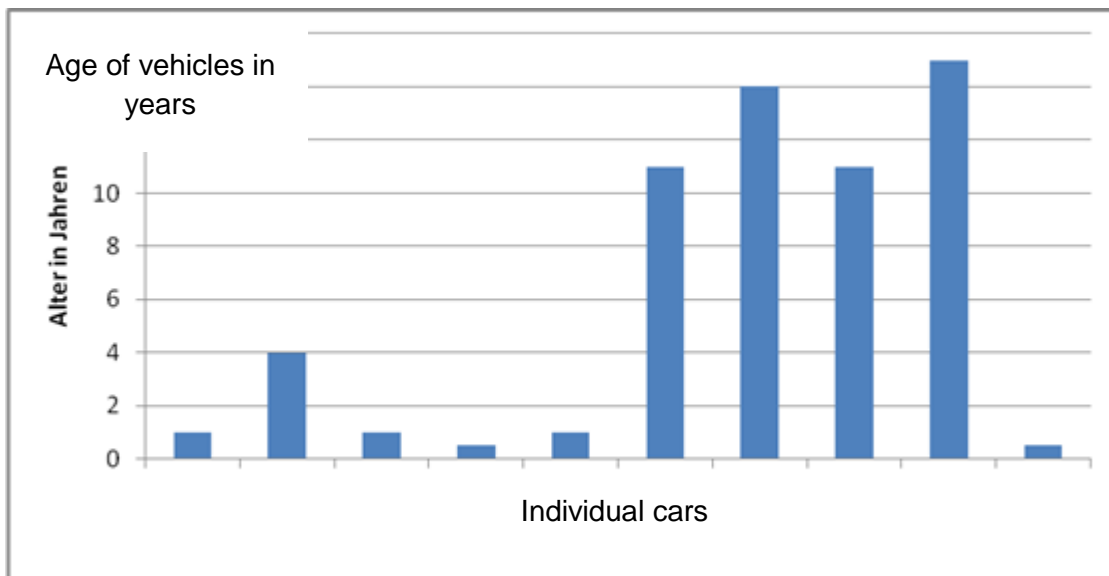
Approach

In 2010, an external consultant was employed to undertake a needs assessment of mobility usage within the city fleet. This led to an optimisation of the fleet size and structure.

The departmental car fleet at this time consisted of 11 passenger cars: 5 owned and 6 leased. One of the cars was the Senator's sedan and the remaining 10 were divided between the different units, with 3 being used as pool cars. One person is responsible for managing the car pool and taking care of the technical aspects (cleaning, organising services etc.). A *booking schedule* was integrated in Outlook, but each car could only be booked by the person in charge of the car in each unit and only that person had the car key.

The standard passenger car was the Fiat Panda (CNG powered). This was already very efficient in terms of fuel consumption and costs, meaning that vehicle usage in the fleet was a more significant factor than the procurement of new vehicles for further improving environmental and financial performance.

The costs for leasing cars had also increased in recent years, mainly due to servicing costs and higher rates when returning the vehicles; the owned cars were also in need of increased servicing having been in the fleet longer.



Graph 1: Showing the age pattern of department's vehicle fleet

The average age of city-owned cars was 11 years. Usage of vehicles of this age is not favourable due to a number of reasons, such as higher maintenance costs, greater unavailability, lower levels of passenger safety (active and passive compared to new cars), higher fuel consumption and CO₂ emissions. These combined factors give a negative

impression of the fleet overall.

The next step of the analysis involved identifying the user profile of the fleet cars. Usage data for a four week period was taken from the vehicle logbooks and analysed using the fleet software.



Graph 2: Degree of car utilisation of the owned and leased vehicles.

Graph 2 shows that in the period under review, utilisation was not very high (Cars were not used for 31 days and most cars were used for less than 3 hours a day. This real-time analysis of fleet usage showed clearly that the number of cars owned by the City could be reduced and peak-hour usage more efficiently managed through an external car-sharing service. This would mean fewer city-owned cars sitting idle. For the month under review, the department would have been better off with 6 instead of 10 cars.

The City of Bremen decided to integrate its own fleet into the online booking system of the local car-sharing provider cambio. This enabled more employees to use car-sharing when the City’s own cars were fully booked and allowed the City to reduce its fleet size. Implementation was complicated, but once the specifications of data protection, car-booking procedures and location of the key-locker were finalised, integration testing ran smoothly. At the same time as introducing the new system, people were encouraged to use more sustainable transport modes like walking, cycling or the public transport system in Bremen. Implementation began in May/ June 2011.



Intelligent mobility management of Bremen municipal administration: integrating bicycles, PT season ticket, rail fare reduction pass and Car-Sharing access

Monitoring and Management

Because of human resource planning, it was decided that the cars should be all pooled and no longer taken care of by individual units. The local car-sharing provider integrated the cars into the online booking system and provided an electronic key locker in the main entry of the departments building.

The users had only one contact point, the car-sharing *booking software* (via telephone, computer or mobile device). The administration’s fleet cars were given priority in bookings to



ensure they were used as much as possible.

Electric cars were also integrated into the available fleet and a charging point built. However difficulties with costs, reliability and performance meant this trial was ended with the termination of the funding program.

If no administration fleet cars were available or if special vehicles (e.g. minibus) were needed, city employees could make use of the regular car-sharing fleet. The booking process was the same and acquisition of the car keys was now easier.

Results, environmental impacts and costs

A cost analysis carried out in 2013 showed that using the external car-sharing service was no more expensive overall than maintaining leased or owned cars. An expense that is often overlooked is staff costs related to the fleet. As well as fleet management, it takes (expensive) staff time to take cars for maintenance, to the car-wash etc. When using a car-sharing operator, vehicle servicing is included in the overall costs - no additional staff time is required to take care of the cars. Based on the successful 3 year trial, it was decided to scrap the departmental city fleet and rely fully on the car-sharing service. Since 2013, no vehicles have been owned or leased in that department anymore - except specialist vehicles (disaster control and water protection).

The city negotiated with the provider to make more cars available at the closest car-sharing station. There were not any significant changes for users as everyone already had a car-sharing card, pin number and driving permission for the car-sharing cars.

In terms of environmental impacts, the **CO₂ emissions** of the car-sharing fleet are much lower than the city's fleet average. The 2013 fleet of the wider municipal administration had an average CO₂ emissions level of 141 g/km CO₂. The fleet of the Car-Sharing operator (including vans etc.) shows an average of 107 g/km CO₂ in 2014 and **of 102 g/km CO₂ in 2015**.

The *full costs* including all taxes reduced from 45.5 cents/km (own fleet, not including human resources) and 39.8 cents/km in 2008 (car-sharing usage) to **35.9 cents/km in 2015** (car-sharing usage).²

Lessons learned

- You need to have a good understanding of users' demand
- If you have a car fleet already, is the utilisation rate good?
- Start with one department instead of waiting for the whole city administration; start changing now
- Car-sharing fleets with their range of vehicles are a good starting point to add in also super-clean cars with limited performance (e.g. electric cars) – as the user has the choice for every trip. Cost aspects can be considered as well as potential environmental benefits.
- Overall fleet costs in general have great potential to be lowered by introducing car-sharing (whether as a substitute or add-on), because there are no costs related to servicing, parking fees, or staff time to manage the fleet.
- Car-sharing provides much higher cost transparency for car usage.

² All costs based on internal calculations



More general information about what a municipality can do to encourage car-sharing can be found here <http://mobilpunkt-bremen.de/index.php/english/> and here <http://www.expo-carsharing.info/fai.php?page=5&lang=0>

All photos courtesy of Freie Hansestadt Bremen

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Co-funded by the Intelligent Energy Europe Programme of the European Union

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