Worldwide Bike Sharing Programmes

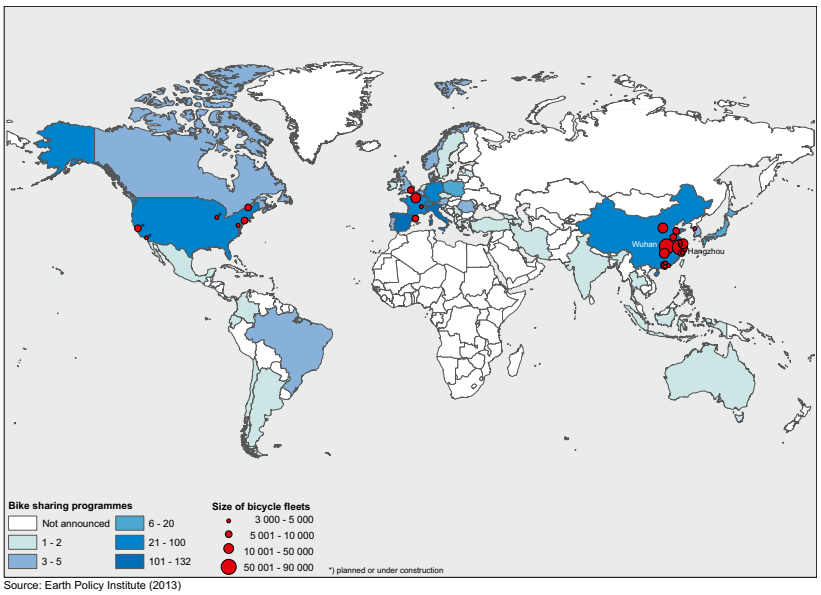
Climate protection includes emissions trading initiatives, energy efficiency measures and transport concepts, as well as public awareness of avoiding CO_2 emissions. The term covers ways of saving energy, waste prevention, changes in purchasing behaviour and an increase in the non-motorised movement of people. Bike rentals are now a familiar image in many cities across Europe and a growing number of cities worldwide present themselves as cyclist-friendly and innovative. The idea of offering bicycles to tourists and people who want to travel quickly from one place to another is relatively old. The first attempt to provide bicycles for free use was made in Amsterdam as early as the 1960s. At the time the bicycles were made freely available, but they were subsequently either stolen or damaged (Earth Policy Institute 2013). Later in Denmark and France, systems were developed that required either some payment and/or user identification. France in 1998 was thus the first country in which a third generation programme with obligatory user identification (City of Rennes) was installed. Other successful programmes were introduced in Lyon and Paris in 2005 and 2007. The Paris programme (Vélib') with 10,000 bikes at 750 stations, represented the world's largest programme of its day (2007). Its number of bicycles has now increased to nearly 24,000, putting it in third place worldwide. Translated into figures this means one borrowed bike to nearly 100 people, and saved CO_2 emissions amounting to around 137,000 tons since the beginning of the programme (Bikocity 2013). Further bike sharing programmes have also been installed in other European countries. For example, the number of bicycles in Barcelona has almost quadrupled since the programme began in 2007 and now stands at 6,000 (Earth Policy Institute 2013). Spain currently leads the list of the number of bike sharing programmes worldwide with 132 systems.

In recent years the success of these systems has also spread to the car-dominated USA and Canada. New York, Washington DC and Montreal are among those cities with 3,000 to 5,000 borrowed bikes (Figure 1). In many other cities like Chicago, Los Angeles and San Francisco, such programmes are scheduled to start this year. After the successful launch of the Citibike programme in New York, which has already attracted 60,000 customers in May 2013 the fleet is set to be increased to 10,000 bikes (Citi Bike NYC 2013). In other cities (such as Denver, Boston, Minneapolis) similar programmes are already established and are due to be further expanded.

The world´s largest bike sharing system is located in the City of Wuhan, China, and comprises approximately 90,000 bicycles, followed by Hangzhou with nearly 70,000 bikes (Figure 1). In Wuhan the system was set up as a result of an intolerable traffic situation featuring over one million cars. The success of the system in Wuha can be explained by the fact, that the bicycles are free of charge for the first two hours of use. In China, formerly the land of the bike, the use of bikes has plummeted in recent years, falling to 20 percent of total traffic due to ever-increasing motorisation driven by the country's strong economic growth. Bike sharing can be used to counteract this trend in many cities.

In Germany, meanwhile, there are about forty different bike rental systems. One of the most famous programmes launched in 2002 is the "Call a bike" programme run by the Deutsche Bahn, which mainly

Figure 1: **Worldwide bike sharing programmes and cities with largest programmes**



Source: Earth Policy Institute (2013)

operates in cities without fixed rental stations. Other successful programmes can be found regionally and locally in Germany, such as "metropolradruhr" whereby bicycles are available in cities across the entire Ruhr area, the "Chemnitz city bike," the "Konrad" programme in Kassel and "NiederrheinRad" in North Rhine-Westphalia (BMVBS 2012; Let's share 2013). As of 2004 the company Nextbike has also offered the rental of bicycles for both tourists and individuals, and especially for businesses, hotels and major events. The offer has been successfully implemented in nine countries (including New Zealand and the United Arab Emirates) in addition to 80 German cities and now comprises of a fleet of about 15,000 bikes (Nextbike 2012). The pure mobility bikes also serve as advertising space.

The benefits of bike sharing are varied and include: the promotion of mobility, the reduction of traffic congestion, of air pollution and of traffic related CO_2 emissions. Furthermore, cycling contributes to health and promotes the local economy (Earth Policy Institute 2013). Starting with the Netherlands the promotion of operational mobility using bicycles has grown continuously in recent years. On factory sites and as a way of linking urban company locations, it primarily enables users to complete frequently made journeys rapidly and in an environmentally friendly manner. Disadvantages currently include the increasing space requirement for rental stations, the under- or oversupply of bicycles and the lack of bike paths in many cities (Raumkom 2011)

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Cycling as a share of total passenger traffic is approximately seven percent EU-wide. Bicycle plans, designed especially for the general promotion of cycling in different European countries, have been launched (Table 1). The National Cycling Plan 2002–2012 was adopted in Germany, which included several initiatives to promote cycling (BMVBS 2012). Late last year, it was further developed for the years 2013–2020 and several guidelines on transport policy and electric mobility were set.

It is striking that in France, which boasts Europe´s most successful bike sharing programme in its big cities, bicycles account for only three percent of total traffic (Table 1). In 2012, a first concrete national plan was adopted to increase the share to ten percent by 2020 (ECF 2012). The Dutch, on the other hand, are global leaders with an average 27 percent share of passenger traffic and the same number or an even higher figure of bikes per capita.

Despite all of the advantages it offers, there is little information available as to whether bike sharing offers have actually replaced the daily car drive or car traffic significantly. Concrete data, however, is available from France. Since the launch of the programme, there has been seven percent less car traffic in Lyon and 20 percent of the users in Paris have abstained from using their car (EV World 2013). A Spanish study, however, showed that reductions in car traffic and air pollution due to bike sharing remain limited (Eltis 2012). The success of worldwide bike sharing programmes will emerge over the next few years, especially in North America, when such programmes are expanded and globally long-term data are available. The current numbers of users, however, already offer positive indications of future developments.

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Table 1

Cycling statistics for European countries

Countries	Bicycles per 1,000 Inhabitants	Bicycle share in total traffic	Policy measures
Belgium	691	8%	Note de politique générale de la mobilité 2010
Germany	854	10%	Nationaler Radverkehrsplan 2002
Finland	604	13%	Cycling and Walking Policy Programme 2001
France	400	3%	Plan national vélo 2012
Great Britain	380	2%	National Cycling Strategy 1996
Italy	580	5%	n.a.
Netherlands	~1,000	27%	Bicycle Master Plan 1990
Austria	669	9%	Masterplan Radfahren 2006
Sweden	670	9%	Nationell strategi för ökad och säker cykeltrafik 2000
Spain	60%	5%	n.a.
Czech Republic	n.a.	5%	Czech cycling development strategy 2004

Source: European Comission (2011); European Cyclists´ Federation (2012; 2013); Vélo pratique (2010).