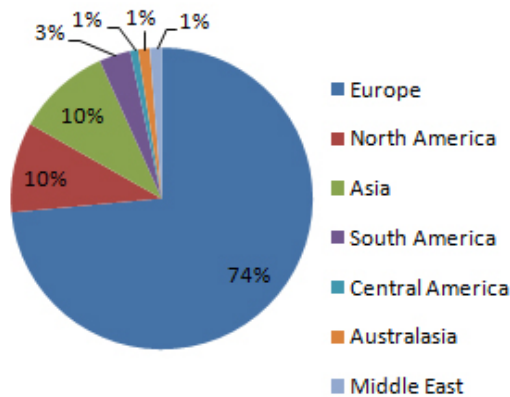


# Are Cycle Hire schemes the future of urban mobility?

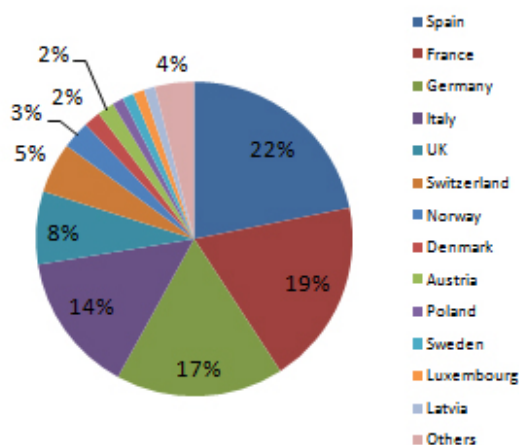
Cycle hire schemes are becoming more popular around the world having developed from novel urban experiments to becoming a serious part of urban transport in major cities. Here we explore the worldwide distribution of cycle hire schemes and compare the different ways cycle hire can be implemented with a view to the future of cycle hire in the UK.

Ten years ago there were only five schemes worldwide, all operating in Europe. These pioneering schemes consisted almost exclusively of a fleet of free-to-use bicycles being placed within a city. In many instances the bicycles were stolen within months of the scheme opening. The total bicycle hire fleet has grown from the 4,000 bicycles of these first five schemes to the current worldwide cycle hire fleet, estimated to be around 236,000 bicycles. Recent high profile successes of the Paris and London schemes have lead to a rapid expansion, noticeably in the Americas (e.g. B-Bike in the USA and Eco-Bici in Mexico City). Approximately 230 towns and cities worldwide have a cycle hire scheme to call their own, and this is growing. Europe is the home of cycle hire, accounting for 74% of all cities with a scheme. Cycle hire schemes can now be found on every continent (excluding Africa).

## Worldwide distribution of cities with a cycle hire scheme by continent

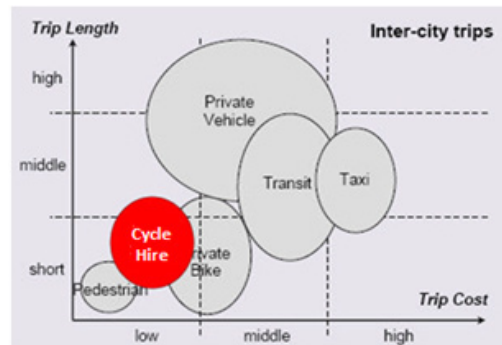


## Distribution of cities with a cycle hire scheme in Europe



Cities have discovered that rather than being a novelty, cycle hire schemes can play an important role in today's transport network. Figure 1 shows where cycle hire as a mode fits within an urban transport network, essentially filling the gap of trips that are too far to comfortably walk, but short enough to make public transport seem unnecessary.

Figure 1



Source: Quay Communications Inc. 2008. Trans Link Public Bike System Feasibility Study. Vancouver.

It is thought that most trips replaced by a cycle hire scheme are from public transport and walking (see Table 1), with relatively few trips transferred from the private car. Although this could be said to slightly deter from some sustainability credentials, in London reducing demand on congested public transport networks is a policy objective.

Table 1: Trip type replaced by cycle hire in selected cities.

	Bicing, Barcelona	BIXI, Montreal	Vélib', Paris	Vélo'v Lyon
Bus or Metro	51%	33%	65%	50%
Car or Motorcycle	10%	2%	8%	7%
Taxi	N/A	8%	5%	N/A
Walk	26%	25%	20%	37%
Bicycle	6%	28%	N/A	4%
New Trip	N/A	4%	N/A	2%

Sources: Buis, J., 2008; Curran, A, 2008; Bachand-Marleau, J., 2010. Taken from Midgley, P. Bicycle-Sharing Schemes: Enhancing Sustainable Mobility In Urban Areas, 2011. United Nations - Department Of Economic And Social Affairs

In London the cycle hire scheme certainly fulfils this purpose; however, a common misconception of cycle hire schemes is that they are only viable in large cities. Here we compare a large scheme (London, UK) with smaller schemes in Spain (OnRoll), and then look into new technology and the future of cycle hire.

## All bells and whistles scheme

The London Cycle Hire model is what most people would associate with cycle hire. A set number of stations are situated around the city where you can pick up and drop off a bicycle, instant membership is available at stations as long as you have a credit/debit card and the first 30 minutes are free. It's a high profile scheme that emphasises London's progressive approach to urban transport. It's big, brash and expensive to set up but it generally operates smoothly. This model of bicycle hire is repeated across major cities around the world. However, France provide this level of service at 33 cities nationwide, with Paris leading the way.

Figure 2: London Barclays Cycle Hire



Source: ZanMan

## Schemes on a budget

Even though the London Cycle Hire model gets the most exposure around the world, there are alternative models that may expand the potential reach of cycle hire as a viable option for smaller towns and cities. Onroll is a nationwide cycle hire scheme based in Spain that utilises mobile phone texting technology and almost exclusively operates in these smaller urban areas.

Due to its nationwide coverage, small towns can easily implement and understand the concept of cycle hiring at minimal cost and resource. The set up is basic, a web-sharing template is used for each new scheme which centres around an interactive map of the town with bicycle rental locations and the real-time number of bikes available at each location.

Onroll utilises wireless and mobile phone technology to provide a versatile solution. A user first has to register their mobile phone number at the offices of the municipality, once registered they are provided with a PIN. The user then finds a bicycle to use, texts the lock number of the bicycle,

which is then released automatically. Once the user has finished with the bicycle, they take it back to a designated station location and text again to lock the bicycle up and end the rental period.

The concept is simple, however not geared towards international visitors as the user has to first register before they can select any bike, as well as have a mobile phone that works overseas. Puertollano is a town in central Spain with around 52,000 inhabitants, they have an excellent coverage of their town from 10 stations and 45 bicycles for hire.

Figure 3: Bicycle station locations in Puertollano, Spain



Source: <http://puertollano.onroll.info/>

This method creates a versatile product where each system is simple, cheap and customisable for even the smallest of towns. Onroll is currently in operation in 13 towns and cities in Spain, with the largest city being Albacete with a population of 170,000.

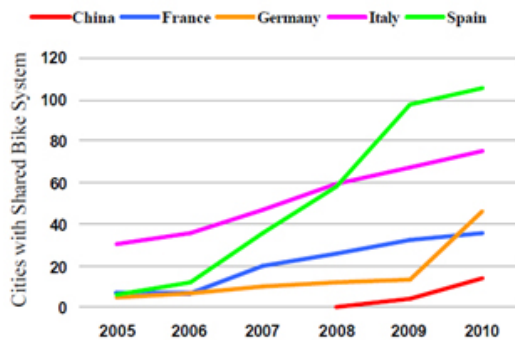
It should be noted that cycle hire schemes in Spain received €2.5 million in 2008 to support the development of 56 cycle hire schemes, provided by the Instituto para la Diversificación y Ahorro de la Energía (Institute for Diversification and Saving of Energy, IDAE) which is a part of the Ministry of Energy in Spain. This added funding must contribute to the rapid expansion of cycle hire in Spain.

## Cycle Hire in Europe

Germany, Italy and Spain all have nationwide schemes. The German and Spanish schemes are centred around mobile phone technology. This has led to a much more rapid uptake of cycle hire schemes within these countries. The transferable and flexible nature of the national schemes improve the feasibility of cycle hire to a much wider range of smaller towns and cities. France on the other hand has wholeheartedly embraced individual cycle hire schemes for

each city; however, this is a nation that understands cycle hire and the advantages and pitfalls for designing a scheme are well known.

**Figure 4: Growth in bicycle -sharing schemes in selected countries 2005 -2010**



Source: Midgley, P. Bicycle-Sharing Schemes: Enhancing Sustainable Mobility In Urban Areas, 2011. United Nations - Department Of Economic And Social Affairs

## Cycle hire in the UK?

And so where is the UK in all this clamour for cycle hire schemes? One company, OYBike, runs to a similar model as Onroll, however after a series of cancelled pilots the system is only operating in Reading (2 cycle hire stations) and Cardiff (17 cycle hire stations).

Successful schemes need to wholeheartedly embrace cycle hire in their town/city, with widespread docking stations at all important origins and destinations. Political will has to exist for cycle hire schemes to succeed (see successive mayors in London). Scope for cycle hire expansion exists in England through the LSTF (Local Sustainable Transport Fund), especially where authorities combine initial funding with strong working business partnerships. Will the LSTF inspire decision makers to make a punt for cycle hire?

## The Future

Cycle hire schemes are into their fourth generation and recent improvements to existing systems include mobile and solar powered docking stations, introduction of electric bikes and further improving technology through iPhone apps. New 'bike dispensers' are emerging at rail stations in the Netherlands that essentially operate like giant vending machines for bicycle hire.

Of these, electric bikes may have the most significant impact, widening the appeal of cycle hire as a mode of urban transport to a larger audience (figure 5).

## Cultural differences

Finally, there is the issue of cycling culture. Cycle hire and

cycling has been embraced by London in recent years, but has not yet embedded itself in the culture in the vast majority of towns and cities the UK.

There is still stigma attached to cycling in many areas of the UK where it is seen as a mode of transport only applicable to very narrow slice of the population (see your white middle-aged lycra-clad man stereotype). In places with high cyclist numbers a much wider selection of society are open to cycling, this 'culture' manifests itself when non-cyclists both see people like themselves cycling, and where the associated benefits become more apparent.

And so, as the rest of Western Europe and other parts of the world sweep forward with an ever increasing number of cycle hire schemes, the UK lingers behind. It might be a while before the wider public and critically public and private sector decision makers realise the benefits cycle hire schemes can bring.

Meantime, large towns and cities in England have an excellent opportunity with the LSTF to help transform cycling as a transport mode across the country. Projects that nurture and encourage the beginnings of a new cycling culture will need ongoing support to fully integrate itself into a community. As the transport sector bounces back from the recent upheaval will there be the commitment to get politicians and private sector partners on board to make this happen? With 81% of current LSTF bids involving some aspect of cycling, the optimist might feel that the tide is starting to turn in favour of cycling in England.

**Figure 5: Cycle hire station, Montreal**



Source: BIXI: Montreal's Bicycle Sharing System – Stations are solar powered, potable and wireless. No land excavation required.

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