

E-bikes: a new metropolitan transport mode



(6-t) USER PANEL - E-bike users -

- February 2015 -

Main results of an European survey among 400 e-bike users

The use of electric bikes (**e-bikes**) is growing quickly in numerous countries. In Europe, the amount of e-bikes sold has shifted from 98,000 in 2006 to 854,000 in 2012. In France, e-bikes are also gaining popularity, with 56,000 units sold in 2013, i.e. a 22% increase compared to 2012, but they remain much more restricted than they are in Germany and the Netherlands, which make up for two thirds of the European market¹.

Despite the market's booming, little data is yet available on e-bike users, the way e-bikes are used and their impact on individual mobility. In order to help filling this gap, **6t-bureau de recherche conducted an online survey of 400 e-bike users in Europe**. 100 e-bike users were surveyed in each of the 4 following countries: **France, the Netherlands, Spain and the United Kingdom**.

WHAT DO WE MEAN BY "E-BIKE"?

Our study addresses the most popular e-bike type: "pedelecs". A pedelec's motor supports pedalling but doesn't replace it. According to the European directive 2002/24/CE, a pedelec's motor must:

- only be active when the user is pedalling;
- power off when the bike reaches 25 kph (15.5mph);
- be under 250 Watt of power.

According to the European law, if all these requirements are met, the bicycle is considered as a pedelec and the same rules as for conventional bicycles apply: no driving license is required, wearing a helmet is recommended but not compulsory and riding on bicycle paths is allowed.

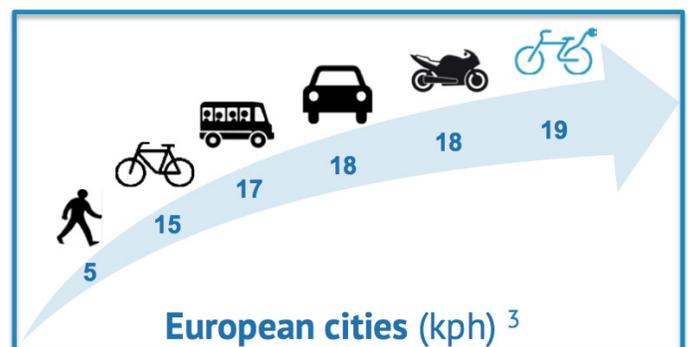
Faster and cheaper than a private car

For French, Spanish and British users, the e-bike's main advantage is its **cheap cost of purchase and use compared to a private car**. Dutch users, who are older in average, mainly use an e-bike because they deem it better suited to their needs than a conventional bicycle.

E-bikes are suited to frequent use, whatever the country: 45% of users declare they use one **every day or almost every day**. Indeed, e-bikes are mostly used for commuting trips.

E-bike trips have an **average range of 9 km (6 mi)**. This is longer than most trips made in urban zones: for instance, trips made with a private car in the Paris region have an average range of 6 km (3,7 mi)².

With an average speed of 19 kph (11.8 mph), e-bikes are probably **the fastest transport mode in urban zones subjected to traffic congestion**.



1. COLIBI / COLIPED, *European Bicycle Market 2013 edition - Industry and Market Profil (2012 Statistics)*, 2013; Bike Europe (bike-eu.com), *French E-bike sales continue to Flourish*, 24/08/2014
2. EGT 2010 - STIF-OMNIL-DRIEA
3. Sources: City of Copenhagen (conventional bicycle), City of Berlin (public transport), Transport for London (car), EGT 2010 (motorized two wheeler)

E-bikes lead to a lower use of cars

E-bikes rarely lead their users to give up their car, but they do lead to a lower use of car. 49% of users declare they use a car less often since they have started using an e-bike, while only 17% say they use it more. E-bikes seem to be more of a substitute to cars than a substitute to conventional bikes.

Since using an e-bike:

49%
use a car less often



17%
use a car more often

42%
use a conventional bicycle less often



29%
use a conventional bicycle more often

The challenge: protecting e-bikes against theft

E-bikes have plenty of advantages, but they are facing a major barrier to use: theft and damaging risk. 13% of users report they once had a e-bike stolen and 10% report they once had one damaged. A solution to these issues would be to provide secured parking spaces.



Secured, automatic bicycle deposits at Utrecht train station (Netherlands)

E-bikes are not only used by elderly people

E-bikes are mainly used by middle-aged people: users are 40 years old in average. Spanish users are the youngest (33 in average) and Dutch users are the oldest (48 in average).

Two thirds of e-bike users are employed people.

A majority of e-bike users report they are living in an **urban area**, but there are marked differences between countries: 48% of the Dutch users declare they are

living in a rural area, while 84% of Spanish users declare they are living in an urban area.

Not all the users who live in urban areas live in core cities: only 43% of them report that they are living in the core city of their urban area.

E-bikes are preferred to private cars and public transport

E-bike users have a very positive view of the e-bike: the three most adjectives they quote the most to define it are "practical", "cheap" and "ecological".

E-bike users have mixed feelings about public transport but they appreciate the private car and the conventional bicycle, which shows a marked preference among them for individual transport modes.

Classifying e-bike users according to a typology developed by 6t-bureau de recherche reveals that they are mainly "multimodal" people who tend to choose the fastest and/or the cheapest transport mode for each one of their trips, as well as people living in urban areas who like the private car but are forced to use other transport modes due to traffic congestion and parking issues.

1. INSEE, RP 2013.

Introducing the full study report

The full study report delivers detailed, thoroughly analyzed and commented data about key issues regarding the e-bike:

- **The e-bike as a product:** what kind of e-bikes do users purchase? How much are they ready to spend for them?
- **The main triggers for e-bike use:** how do users discover the e-bike, what are the main events and motivations that trigger the use of it?
- **Uses of the e-bike:** what kind of trips is it used for? What are the range and speed of trips made with an e-bike?
- **The e-bike's influence on individual mobility:** does it act a substitute for some other transport modes? Does it have an influence on households' vehicle motorization? Does it lead its users to use some other transport modes more often?
- **Barriers and drivers to e-bike use:** what are the main barriers to the use and spread of e-bikes? How do the users cope with these barriers? What are the pro-e-bike policies they would find most useful?
- **Users' profile:** what is their socioeconomic profile (age, gender, occupation, income)? What is their perception and use of various transport modes?



The results of this study are very helpful tools:

- for stakeholders who want to develop products and services that fit the expectations of existing and potential e-bike users;
- for policymakers who want to design and implement policies fostering e-bike use, as a part of a global set of alternatives to the private car.

Full report available for FREE by the end of February 2015

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This study was conducted by 6t-bureau de recherche, a research-oriented mobility firm specialised in urban planning, transportation and mobility analysis.

