

POTENTIAL

- Suitable for all users
- Suitable for all kinds of mobility (commuting, every day errands, sport, spare time activities)
- Replaces cars

PROPERTIES / MATERIALITY

- High weight
- Battery must not get wet
- Different designs for different purposes
- Recuperation (Promise)
- High costs

ACTUAL USE

- Used for free time activities and little for commuting (urban and rural areas)
- Supports in particular the mobility of elderly/ impaired/unathletic people (enabler technology)
- Different use in urban and rural areas
- Rarely replace cars

EXPLAINING FACTORS

The discrepancy between potential and actual use can be explained by values, traffic system and E-Bike infrastructure

E-BIKE INFRASTRUCTURE

1. CITIES

- Little private and (inexpensive) public infrastructure for locking high value e-bikes in dry places
- E-Bikes are heavy; tracks to move them over stairs are often missing
- Appropriate bicycle lanes exist
- Female user sometimes experience difficulties with heavy e-bike (carrying)
- Bicycle lanes are for commuting and errand activities

2. RURAL AREAS

- Bicycle lanes are touristic and for spare time activities

TRAFFIC SYSTEM

1. Cities:

- Commuting distances small
- Little parking space
- Traffic jams
- Dense system of public transport

2. Rural areas:

- Commuting distances larger
- No problem with parking and traffic jam
- Public transport little attractive

VALUES

1. The athletic and young ride normal bicycles
2. The elderly, unathletic, impaired ride e-bikes

RECOMMENDATIONS FOR URBAN AREAS

Extend the network by turning existing charging stations into sharing stations and providing weather and theft proof shelter

So the problem of a

- the high weight,
- the high costs
- the missing private infrastructure could be solved

Join e-bikes as one element amongst others in an integrated mobility system of cities by addressing:

- lack of private, weather proof, easy accessible storage space;
- threat of theft

ABSTRACT

E-bikes are often perceived as zero-emission vehicles that promise sustainability and energy efficiency. However, the concept of e-bikes as "green" innovation is contested. Therefore several questions can be raised: In what way is this seemingly green innovation really used? Does it actually contribute to sustainability? What is necessary that e-bikes replace cars and contribute to sustainable traffic?

The paper shows that several factors have a concrete impact on the use of e-bikes: design elements, available private and public infrastructure, values as well as the users' everyday practices.

