

LEPT Briefings

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2- E-Bike Charging Infrastructure (March 2019)

E-bike users lack access to parking and charging infrastructure. It is the main perceived reason for not using one (Astegiano, Tampere, Beckx, 2015).

Context

- E-bike user profile:
 - non-cyclists and older than the average population (Cherry & al., 2016);
 - People that travel further than regular bike users (Plazier, Witkamp, 2017).
- Main problem:

Possible Solutions

- Integrating e-bike parking requirements in private and public planning;
- Developing the potential to mixed charging infrastructure for e-bikes and electric cars.

New actions in London

- The Mayor of London: a platform dedicated to E-bike promotion.
- London Borough trialling schemes:
 - LB Greenwich launched a borrowing scheme (Jan 2019) for a fee of £10;
 - Boroughs in west London are running a trial to loan e-bikes to businesses;
 - The American firm Lime launched its private e-bike fleet in Brent and Ealing (2018), and in Islington (2019).

Governing Regulations and Guidance

- London currently has no regulations governing but could use European and British legislation:
 - **The 2018/844 EU Directive:** point out the necessity for Member States to consider 'holistic and coherent urban planning as well as the promotion of alternative, safe and sustainable modes of transport and their supporting infrastructure' (paragraph 28);
 - **Section 106 of the Town and Country Planning Act** - allows councils to require 'specified operations or activities to be carried out in, on, under or over the land'. This regulation can be used to supporting a set compulsory number of charging infrastructure points in new buildings;
 - The **Community Infrastructure Levy (CIL) Regulations 2010** could be used as well to build appropriate infrastructure on borough grounds.
- The London Plan provides planners and developers with minimum standards for cycle parking (Parking Addendum to Chapter 6, Table 6.3).

- Some London boroughs have developed with other local authorities a Cycle parking guidance for developers and can be adapted to e-bikes:
 - The London Cycling Design Standards;
 - WestTrans produced a guidance document on cycle parking requirements in 2016;
 - Charities like Sustrans have also developed standards;
 - External guidance that can be used elsewhere: e.g. Danish Cycling Embassy.
- Charging for electric bikes in public space:
 - Imposing e-bike facilities in new residential developments as an option;
 - Creating of visitor parking for short-term stay;
 - Constructing infrastructure can increase the public visibility of e-bikes.

External Experience

- Paris and Madrid:
 - Promoting e-bikes with systems of grants for the acquisition (Paris) or public for-hire fleets (Madrid);
 - ‘guerrilla charging’: plug-in at various locations where electricity is available outside (shops, petrol stations), by asking for permission.
- Netherlands:
 - the TU Delft built, as part of a research project, a wireless off-grid solar e-bike station which is still being developed.
 - slightly shade the image of e-bikes as eco-friendly (even though e-bikes’ environmental impact is very low).
 - A standalone station in Eindhoven (NL) to research the feasibility of such model.
- Charging stations using the electric grid have also emerged, by various players.
 - A French business school based in Lyon collaborated with a company to put in a charging hub for its students; Madrid, with the BiciMad scheme (2028 e-bikes to hire); Paris with the relaunched Vélib’ Métropole (30% of the fleet is electric bikes).
- Some dockless e-bike private companies are also taking interest in charging stations: e.g. Uber in partnership with Sacramento (US).
- the challenge is the interoperability of the system.