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Making buildings fit for sustainable mobility- Comparing Regulations for Off-Street Bicycle and Car Parking in Europe

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Velo-city Dublin, 25 June 2019

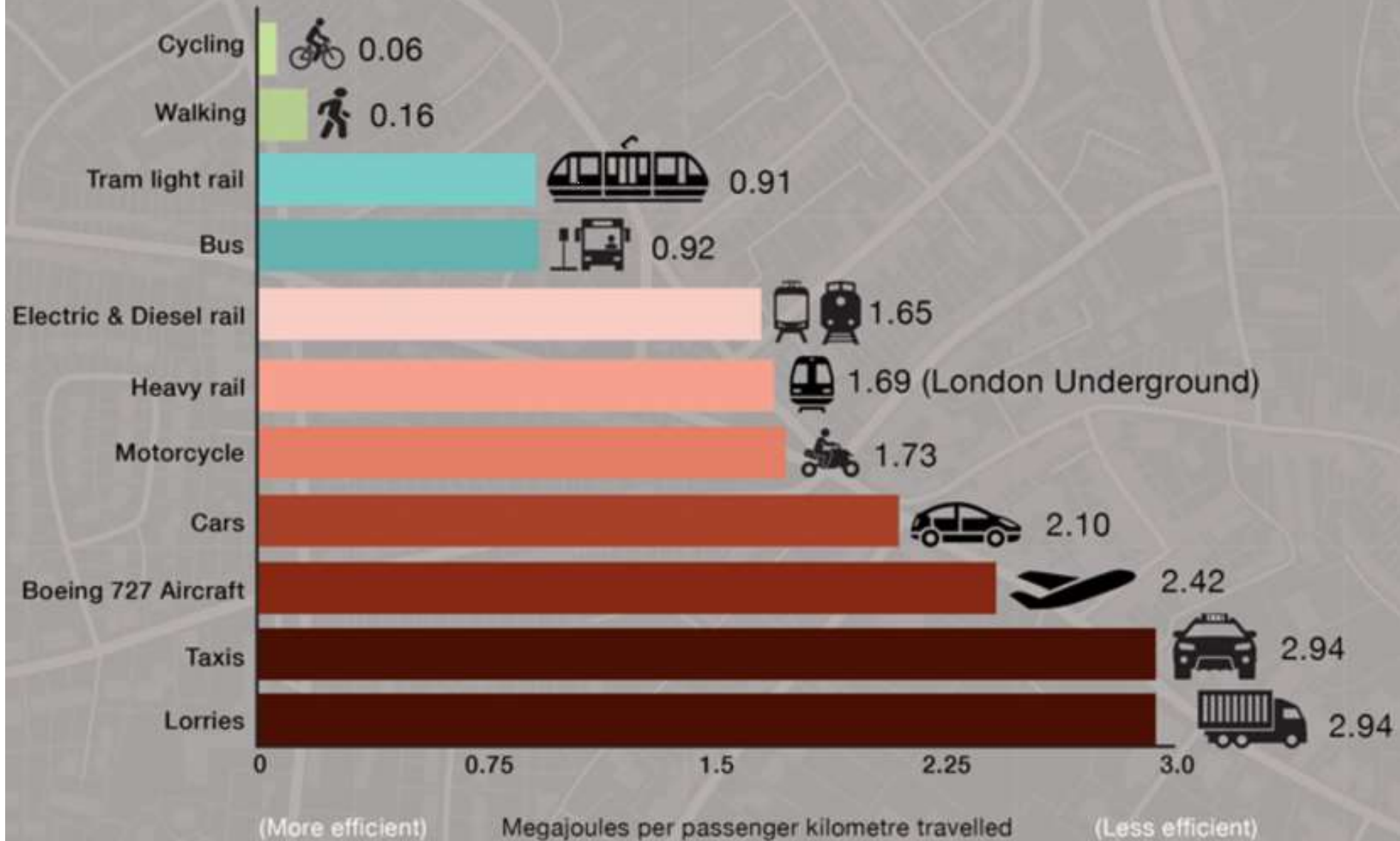


Energy Performance of Buildings Directive

- Heating
- Cooling
- Ventilation
- Renewable energies
- Infrastructure for Electromobility
- What about urban planning and parking policies?



Transport Energy Efficiency



Data: Sustainable Transport and public policy, David Banister

Total household energy consumption: car households vs non-car households



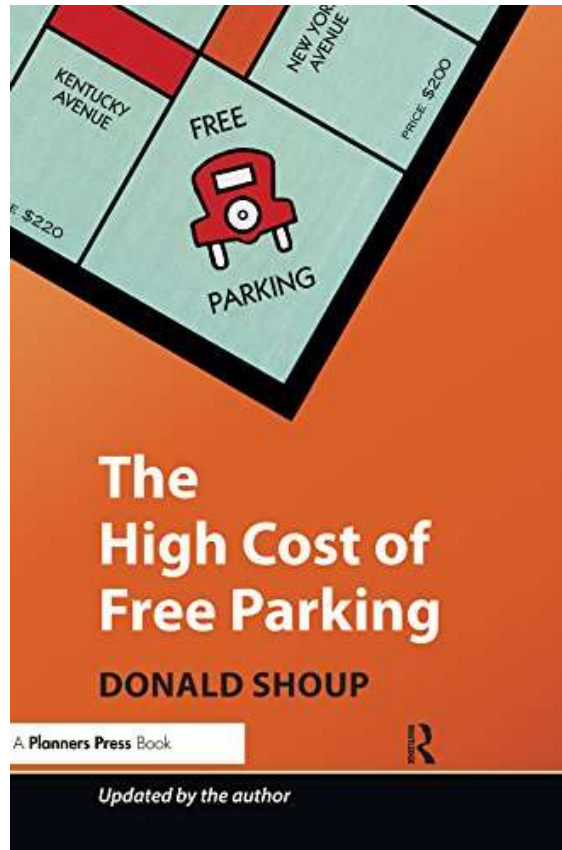


Planning for cars for 80 years

- Reichsgaragenordnung/ National Parking Code (Germany, 1939)
One car parking spot per housing unit in every new development
- Objective: Boost sales of Volkswagen cars
- Consequence: urban sprawl, low-density neighbourhood, car-dependency



Donald Shoup (2005)



Due to minimum car parking norms ...



- Households own more cars and use them more often
- Parking norms are often arbitrary and rarely based on empirical evidence; Housing developers would build fewer parking spots without minimum norms, especially in down-town areas
- This increases construction costs and hence living costs for everyone, including non-car owners!!!



There is no free parking!



Two central principles

1. Get rid of the principle of requiring a set amount of car parking per housing unit (i.e. minimum car parking norms) and replace them by maximum norms;
2. Introduce minimum bicycle parking norms.

ECF report

- Analysed and ranked car and bicycle off-street parking norms in 31 countries (EU-28, CH, Norway, Iceland)
- **28 national** regulations
- **28 regional** regulations (Austria, Belgium, Germany)
- Primary focus: apartment buildings
- 4 categories for both bicycle and car parking
 - Green: Excellent
 - Blue: Good
 - Yellow: Sufficient
 - Red: Insufficient



Making Buildings Fit for Sustainable Mobility

Comparing Regulations for Off-Street Bicycle
and Car Parking in Europe

4 categories

	OFF-STREET BICYCLE PARKING	OFF-STREET CAR PARKING
Excellent	Minimum requirements are incorporated in national/regional legislation.	Maximum limits to the amounts of off-street parking provided are incorporated in national/regional legislation.
Good	National/regional framework legislation is in place requiring the local level to develop and implement specific standards.	Neither regulations nor guidelines at national/regional level; non-binding guidelines may exist.
Sufficient	Only non-binding guidelines have been developed at national/regional level. The local level is free to implement or not.	National/regional regulations require minimum amounts of parking; local authorities can deviate, e.g. through mobility management measures.
Insufficient	Neither any national/regional regulations nor guidelines are in place.	National/regional regulations require strict minimum amounts of parking.

Regulations for bicycle parking in apartment buildings

BICYCLE PARKING REGULATIONS

CATEGORY

NATIONAL REGIONAL

Excellent	Minimum requirements	6/28 = 21.4%	9/28 = 32.1%
Good	National framework legislation; local implementation	3/28 = 10.7%	13/28 = 46.4%
Sufficient	Guidelines	8/28 = 28.6%	2/28 = 7.1%
Insufficient	No regulations/guidelines	11/28 = 39.3%	4/28 = 14.3%

N = 28

N = 28

- Minimum requirements are incorporated in national/regional legislation
- National/regional framework legislation is in place requiring the local level to develop and implement specific standards
- Only non-binding guidelines have been developed at national/regional level. The local level is free to implement or not
- Neither any national/regional regulations nor guidelines are in place



Regulations for bicycle parking in apartment buildings: Examples

- Every country/ region that mandated bicycle parking was put into green category
- Did not take quantitative indicators into account
- [e.g. Hungary: 1 space per apt vs Lithuania: 1 space per 5 apts: both green category]
- Did not analyse implementation of regulations

COUNTRY/ REGION / MUNICIPALITY	REGULATION
Bulgaria	1.5 spaces per apt (minimum 6 spaces total)
France	Bike parking space per apt: - 1 or 2 rooms: 0.75 m ² - > 2 rooms: 1.5 m ²
Hungary	1 space per apt
Lithuania	1 space per 5 apts
Slovenia	0.6 spaces per person
Upper Austria	2 spaces per apt
Salzburg	2 spaces per apt
Styria	1 space per 50 m ²
Tyrol	2 spaces per apt
Baden-Württemberg	2 spaces per apt
Berlin	2 spaces per apt
Bremen	- <60 m ² : 1 space per apt - >60 m ² : 2 spaces per apt
Hamburg	- <50 m ² : 1 space per apt - <75 m ² : 2 spaces per apt - <100 m ² : 3 spaces per apt - <125 m ² : 4 spaces per apt - >125 m ² : 5 spaces per apt

Best practice example: Bulgaria

- Class 1: Long-term parking (e.g. in enclosed spaces, sheds, security-controlled area, bicycle cages, bicycle rooms, etc.);
- Class 2: For short-term parking (e.g. in public, easily accessible open areas, covered or uncovered).

Table 10:
Regulation for Bicycle Parking Bulgaria

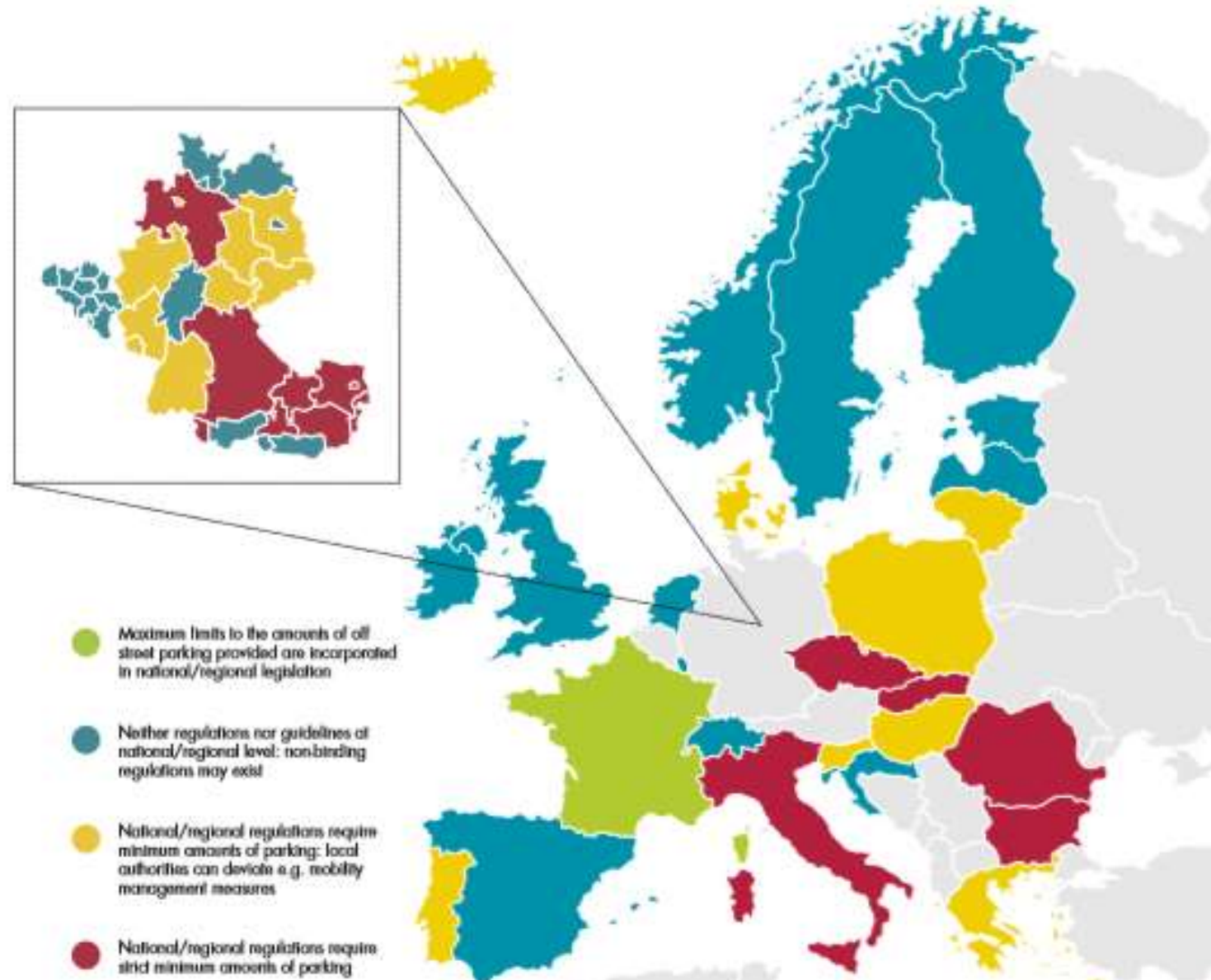
BUILDING TYPE	REGULATION PARKING SPACES	CLASSIFICATION
Hotels	1 space per 10 rooms	- Class 1: 60% - Class 2: 40%
Hospitals	1 space per 500 m ²	- Class 1: 75% - Class 2: 25%
Cinemas, theatres	1 space per 20 visitors	- Class 1: 20% - Class 2: 80%
Places of religious worship	(minimum 10 spaces)	- Class 1: 100%
Stadiums, sports arenas, etc.	1 space per 100 m ²	- Class 1: 20% - Class 2: 80%
Administrative/ business offices	1 space per 100 m ²	- Class 1: 50% - Class 2: 50%
Shops in city-centre areas	(minimum 10 spaces)	- Class 1: 30% - Class 2: 70%
Libraries, museums, galleries	1 space per 100 m ²	- Class 1: 20% - Class 2: 80%
Schools, colleges, universities	- 1 space per 5 students - 1 space per 10 employees	- Class 1: 20% - Class 2: 80%
Childcare facilities	- 1 space per 10 children - 1 space per 10 employees	- Class 1: 10% for employees - Class 2: 90%

BULGARIA

Regulations for car parking in apartment buildings

CATEGORY

		NATIONAL	REGIONAL
Excellent	Maximum limits	1/28 = 3.6%	0/28 = 0%
Good	No regulations/ guidelines	12/28 = 42.9%	9/28 = 32.1%
Sufficient	Minimum requirements; local deviation possible	9/28 = 32.1%	10/28 = 35.7%
Insufficient	Strict minimum requirements	6/28 = 21.4%	9/28 = 32.1%
		N = 28	N = 28



Regulations for car parking in apartment buildings: Examples

1 spot per apartment is standard figure;

Donald Shoup: Parking requirements are often arbitrary and rarely based on empirical evidence; often a result of historic developments or replications of practice in neighbouring areas (i.e. copy and paste)

COUNTRY/ REGION / MUNICIPALITY	REGULATION
France	Max 1 space per apartment in rental housing built with state loans; Max 0.5 space per apartment if located within 500m of public transport station
London	<ul style="list-style-type: none"> · > 4 beds: max 2 spaces per apartment · 3 beds: max 1.5 spaces per apartment · 1–2 beds: max 1 space per apartment
Hungary	1 space per apartment
Lithuania	1 space per apartment
Slovenia	1 space per apartment
Copenhagen	<ul style="list-style-type: none"> · Usually: <1 per. 200 m²; >1 per. 100 m² · Within 300m from a station: At least 1 per. 250, max 1 per. 100 m²
Malmö	0.6–1.1 spaces per apartment
Styria	1 space per apartment

Overall ranking: Countries

COUNTRY	BIKE PARKING	CAR PARKING	TOTAL
France	****	****	*****
Hungary	****	**	*****
Lithuania	****	**	*****
Netherlands	***	***	*****
Slovenia	****	**	*****
Bulgaria	****	*	*****
Cyprus	****	*	*****
Denmark	***	**	*****
Estonia	**	***	*****
Ireland	**	***	*****
Latvia	**	***	*****
Sweden	**	***	*****
Switzerland	**	***	*****
Croatia	*	***	****
Finland	*	***	****
Iceland	**	**	****
Italy	***	*	****
Luxembourg	*	***	****
Norway	*	***	****
Portugal	**	**	****
Spain	*	***	****
UK	*	***	****
Czech Republic	**	*	***
Greece	*	**	***
Malta	*	**	**
Poland	*	**	***
Romania	*	*	**
Slovakia	*	*	**

Overall ranking: Regions

COUNTRY	BIKE PARKING	CAR PARKING	TOTAL
Berlin (DE)	****	***	*****
Hamburg (DE)	****	***	*****
Tyrol (AT)	****	***	*****
Baden-Württemberg (DE)	****	**	*****
Bremen (DE)	****	**	*****
Hesse (DE)	***	***	*****
Mecklenburg-Vorpommern (DE)	***	***	*****
Schleswig-Holstein (DE)	***	***	*****
Carinthia (AT)	***	***	*****
Salzburg (AT)	****	*	*****
Styria (AT)	****	*	*****
Upper Austria (AT)	****	*	*****
Brussels (BE)	****	*	*****
Wallonia (BE)	**	***	*****
Brandenburg (DE)	***	**	*****
North Rhine-Westphalia (DE)	***	**	*****
Saarland (DE)	***	**	*****
Saxony (DE)	***	**	*****
Saxony-Anhalt (DE)	***	**	*****
Thuringia (DE)	***	**	*****
Lower Austria (AT)	***	*	****
Vienna (AT)	***	*	****
Vorarlberg (AT)	***	*	****
Flanders (BE)	*	***	****
Lower Saxony (DE)	***	*	****
Rhineland Palatinate (DE)	**	**	****
Burgenland (AT)	*	*	**
Bavaria (DE)	*	*	**

Energy Performance of Buildings Directive

- Recital 28 : Member States should consider the need for [...] the promotion of alternative, safe and sustainable modes of transport and their supporting infrastructure, for example through **dedicated parking infrastructure for electric bicycles** [...].
- Article 8.8 : Member States shall consider the need for **coherent policies for buildings, soft and green mobility and urban planning**.
- Member States need to transpose EPBD into national law by 10 March 2020



ECF policy recommendation S

Minimum:

- Bicycle parking: Develop national/regional guidelines for local authorities by 10 March 2020 (yellow category)

Forward-looking:

- Bicycle parking: Introduce legal requirement at national/regional level (blue), ideally supplemented with minimum norms (green)
- Car parking: Get rid of minimum parking norms (blue), ideally introduce maximum norms (green)
- Add mobility criteria to energy-efficiency standards of buildings/ neighborhoods







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Thank you

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