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EUROPEAN CYCLISTS' FEDERATION

ECF Summary of Impact of the Energy Performance of Buildings Directive on European Bicycle Parking Requirements

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1. Introduction

This is a document that will provide an analysis of the recent revision to the Energy Performance of Buildings directive[1] and the Article 14 on mobility which includes requirements for bicycle parking. It will contain our review of the current situation in bike parking infrastructure across the EU and why bicycle parking is important. It will outline the final text of the EPBD and what this means for bike parking. There will also be a look to the future and at how this directive can and should be implemented by the Member States.

2. The Rationale for Bike Parking

2.1. How Parking Policies Impact Mobility and Building Decisions

Bicycle parking supply is an important determinant of cycling. A systematic review on bicycle parking research[2] showed that convenient/high-quality bicycle parking is associated with more cycling; conversely, a lack of bicycle parking and/or inadequate bicycle parking discourages cycling.

ECF also conducted some desk-top research by collecting mobility data from cities and comparing them with the cities' parking requirements for apartment blocks. ECF found information from 17 European cities and concluded that the results support the assumption that there is a relationship between parking regulations and modal choice.

With regards to bicycle parking, minimum requirements in almost all cases varied between 1 to 2 parking spaces per apartment; and cities with a higher cycle mode share tended to require a higher number of minimum bicycle parking spaces in apartment buildings.

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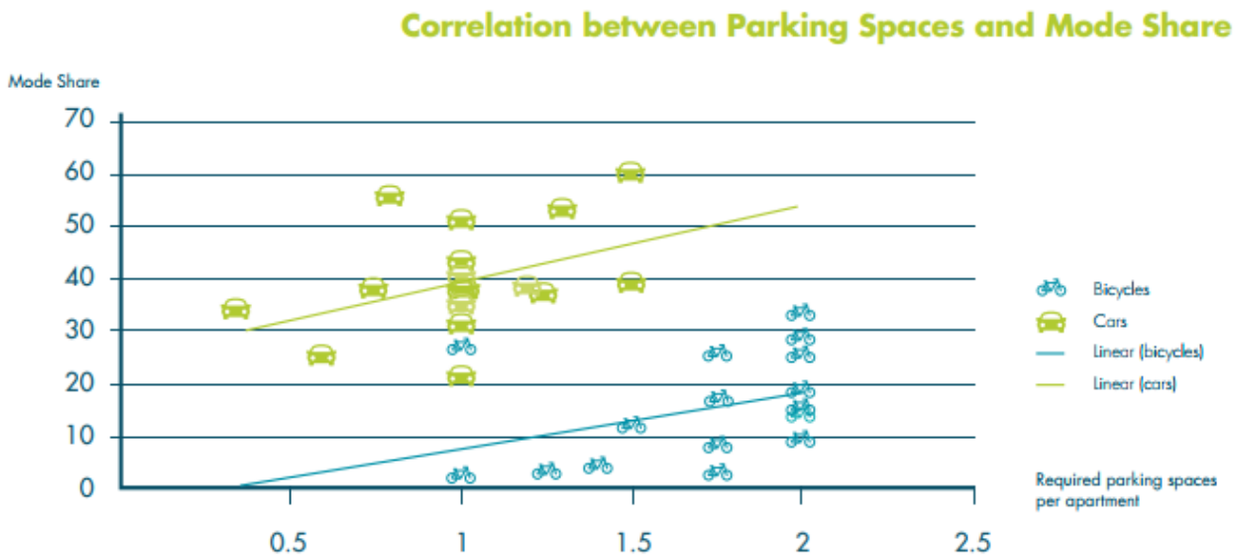
[1] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32024L1275

[2] Eva Heinen & Ralph Buehler (2019): Bicycle parking: a systematic review of scientific literature on parking behaviour, parking preferences, and their influence on cycling and travel behaviour, Transport Reviews, DOI: 10.1080/01441647.2019.1590477



Recent research[3] found that urban residents' transportation behaviour is affected by local features of the built environment, and particularly by parking.

2.2. Bicycle theft, Bicycle Parking and Modal Choice

Good bicycle parking is important for limiting and managing bicycle theft. According to official police statistics there are around **1.3 million bicycles** reported as being stolen annually in the EU-27. The numbers are official figures and most certainly underestimate the challenge that the EU has with bicycle theft, the actual figure of bicycles that are stolen every year is likely to be magnitudes larger given the suspected numbers of unreported theft.

A recent study shows that theft security is even more important for people with high-value bicycle, such as e-bikes and cargo bikes.[4] A report from the University of British Columbia claimed that the lack of safe storage at home and the resulting fear of theft are barriers for people when considering e-bikes as their mode of transportation to university.[5]

A 2007 study of university students found a positive association between good security from theft and regular cycling.[6] 11% of victims report stopping cycling following theft leading to an estimated 23% reduction in cycling. Similarly, industry research by CIE found that 13% of respondents gave up cycling after theft, they estimated that, when extrapolating for the entirety of Europe, theft could lead to a million people giving up cycling.[7] A person's previous experience with bicycle theft almost certainly negatively impacts their readiness to cycle and their bicycle purchasing patterns. Having ambitious and progressive bicycle parking requirements in the EPBD could have a major impact on the use and uptake of active transport across the EU.

It is therefore particularly important that cycle parking requirements in the EPBD take this into consideration by ensuring that there is ample space for bicycles to be locked to a secure point at their parking spot and setting the right standards for bicycle parking infrastructure in the implementation of the EPBD.

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[3] Millard-Ball A, West J, Rezaei N, Desai G. (2021) What do residential lotteries show us about transportation choices? Urban Studies. doi:10.1177/004209802199513
[4] Kohlrautz and Kuhnimhof, "A Joint Model of Cyclist Choice of Bicycle Parking Facilities."
[5] Chen, Liu, and Sun, "Bicycle Parking Security and Built Environments."
[6] Titze et al., "Environmental, Social, and Personal Correlates of Cycling for Transportation in a Student Population."
[7] CIE, "CIE 8 market Consumer Research 2023".

3. EU Countries Current Bicycle Parking National Requirements

Currently (and before there has been any implementation of the Revision to the Directive) there is no EU bicycle parking requirement for Member States to follow. Requirements nationally throughout the EU is also very varied. Some Member States have very good requirements while others have zero[8].

In 2019 ECF carried out a study of existing requirements across 31 European countries[9]. It looked at off-street parking regulations, both for bicycles and cars, in a total of 31 countries (EU-27 + UK + Iceland, Norway and Switzerland). For 28 countries ECF analysed national codes. For three states with a federal structure – Austria, Belgium and Germany – ECF analysed a total of 28 regional parking regulations in the federal regions. The main criterion in deciding the quality of the requirement was how parking had been regulated in apartment buildings. This was chosen as the majority of trips starts and/or ends with an apartment. To categorize the many different parking regulations the report defined four different categories for both cars and bicycles: Excellent; good; sufficient; and insufficient. Here are the results for bicycle parking requirements across the EU. See below for the colour-coded map.

The Bulgarian, French, Hungarian and Lithuanian building codes call for a specific amount of parking spaces for different kinds of apartment buildings. In Slovenia bicycle parking is only regulated for residential buildings with three or more living units. Cyprus only regulates new buildings with a total floor area of 1200 m2 or more. Croatia requires a specific amount of bicycle parking for a number of types of buildings but not apartment buildings. It therefore was not included in the green category.

In the blue category are countries with national or regional legislation that requires the local government level to regulate bicycle parking, but without specifying exact numbers. For example, Denmark's regulatory framework generally requires space for peoples' modes of transport with bikes being explicitly mentioned as one of them. This group includes Denmark, Italy and the Netherlands, and a large set of federal regions in Austria and Germany. Italy's law was only adopted in December 2017 and requires local authorities – whenever they revise their building codes – to set minimum requirements. Implementation of the law will hence take many years.

[8] However, in all countries and colours, local standards may exist.
[9] https://ecf.com/users/fabian-k%C3%BCster/trusted-content/making-buildings-fit-sustainable-mobility

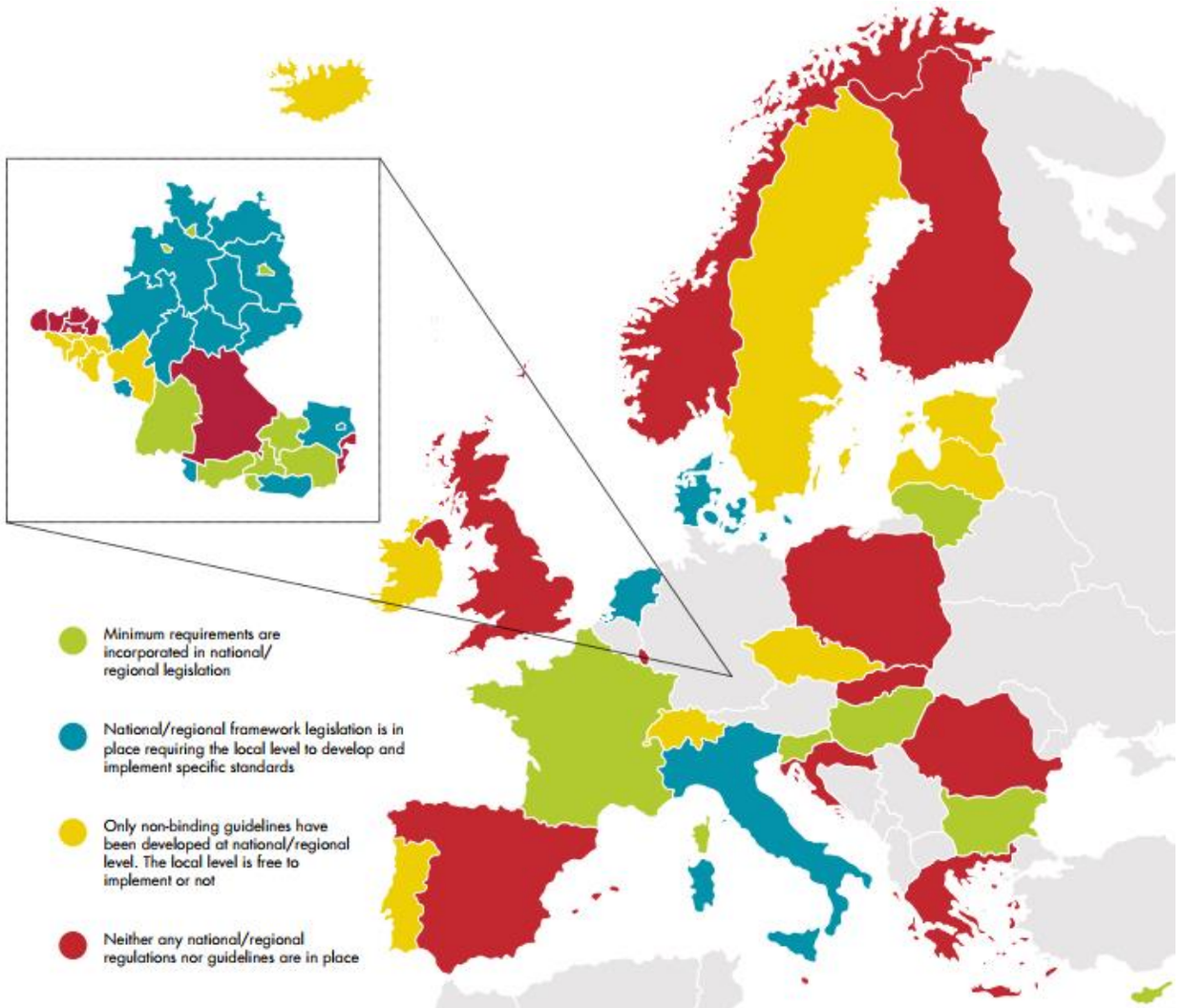

Figure1. Map of Bicycle Parking Requirements under current legislation

In the yellow category are countries and regions with national or regional legislation that explicitly mentions bicycle parking but without establishing requirements. These suggestions are therefore not binding on local building authorities – and in practice they are applied in some areas and not in others. Countries with this type of arrangement include the Czech Republic, Estonia, Iceland, Ireland, Latvia, Portugal, Sweden and Switzerland; Ireland's legislation is a guideline and only sets a benchmark of minimum standards which "should be required". The Icelandic legislation is phrased similarly.

The red category contains countries and regions that have no legislation generally requiring bicycle parking. This is by far the largest group and includes Croatia, Finland, Greece, Luxembourg, Malta, Norway, Poland, Romania, Slovakia, Spain and the United Kingdom. In Luxembourg, bicycle parking facilities are required by national legislation in new government buildings only.

ECF's goal in working on the Revision of the EPBD Directive was to ensure the EU Member States in the above map all turn green, so that every EU Member State has minimum requirements incorporated into their national legislation.

4. European Legislation on Parking

4.1. Previous European Legislation on Parking

The EU's previous iteration of the (revised) Directive on the Energy Performance of Buildings[10] does refer briefly to mobility issues. While most new buildings and those undergoing major renovation in the future would have needed to install recharging infrastructure for electric vehicles (Art. 8, Paragraphs 2-7), the Directive also includes a provision to Member States to consider 'coherent policies for buildings, soft and green mobility and urban planning'.

The specific two sections of the Directive read as follows:
Recital 28: "When applying the requirements for electromobility infrastructure provided for in the amendments to Directive 2010/31/EU as set out in this Directive, Member States should consider the need for holistic and coherent urban planning as well as the promotion of alternative, safe and sustainable modes of transport and their supporting infrastructure, for example through dedicated parking infrastructure for electric bicycles and for the vehicles of people of reduced mobility."
Art. 8, Paragraph 8: "Member States shall consider the need for coherent policies for buildings, soft and green mobility and urban planning."

Taking the recital and the paragraph together, it is appropriate to state that the legislator asked Member States to contemplate how their approach to building codes and urban planning policies fit into the wider framework of soft and green mobility and how it would have supported energy efficiency in the transport system. This active process also applied to Member States with a federal structure where these competences had been delegated exclusively or primarily to federal states/regions. It is to this transposition and implementation that we turn to next.

4.2. National Transposition of the Previous EPBD

Following its adoption on 30 May 2018 and its publication in the EU's Official Journal on 19 June 2018, Member States were to have transposed the previous EPBD Directive into national law by 10 March 2020. ECF provided a report on how exactly the Member States did (or did not) transpose this Directive[11]. With regards to the two texts, Recital 28 (mentioning electric bicycles), and Article 8 (mentioning coherent transport policies), ECF found that of the 27 EU individual Member States analysed there was a low implementation rate.

Three out of the 27 Member States (Cyprus, Italy and Malta) did opt for a literal transposition of Article 8.8. However, the documentation submitted by 8 Member States (Austria, Belgium, Bulgaria, Denmark, France, Greece, Lithuania and Romania) contains provisions which could be classified as falling somewhat under Article 8.8 and Recital 28, however, some of these provisions were in place prior to the revision and were not necessarily linked to the EPBD. Worse, 16 Member States did not include any reference to cycling in their transposition.

[10] https://eur-lex.europa.eu/eli/dir/2018/844/oj
[11] https://www.ecf.com/sites/ecf.com/files/ECF-Factsheet-EPBD-2018844EU%20%28lang.check%29.pdf

The situation was even less encouraging when it came to electrical bicycle charging infrastructure. The cases of Greece, Romania and Brussels Capital Region were the only examples of transposition that went into any elaboration in this respect. Unfortunately, their relevant articles were equally lacking in any clear mandates for the instalment of qualitatively and quantitatively prescribed charging points[12].

This shows that due to the non-binding nature of Article 8.8 of the 2018 EPBD, changes in favour of cycling requirements in building codes, both parking and charging, have been of a very limited nature (this contrasted starkly with requirements for electric charging for electric cars which were favourably included in Member State transposition).

ECF concluded that the latest revision of the EPBD posed a unique opportunity to set the record straight and include minimum legal requirements both for bicycle parking as well as charging infrastructure for electric bicycles in buildings.

4.3. Final results of the revision of the EPBD

This section will outline the results after lobbying and advocacy work by ECF towards the European Parliament and Member States in the Council. This process was a long and extensive series of activity and ECF are happy with the results.

These are the main outcomes pertinent to cycling and bike parking.

- (Article 14 Para 1) For new non-residential buildings and those undergoing major renovation with more than *five* car parking spaces: Bicycle parking spaces represent at least 15% of the average or 10% of the total user capacity of the building. Space for bicycles with larger dimensions than standard bicycles, such as cargo bikes, shall also be included.
- (Article 14 Para 2) For existing non-residential buildings with more than *twenty* car parking spaces: Bicycle parking spaces shall represent at least 15% of the average or 10% of the total user capacity of the building. Space for bicycles with larger dimensions than standard bicycles shall be included. These provisions have to be applied by 1 January 2027.

[12] Though Brussels Capital Region does have detailed Bike parking standards

- (Article 14 Para 4) For new residential buildings and those undergoing major renovation with more than *three* car parking spaces: At least two bicycle parking spaces for every residential building unit. A legally non-binding recital stipulates that the rule of two bicycle parking spaces per residential unit should also apply to buildings without car parking.
- For residential and non-residential buildings, requirements regarding charging infrastructure for electric vehicles shall be included with the following precisions relevant for electric power assisted bicycles.
    - For new/renovated non-residential buildings with more than five car parking spaces [Article 14; Para 1; Sub Para (b)] “the installation of pre-cabling for at least 50 % of car parking spaces and ducting, namely conduits for electric cables, for the remaining car parking spaces, to enable the installation at a later stage of recharging points for electric vehicles, electrically power-assisted cycles and other L-category vehicle types”.
    - For all other Non-residential buildings with more than twenty car parking spaces [Article 14; Para 2; Sub Para (a)] “the installation of at least one recharging point for every 10 car parking spaces, or of ducting, namely conduits for electric cables, for at least 50 % of the car parking spaces to enable the installation at a later stage of recharging points for electric vehicles”.
    - For New/renovated residential Buildings with more than three car parking spaces [Article 14; Para 4; Sub Para (a)] “the installation of pre-cabling for at least 50 % of car parking spaces and ducting, namely conduits for electric cables, for the remaining car parking spaces to enable the installation, at a later stage, of recharging points for electric vehicles, electrically power-assisted cycles and other L-category vehicle types”.
- The text also requires EU Member States to provide technical assistance to building owners and tenants seeking to install recharging points and bicycle parking spaces (Article 14; Para 9).

Member States will also have to adhere to the extensive mandate outlined in the directive: “Member States shall ensure the coherence of policies for buildings, active and green mobility, climate, energy, biodiversity and urban planning.” (Article 14; Para 9)

Similar to other EU Directives, Member States retain the authority to invoke specific “qualifications” that may allow Member States to adjust the required number of bicycle parking spaces for certain types of non-residential buildings.

1. For both ***new residential buildings and residential buildings undergoing major renovation***, “Member States may, subject to an assessment by local authorities and taking into account local characteristics, including demographical, geographical and climate conditions, adjust requirements for the number of bicycle parking spaces.” (Article 14; Para 4; Sub para 4)
2. With regard to ***residential buildings undergoing major renovation***, “where ensuring two bicycle parking spaces for every residential building unit is not feasible, Member States shall ensure as many bicycle parking spaces as appropriate.” (Article 14; para 4; Sub Para 5)
3. In the case of ***non-residential buildings (new, renovated and existing),*** “Member States may adjust requirements for the number of bicycle parking spaces […] for specific categories of non-residential buildings that are not typically accessed by bicycles.” (Article 14; Para 3)

	Residential buildings	Non-residential buildings
Definition	'bicycle parking space' means a designated space for parking at least one bicycle	
Bike parking in **new and renovated** buildings	*At least two bicycle parking spaces for every residential building unit* Trigger point: 3 car parking spaces Non-binding recital: Two spaces per dwelling should also apply where there is no car parking	*Bicycle parking represents 15% of **average** or 10% of **total** user capacity of the building* Trigger point: Five car parking spaces
Bike parking in **existing** buildings	N/A	*Bicycle parking representing 15% of **average** or 10% of **total** user capacity of the building by 1 January 2027* Trigger point: 20 car parking spaces
Cargo bikes	No	Yes
E-charging infra	Yes	Yes
Derogations	"Member states may, subject to an assessment by local authorities and taking into account local characteristics, including demographical, geographical and climate conditions, adjust requirements for the number of bicycle parking spaces." "Where, in the case of major renovation, ensuring two bicycle parking spaces for every residential building unit is not feasible, Member States shall ensure as many bicycle parking spaces as appropriate."	"Member states may adjust requirements for the number of bicycle parking spaces [...] for specific categories of non-residential buildings that are not typically accessed by bicycles."
Coherence with other policy areas	"Member states shall ensure the coherence of building policies, active and green mobility, climate, energy, biodiversity and urban planning."	
Technical assistance	"Member states shall ensure the availability of technical assistance for building owners and tenants wishing to install recharging points and bicycle parking spaces."	

Table 1 – final outcomes of the Energy Performance of Buildings directive review

4.4. Assessment of Results and National Implementation

This section brings together the results and implementations, it is difficult to assess the results separate from the implementation of the directive as there are some uncertainties about how the results can be interpreted and thereafter implemented. There are some rather vague terms and requirements in the text of the directive. We understand that the European Commission is already looking at how the EU Member States should be implementing the phasing out of financial incentives for stand-alone boilers in the EPBD.

4.4.1. Quantifying the requirements

Residential Buildings

The requirement for residential buildings is the clearest and relatively most straightforward of the bicycle parking requirements to implement. It is an excellent result and with requirements of at least two bicycle parking spaces for every residential building unit, means that with an average household size of 2.3 in the EU, every resident in such a building would be entitled to at least one bike parking space.

Non-Residential Buildings

For non-residential buildings the provision of bicycle parking spaces must represent at least 15% of average or 10% of total user capacity of that building. We believe there could be confusion over the term 15% of average user capacity. Member States could choose to take a backward-looking approach and gather data on occupancy rates over a certain period of time (for example, a year), and then find the average occupancy rate for that period of time. However, this may require input from the European Commission in terms what this phrase means and how it could be interpreted and implemented. We would recommend that holidays or periods of low use of the building are not included as this would mean that the bicycle parking would not be sufficient to cater for buildings at busy times.

Other measurements could include recommended space per person in the building. There are some national legislation in place for this, for example, in the Netherlands, guideline NEN 1824: 2010[13] stipulates you must have at least 4m^2 per employee; in France, although employers are not required by law to provide a minimum amount of office space per employee, they are encouraged to follow norm Afnor NF-102[14] that recommends at least 10m^2 per employee; finally, in Belgium, the *Code du bien- être au travail*[15] (the Act on the Wellbeing at Work) requires that employees have 2m^2 of free space for themselves to move around in a safe and secure manner; additionally national safety regulations may also set rules on the maximum number of people one can hold in a confined space, such as a stadium or concert hall). Taking these national norms, as well as the size of the building and the regulatory of use the average capacity could be gauged without recourse to a headcount over time.

Electric Charging infrastructure

The electric charging requirements are vague and not clear. The requirement is only to provide pre-cabling for 50% of the car parking spaces, and to ensure the presence of ducting (but no cabling) for the remaining 50%. On this interpretation, there would be no separate requirement for a socket for any of the parking spaces, whether for cars or for bikes, though for 50% a cable that could (presumably) easily be attached to a socket should be present. Any cabling or ducting would have to separately provide for “recharging points for ... electrically power-assisted cycles and other L-category vehicle types.” The bike charging outlet could either be separate (i.e., a totally different cable and socket) or integrated into the car charging point, while ensuring that the voltage and other aspects do in fact allow for bike charging. However, there are good arguments why the provision should be interpreted

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[13] NEN, “NEN 1824:2010 nl: Ergonomics - Ergonomic requirements for the surface of (workplaces in) administration and office spaces”, published 1 June 2010, available at https://www.nen.nl/en/nen-1824-2010-nl-145544.
[14] “Norme Française NF X 35-102”, available at https://infosdroits.fr/wp-content/uploads/2012/11/AFNOR-35_102.pdf.
[15] “Code du bien-être au travail” amended by Royal decree of 2 May 2029, available via https://emploi.belgique.be/sites/default/files/content/documents/Bien-%C3%AAtre%20au%20travail/R%C3%A9glementation/Code%20livre%20III%20titre%201%20Exigences%20de%20base%20relatives%20aux%20lieux%20de%20travail.pdf.

so as to create a separate, and separately usable, bike charging point that cannot simply be blocked by a car.

The provision requires the installation or charging points “for” 50% of car parking spaces, and not “at” 50% of the car parking spaces. The way the sentence is written, the provision also requires that the pre-cabling or ducts must “enable” the installation of a bike charging “point.” A charging point should commonly be understood as a dedicated place that can easily be accessed by the relevant vehicle class. The provision would not then be in the spirit of Article 14 overall and its coherence provision in Article 14(9) if the bike charging station could simply be coupled to a car charging station and be inaccessible if there is currently a car at the same spot. This result would not create an effective “recharging point.”

We should also look at the Statement of intent in the recently signed European Declaration on Cycling that states that the European institutions (including the Member States) will commit to “supporting the deployment of charging points for e-bikes in urban planning and in bike parking spaces inside and outside buildings.”

Requirements for larger bicycles

We do not think that a label or classification of what a “Bicycle with larger dimensions than standard bicycles” should be as this may act as a barrier to tricycles, three wheeled or 4 wheeled cargo bikes, wheelchairs, or other sustainable and useful smaller vehicles that are not strictly classed as ‘bicycle’ or are not captured within an all-encompassing definition but may be a useful sustainable and efficient mode of transport. Rather we believe that a specific measurement would be more equitable.

Width

At first sight width would not be a useful measurement in determining what a “Bicycle with larger dimensions” actually is since there is little variance between the width of carrier cycles and conventional bicycles. Most conventional bicycles are limited to around 75 cm measured at their widest point (the handlebars), whereas a carrier cycle does not differ too much from this being limited to between 75 – 110 cm, with the widest part often (though not always) being the handlebars. However, when it comes too bicycle parking, there is a difference in that the carrier cycle often has a bulky container whereas the conventional bicycle does not, therefore conventional bicycles can be packed into smaller spaces as it is only the handlebars that overlap. This is not appropriate for carrier cycles since they will not overlap so easily, especially multi-track carrier cycles and tricycles. Therefore, maximum width should not be seen as an equal measurement between conventional cycles and carrier cycles, there will be differences in terms of the bulk of the various bicycle categories and how this impacts how they are stored and parked. An increase in width should be taken into account when applying a measurement for “Bicycle with larger dimensions”.

With regards to official width limits to cargo bikes (or Carrier Cycles to give them their official ISO and CEN standard title), the German DIN (79010) standard gives maximum widths as 100 cm for a single track (two wheel) carrier cycle, and 200 cm for a multi-track (3 to 4 wheel) carrier cycle, while the French (NF 30-050) standard gives 110 cm for all. Most limits within highway codes are between 75 – 110 cm when stated, most EU member States do not provide a limit in their road rules and regulations.

Of course, larger bicycles do not just mean carrier/cargo bikes, there are also larger tricycles (that are often electrically power assisted), tandem bicycles, and bicycles for people with physical disabilities. In the same way that wider car parking spaces are sometimes provided, there simply may be the need to provide wider bicycle parking spaces for these types of bicycles and their users.

Length

Of course, the main and most obvious difference between carrier cycles and conventional cycles is in the length. Most single-track carrier cycles can be around 250-280 cm long, longer than a conventional cycle of 170–180 cm for the average adult bicycle. This extra length is also the contributing factor to the larger turning circle that should also be considered when providing space for larger bicycles. There are no maximum limits for length in amongst the various national, European, or global standards or road rules. Probably due to the fact that width is the most important factor when using the bicycle on cycling infrastructure. Therefore, we have no official signpost as to what a length measurement should be.

Area

The best way out could be to select the top 5 best-selling carrier cycles and determine the longest measurement and the widest, and then the overall m^2 area and apply this to the EPBD requirements.

4.4.2. Qualifying text "Derogations"

There was the addition of a number of "qualifiers" within the final text, which leave some leeway for interpretation for Member State implementation of the quantified number of parking spaces for bicycles. This section takes a look at the wording of each and interprets how national or European authorities should respond.

"Adjustment" (Article 14 Para 3 and Para 4 Sub Para 4)

Article (14 Para 3 and Para 4) state that Member States may "adjust requirements for the number of bicycle parking spaces".

Para 3 in the case of non-residential buildings "Member States may adjust requirements for the number of bicycle parking spaces in accordance with paragraphs 1 and 2 for specific categories of non-residential buildings that are not typically accessed by bicycles".

Para 4 in the case of non-residential buildings "By way of derogation from the first subparagraph, Member States may, subject to an assessment by local authorities and taking into account local characteristics, including demographical, geographical and climate conditions, adjust requirements for the number of bicycle parking spaces".

The word "adjust" can be interpreted as either lowering or increasing the number of bicycle parking spaces. First, we believe that this should be seen as a strong incitation for those Member States that do have good bicycle parking requirements to improve their current requirements and make them more fully align with any increases in cycling.

"Adjust" could also mean adjusting down the numbers of bicycle parking spaces. However, we believe that the recently signed European Cycling Declaration, a political document agreed by all the European institutions, *gives a clear commitment by all Member States to increase cycling, and its infrastructure*. The Declaration provide a set of principles of which "The promotion and implementation (of cycling) …is a political commitment of the Union", other commitments include.

- "…significantly increasing safe and coherent cycling infrastructure across Europe"
- "…ensuring the provision of safe and secure bike parking spaces in urban and rural areas"
- " …developing, adopting and strengthening cycling policies and strategies at all relevant levels of governance"

- "…encouraging companies, organisations and institutions to promote cycling through mobility management schemes such as cycle to work incentives, the provision of company (e-) bikes, adequate cycle parking and facilities, and the use of bike-based delivery services"
- "…improving security at public bike parking spaces (including bike sharing and multimodal hubs), and increasing efforts to tackle the issue of bike theft"

It also states that "More and better safe cycling infrastructure across the EU is essential to attract more people to cycling, in and between urban and rural areas", this is a clear commitment to increase cycling, particularly in areas and buildings that may have lower numbers of cyclists.

The recital within the EPBD also states:

"A shift to active mobility such as cycling can significantly reduce greenhouse gas emissions from transport …As set out in the communication of the Commission of 17 September 2020 on 'Stepping up Europe's 2030 climate ambition — Investing in a climate-neutral future for the benefit of our people' (the 'Climate Target Plan'), *increasing the modal shares of clean and efficient private and public transport, such as cycling*, will drastically lower pollution from transport and bring major benefits to individual citizens and communities. The lack of bicycle parking spaces is a major barrier to the uptake of cycling, both in residential and non-residential buildings. Union requirements and national building codes can effectively support the transition to cleaner mobility by establishing requirements for a minimum number of bicycle parking spaces, and building bicycle parking spaces and related infrastructure *in areas where bicycles are less used* can lead to an increase in their use." Recital (53)

The statement that "…building bicycle parking spaces and related infrastructure *in areas where bicycles are less used* can lead to an "increase in their use" here shows the clear intention of the legislation that there needs to be a *higher* provision of bicycle parking "…in areas *where bicycles are less used"*, rather than a *lower* provision of bicycle parking in those areas. Therefore, when taken in context with "adjust" meaning to increase, Member States are directed to take into account the local situation and aim to *increase* cycling numbers through an increased provision of bicycle parking "…*where bicycles are less used"*.

We also note that Article 14 Para 9 states that "Member States shall ensure the coherence of policies for buildings, active and green mobility, climate, energy, biodiversity and urban planning." Given the clear and concrete commitment by all the European Member States within the context of the European Cycling Declaration, an "active and green mobility" policy, to promote and advance the use of the bicycle, there would need to be a corresponding commitment to improve and commit to an increase in the numbers of bicycle parking if such a coherence between these policy developments and commitments were to be established. Committing to increasing cycling numbers in the EU Cycling Declaration (an "active and green mobility" policy) would need a clear increase in bicycle parking in order to maintain coherence with the "buildings" policy.

In conclusion, we would argue that the commitments in the European Declaration on Cycling, the EPBD Recitals and the EPBD Article 14 para 9 text, would mean that the derogation to "adjust" the numbers of cycling infrastructure, whether in cycling dominant areas, or in places that "…are not typically accessed by bicycles", can only be applied to increase cycling infrastructure as a means to increase cycling. This should not be read as a commitment to cater for the current number of cyclists but to increase cycling numbers, particularly in the case on non-residential buildings, where they "…are not typically accessed by bicycles". These "qualifying" statements of Para 3 and 4 then, we would argue, are not necessarily derogations to allow Member States to provide less bicycle parking under certain conditions, but rather to incentivise the increase of bicycle parking, and for non-residential buildings, to increase bicycle parking, particularly in conditions of less bicycle use in order to stimulate its use.

“Appropriateness” (Article 14; Para 5)

For residential buildings the text states “Where, in the case of major renovation, ensuring two bicycle parking spaces for every residential building unit is not feasible, Member States shall ensure as many bicycle parking spaces *as appropriate*.” (emphasis added)

The notion of appropriateness in EU law most commonly arises in the context of a proportionality analysis. The principle of proportionality requires that measures adopted do not exceed the limits of what is appropriate and necessary in order to attain the objectives pursued by the legislation. So, when there is a choice between several appropriate measures, the least burdensome measure must be chosen, and the disadvantages caused should not be disproportionate to the aims pursued. So, the EU would require a Member State to adopt the least detrimental choice to the overall objective. Given the wording of Article 14 and the recital as quoted above, this objective is clearly intended to promote behavioural change. Therefore, when assessing appropriateness, the main focus should be on the legislative objective of the EPBD, which is to promote active mobility through parking measures, while giving only those reductions to parking spaces that are truly necessary. We would argue that a reduction to only one parking space per dwelling rather than eliminating them entirely would be the only reduction available when interpreting *appropriate*.

“Feasibility” (Article 14; Para 5)

With regard to residential buildings undergoing major renovation, Para 5 also talks about feasibility “where ensuring two bicycle parking spaces for every residential building unit *is not feasible*, member states shall ensure as many bicycle parking spaces as appropriate.”

We interpret “not feasible” to mean that there is an absence of physical space for bicycle parking available, in other words there can be no choices between how a parking space is apportioned since it does not exist. If there is parking space available for either car parking or bicycle parking, then it is feasible that that space can be apportioned to bicycle parking. Therefore, if there is space for car parking then it must be feasible to apportion that space, or at least a portion of that space as required by the directive (two per dwelling), to bicycle parking. “Non-feasibility” can only be used when there is the literal absence of space for parking.
In such cases, creative solutions should be pursued, such as enabling bicycle parking in courtyards, or on-street. Parking here should be theft-secured, weather-protected and as easily accessible as possible.

Coherence with other sectors (Article 14 Para 9)

Para 9 in the article states.

“Member States shall ensure the coherence of policies for buildings, active and green mobility, climate, energy, biodiversity and urban planning.”

Many municipal and indeed national authorities are committing to a reduction in private motor vehicle use. SUMPs are an urban planning set of policies that cities and municipalities use in order to promote and shift from private car use to sustainable modes such as walking, cycling, and public transport. Bicycle, and also crucially, private car parking are essential ingredients in producing successful SUMP implementations.

The European Commission Communication on the New EU Urban Mobility Framework[16] and the Commission Recommendation (EU) 2023/550 of 8 March 2023 on National Support Programmes for

[16] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023H0550#ntr3-L_2023073EN.01002301-E0003

Sustainable Urban Mobility Planning[17] call for clear action at the Member State level to implement Sustainable Urban Mobility Plans, indeed, both Parliament and Council have agreed that this will be mandatory for more than 400 cities under the TEN-T regulation review[18].

The Commission states that "The development of SUMPs requires an integrated approach which address two dimensions: the integration of urban mobility into the network planning of a transport system ('network approach') and the integration into a cross-sectoral strategy for sustainable urban development ('place-based approach'). This clearly calls for a cross sectoral approach that includes urban planning and building development.

A major priority of SUMPs is the reduction of private motor car use, and the increase of sustainable modes such as walking, cycling, and public transport. This can be seen as a clear incentive for Member States to increase bicycle use and of course bicycle parking within the "qualifying" text of Paras 3 and 4. However, we believe that it is also a call for Member States within their implementation of the EPBD to introduce *maximum* parking norms for private cars for Member States. This would be an obvious and efficient tool within the context of SUMP implementation and management.

In terms of urban planning, new housing developments should always prioritise access by active mobility and public transport over individual car mobility. An example would be in the Dutch coalition agreement of 2022-2025 concerning the plan to build 400,000 new housing units, supported with 7.5bn Euros in accessibility programs. Of that total budget, 750m Euros are to be ring-fenced for cycling investments (including bike parking), 4bn Euros for public transport, and 300m Euros for mobility management measures. When accessibility by foot, bicycle, public transport and shared mobility is easy, safe and attractive, new housing developments can operate with a very low maximum car parking norms – or go completely car-free. An example can be seen in Utrecht where a housing project in new Merwede district, will have maximum car parking (three parking spaces per ten homes) and where motorists must park in parking garages on the edge of the district.

4.4.3. Technical assistance

While the EPBD focuses on establishing quantitative requirements for bicycle parking, it also mandates EU Member States to provide "technical assistance" to building owners and tenants seeking to install recharging points and bicycle parking spaces. The text effectively compels Member States to supplement EU-mandated default quantitative standards with national qualitative norms for bicycle parking.

"Member States shall ensure the availability of technical assistance for building owners and tenants wishing to install recharging points and bicycle parking spaces". (Article 14 Para 8)

This may be seen by the Member States and/or the European Commission as an occasion to provide general guidance that each Member State could, if they choose to, apply to their general situation. There is also an obligation for Member States to set up "one-stop shops" which are to "ensure the establishment and the operation of technical assistance facilities, including through inclusive one-stop shops for the energy performance of buildings, targeting all actors involved in building renovations". It is for the Commission to provide guidance on the setting up of these one-stop shops, this could also include guidance on bicycle parking.

Whether it is the Member State that decides to implement its own standards, or whether the European Commission decides to work on guidelines or recommendations, we would expect the appropriate cycling organisation to be clearly involved in the process

[17] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023H0550
[18] https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2021/0420(COD)&l=en

5. Summary

Cycling is the most energy efficient mode of transport and providing easily accessible and secure parking infrastructure can be important when improving the energy performance of buildings. ECF are happy with the review and changes to the Energy Performance of Building Directive. Bicycle parking will be fully incorporated into the legislation and will require the EU Member States to also update their building regulations to include bicycle parking. The EPBD establishes, for the first time, minimum bicycle parking standards across various categories of residential and non-residential buildings throughout Europe. From a sentence in a recital with the previous iteration to now being fully incorporated within the Article 14 of the of the directive, this is a major step forward. This represents significant progress in influencing people's modal choice and, hence, energy consumption - which ECF has long advocated for. The directive will help reduce greenhouse gas emissions and energy poverty in the EU and make every day cycling easier for millions.

There is some qualifying language in the directive that we believe can be viewed positively by the Member States to increase the number of bicycle parking spaces in their territories. However, we also see that there are also possibilities to reduce the number of bicycle parking spaces. We would urge Member States to take into account the desire to increase cycling that they have committed to within the European Cycling Declaration and within the recitals of the EPBD.

We believe this document can assist Member States in implementing the sometimes-vague wording of the directive, particularly concerning the “derogations” or qualifying text, as well as quantifying the amount of parking, particularly in non-residential buildings, and on how to incorporate space for “larger” bicycles.

Technical assistance for those actually building or planning to build will be a requirement of the directive, and it is the Member State that will have to provide this, ECF would always be willing to provide assistance to public authorities in this respect.

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