

Cut Housing Costs by up to 20%: Reforming Parking Mandates for Affordable Housing

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1. Summary

EU Housing Commissioner Dan Jørgensen spoke of a “housing crisis” at the High-Level Conference in Affordable and Sustainable Housing in Copenhagen, 29 September 2025. He said:

“To solve this crisis, we need to harness every solution at our disposal”.

Almost 44% of European household expenses are on housing and transport. As most trips start and end at home, ECF argues that housing and mobility policies are closely intertwined and therefore cannot be seen in isolation when addressing affordable housing. Both sectors can become more cost-efficient by critically revising off-street parking mandates and prioritising active mobility infrastructure, public and shared transport in new and existing housing developments.

ECF shares the concern that housing is becoming ever more expensive, particularly in urban centres. Strict minimum car parking norms is one of the reasons why construction costs for new homes have grown. Such norms typically require one (off-street) car parking space per residential unit and still apply today in many EU Member States through national, regional and/or local building standards. If built underground, these parking spaces can cost anywhere between €20,000 and €80,000, representing around 10% to 20% of construction costs for each housing unit.

Car parking minimum norms often create parking spaces that are beyond market demand. Parking minimums are typically bundled with apartment purchases and rent, i.e. property owners force households to pay for expensive parking facilities they don't perhaps need or want. When motorists pay for parking in residential buildings, there is little incentive to use other modes of transport. Thus, minimum parking norms lock in car dependency by inducing higher car ownership and mileage as a result. Adding to this, decreases in settlement density, for example through the need to provide access lanes, contribute to urban sprawl, longer distances and a higher probability of car use.

In contrast, buildings that provide easily accessible bike parking and neighbourhoods that are attractive and safe to walk and cycle in, and which are served by public and shared transport

services, encourage inhabitants to live without a private car, making the purchase or rental of expensive underground parking spaces redundant.

To make housing more affordable, ECF strongly recommends:

1. The EU and other competent authorities to critically revise existing car parking norms for residential buildings and complement or substitute them with sustainable mobility requirements.
2. To provide European and national funding to promote the integration of accessible active mobility infrastructure, and public and shared transport services, in new and existing housing developments.

This policy brief has been submitted to the European Commission public consultation on a "European sustainable housing plan": https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/14670-European-affordable-housing-plan/public-consultation_en

2. The high cost of mobility and car parking

2.1 Household consumption expenditure

In 2020, 61% of European household consumption expenditure in the EU was allocated to housing, food, and transportation.

Data from *Household budget survey - statistics on consumption expenditure (02/2025)*¹ shows:

- Spending on **housing**, water, electricity, gas and other fuels accounted for the largest portion of household budgets in the EU: 32.9%. It varies from 8.4% in Malta to 49.2% in Hungary.
- Household expenditure on **transport** accounted for 10.9% of household budgets.

2.2 The high cost of car parking

Building and maintaining underground car parking is financially expensive, and comes with a high carbon footprint and environmental impact. Yet all too often they are a nearly invisible cost that is rarely evaluated as a separate expense.

The exact cost of off-street parking depends on many factors, such as locations within inner cities being much more expensive than peripheral areas, the complexity of the project as well as geological conditions and challenges, such as preventing the infiltration of groundwater.

In the US, Donald Shoup, as professor for urban planning at the University of California, Los Angeles, undertook ground-breaking research on the cost of parking (norms). According to him, the national average cost to build one underground parking space in 2012 was \$34,000 USD.² This equalled 12.5% of total construction costs per housing project.

According to Litman and Doherty from the Victoria Transport Policy Institute, parking accounts for about 10% of the development costs of a typical building.³

The traffic club Austria (VCÖ) estimates the average underground car parking space to cost between €20,000 to €30,000, equalling 10-15% of total construction costs.

COB, a Dutch knowledge centre for underground constructions, puts the average price of underground car parking in the country at around €40,000.

Research on housing infrastructure costs in Helsinki states that the cost of a unit price of one underground parking space, in cases where the groundwater table is high, ranges from

¹ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Household_budget_survey_statistics_on_consumption_expenditure

² Shoup, D. (2014): The High Cost of Minimum Parking Requirements. In S. Ison and C. Mulley, eds., *Parking Issues and Policies* (Transport and Sustainability, Volume 5), pp. 87–113. Emerald Group Publishing Limited. ISBN 978-1-78350-919-5. doi: 10.1108/S2044-994120140000005011.

³ Litman, T. and E. Doherty (2018), "Parking Costs", in *Transportation Cost and Benefit Analysis II*, Victoria Transport Policy Institute, Victoria, BC, <http://www.vtpi.org/tca/tca0504.pdf>; Litman, T (2025), *Parking Requirement Impacts on Housing Affordability: The Costs of Residential Parking Mandates and Benefits of Reforms*. <https://www.vtpi.org/park-hou.pdf>

approximately €60,000 to €80,000 Euro.⁴ In downtown Amsterdam, the cost of an underground parking garage ranged from €50,000 to €80,000 per space as noted in a 2009 dissertation.⁵

Table 1: The high cost of underground car parking

Geographic Scope	Cost per underground parking space in new developments	Share of cost for new housing developments related to underground parking	Source
Austria	€20,000 – €30,000	10-15%	VCÖ, 2025 ⁶
Sweden	€20,000 – €50,000	10-20%	Housing Europe ⁷
Canada		10%	Todd Litman
US	\$34,000 – Average price for underground parking space in the US in 2012	12.5%	Donald Shoup
Netherlands	€40,000		COB, Dutch knowledge centre for underground constructions ⁸
Helsinki	€60,000 – €80,000 (in high-density areas, where groundwater table is high)		Antti Kurvinen
Amsterdam	€50,000 – €80,000		Derk Wentink

Mandated minimum car parking requirements significantly increase construction costs (underground garages, multi-storey parking structures, etc.), which are then passed on to residents through higher rents or purchase prices.

Michael Johansson from Lund University concluded as part of the Interreg SHARE-North Squared project: *“Parking minimums increase parking supply beyond what property owners would voluntarily provide, to improve motorists’ convenience and reduce eventual spillover problems. Property owners, in that perspective, force many households to pay for expensive parking facilities they don’t perhaps need, and increase total housing costs as a result.”*⁹

Shoup stipulated that minimum parking requirements decrease the costs of driving at the expense of increasing development costs.¹⁰

⁴ Kurvinen, Antti; Saari, Arto (2020), "Urban Housing Density and Infrastructure Costs" Sustainability 12, no. 2: 497. <https://doi.org/10.3390/su12020497>

⁵ Wentink, Derk. (2009), "The Real Price of Parking Policy: The Effect of Parking Policy on the Housing Market in Amsterdam". Masters dissertation (unpublished). Vrije Universiteit (VU). Amsterdam.

⁶ <https://vcoe.at/publikationen/vcoe-factsheets/detail/stellplatzvorgaben-umfassend-reformieren>

⁷ <https://www.housingeurope.eu/would-our-homes-be-more-affordable-if-they-had-less-parking-space/>

⁸ <https://www.cob.nl/magazines-brochures-en-nieuws/verdieping/verdieping-juni2013/beheer-en-onderhoud/standaardconcept-voor-goedkopere-parkeergarages/#:~:text=De%20kostprijs%20voor%20een%20parkeerplaats,gemiddeld%20op%20circa%2040.000%20euro.>

⁹ Johansson, Michael (2024): Parking for sustainable cities - How to understand innovative parking development. Interreg SHARE-North Squared. Department of Service Studies Lund University. <https://portal.research.lu.se/en/publications/parking-for-sustainable-cities-how-to-understand-innovative-parking>

¹⁰ Shoup, D. (1999). The trouble with minimum parking requirements. Transportation Research Part A: Policy and Practice, Vol. 33/7, pp. 549-574, [http://dx.doi.org/10.1016/S0965-8564\(99\)00007-5](http://dx.doi.org/10.1016/S0965-8564(99)00007-5).

3. National and regional car parking norms in Europe

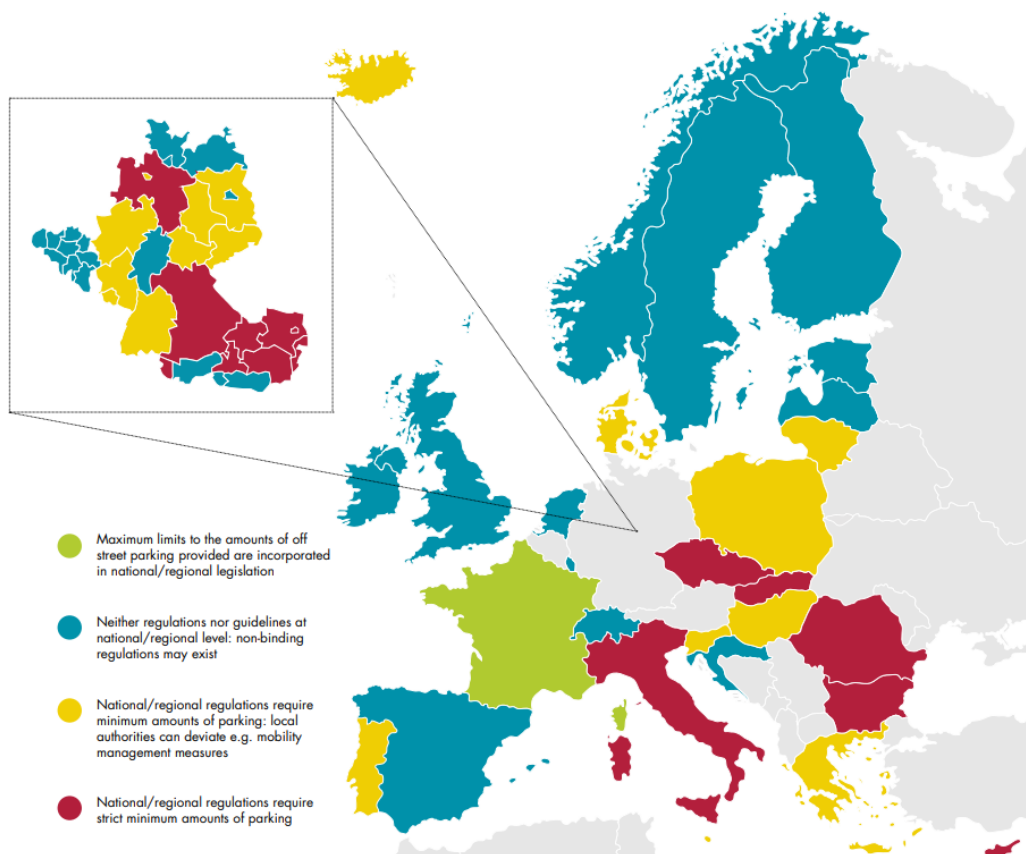
The 1939 *Reichsgaragenordnung* from NaziGermany was one of the early examples of setting car parking mandates. In post-war Europe, the rule of one car parking space per residential unit became established and has survived as a default in many jurisdictions to this day.

Car parking norms are often regulated through regional and national building codes. ECF's 2018 comparative analysis of such norms showed that 53% of all countries in Europe and 68% of federal states in Austria, Belgium and Germany have some form of minimum car parking requirements in place. In Austria, for example, that is the case for seven out of the ten federal states.¹¹

Our map below also points to jurisdictions where no such strict national and regional parking minimums apply. For example, Hamburg abolished its minimum parking requirement for apartment buildings and students homes in 2014.¹²

National and regional norms are often complemented by local building codes.

Image 1: Country-specific regulations on car parking in apartment buildings



¹¹ Küster, F. and Peters, M. (2018). Making buildings fit for sustainable mobility – Comparing regulations for off-street bicycle and car parking in Europe. European Cyclists' Federation. Brussels. November 2018."

¹² <https://www.hamburg.de/resource/blob/190326/37d8b9d0e84974a67cc4a3bd96929027/faq-48-hbaueo-stellplaetze-fuer-kraftfahrzeuge-und-fahrradplaetze-data.pdf>

Case study: Austria

- Four out of five trips in Austria either start or end at home.
- 60% of the population live in an urban area. At the same time, the area of very heavily sprawled settlements has increased more than fivefold since 1975.
- Household expenditure on transport is the second most important item in Austrian households (13.9%), well above the EU-average of 10.9%.
- Single-person households are growing in Austria. The figure increased from 30% in 2000 to 38% in 2023.
- Most federal states apply strict minimum parking norms, typically one car parking space per housing unit. Exceptions are:
 - In Carinthia and Tyrol, local governments set the norms.
 - In Tyrol, Upper Austria and Vorarlberg the state sets an upper limit.
 - in Vienna the norm is one car parking space per 100m² living space.
- Local minimum norms often go beyond federal state norms. In Eisenstadt (Burgenland), two car parking spaces per housing unit must be provided.
- One car parking space in an underground car park costs between €20,000 and €30,000. Mandatory parking spaces account for 10 to 15% of total construction costs in residential buildings, which are passed on to residents in both sales and rentals.
- Most parking space regulations are geared towards cars and take little or no account of publicly accessible mobility services. Although property developers throughout Austria are legally obliged to build car parking spaces as standard, there are no mandatory requirements for connections to public transport or the provision of sharing services. The requirements for the construction of bicycle parking spaces are also incomplete, although they need to be addressed by transposing the Energy Performance of Buildings Directive (EPBD) into Austrian law by May 2026.
- The obligation to build car parking space in new dwellings goes back to the National Socialist *Reichsgaragenordnung* of 1939. Its explicit goal was to promote motor vehicle traffic, which was still new motor traffic. With the increasing ownership of cars from the 1960s onward, cities added the argument that private parking spaces would prevent the clogging of public space by parked cars.

Main source: VCÖ

4. Substituting car parking norms for residential buildings by sustainable mobility requirements

Typically, car parking minimums mandate one car parking space per residential unit. Research has shown that this requirement usually goes beyond market demand, particularly in large cities.¹³

Demand for car usage and hence car parking space can decrease through a set of **urban planning** and **mobility management** measures:

- Mixed-used neighborhoods with high-quality public space and destinations such as schools and grocery stores that are within walkable distance;
- Bike parking in apartment buildings that is easily accessible, in sufficient quantity and theft-secured. From May 2026, through transposing the EPBD into national law, two bicycle parking spaces per residential unit will need to be provided in new and renovated residential buildings with more than three car parking spaces;¹⁴
- Safe and coherent cycle route networks that allow for convenient access to major destinations across the village, town and city;
- Residential neighborhoods that are well served by regular public transport services and public transport stops are in walkable distance;
- The existence of bike and car-sharing opportunities. In Sweden, one shared car substitutes five private cars, freeing up parking space corresponding to four private passenger cars.¹⁵

Parking maximums

The CIVITAS Park4SUMP guide recommends reversing the typical approach of parking minimums by replacing it with maximums.

“New urban developments should include maximum standards for car parking and minimum standards for bike parking to shift mobility use towards sustainable or active solutions. These standards can be area oriented and should consider public transport accessibility, as well as evolve according to changing mobility patterns.”¹⁶

Car-free neighborhoods and districts

The Dutch City of Utrecht goes much further than setting parking maximums. Its new district Merwede with more than 6,000 apartments will be car-free. The district will offer a mix of housing, educational institutions, work places and recreation, all in within walkable distances.

“With this milestone, Merwede is making an important contribution to solving the housing shortage and developing future-proof, green residential areas”, the city proudly claims on its website.¹⁷

¹³ Johansson, 2024.

¹⁴ Energy Performance of Buildings Directive (EU) 2024/1275, Art. 14 Sustainable Mobility. Read also ECF position https://www.ecf.com/media/resources/2024/ECF_EPBD_Summary_Document_May_2024_Final.pdf

¹⁵ Johansson, 2024.

¹⁶ https://park4sump.eu/sites/default/files/2022-09/EN_Final%20Brochure_CIVITASPark4SUMP.pdf

¹⁷ “Met deze mijlpaal levert Merwede een belangrijke bijdrage aan het oplossen van de woningnood en de ontwikkeling van toekomstbestendige, groene woonwijken.” <https://www.utrecht.nl/nieuws/nieuwsbericht-gemeente-utrecht/bouw-grootste-autovrije-stadswijk-van-nederland-merwede-van-start>

The table below, developed by Michael Johansson, clearly shows how lower car ownership would reduce the demand for parking space. The figures are based on the car ownership of 441 cars per 1,000 inhabitants in the Swedish town of Helsingborg.¹⁸

Table 2: Table of expected population increase through urbanisation, car ownership parking figures and expected need for parking space in the form of football pitches.

Urbanization (population growth)	Car ownership (441 cars/1,000 inhabitants)	Parking number (parking lot/apartment)	Expected need for parking space
1 000 inhabitants	441 cars	1 0.5 0.3	1.2 football pitches 0.6 football pitches 0,37 football pitches
10 000 inhabitants	4 410 cars	1 0.5 0.3	12 football pitches 6 football pitches 3,7 football pitches
25 000 inhabitants	11 025 cars	1 0.5 0.3	31 football pitches 15.5 football pitches 9,2 football pitches
50 000 inhabitants	22 050 cars	1 0.5 0.3	62 football pitches 31 football pitches 18,5 football pitches

Lower parking minimums drastically reduce the need to build underground parking.

¹⁸ Johansson, 2024.

5. Sustainable and accessible mixed-used housing developments

The demand for parking is higher in cities that high volumes of car traffic compared to cities that prioritise walking, cycling, public transport and shared mobility services. As trips to and from homes constitute most of all trips, it is important that residential neighbourhoods are walkable, connected to safe cycling networks and served by public transport options.

Shared mobility services should also be on offer. Proper parking management ensures the availability of an adequate number of bicycle spaces as well as parking spaces for these shared vehicles.

Community-oriented urban environments promote compact, mixed-use neighbourhoods that not only prioritise these sustainable modes, but also reduce demand for travel in the first place.

Authorities are beginning to make the link between housing and mobility. To address the massive shortage of homes in the Netherlands, 400,000 homes are planned to be built between 2022 and 2030 across the country, including in 17 large-scale housing development projects. To ensure accessibility to these new homes, the Dutch national government has initiated a programme costing €7.5 billion Euro. Ten percent of that budget – €750 million – will be invested in cycling infrastructure, ensuring adequate accessibility of these developments by bicycle.¹⁹

6. ECF Policy Recommendations

Article 14.9 in the EPBD sets broad instructions to Member States to align policies for sustainable housing and mobility. Specifically, it says: “*Member States shall ensure the coherence of policies for buildings, active and green mobility, climate, energy, biodiversity and urban planning.*”

Building on the EPBD and the European Commission initiative for affordable housing, ECF argues that new and existing housing should promote walkability, cyclability, and the use of public transport and shared mobility. To that end, ECF recommends two key policy actions:

- 1. The EU and other competent authorities to critically revise existing car parking norms for residential buildings and complement or substitute them with sustainable mobility requirements.**
- 2. To provide European and national funding to promote the integration of accessible active mobility infrastructure, and public and shared transport services, in new and existing housing developments.**

Lower ownership rates of private cars will reduce the pressure to provide parking spaces accordingly – and save up to 20% of constructing new homes.

¹⁹ <https://www.volkshuisvestingnederland.nl/actueel/nieuws/2022/11/14/miljardeninvesteringen-voor-bereikbaarheid-woonwijken-in-heel-nederland>



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