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Reducing the harms from ever larger cars

Parking policy, taxation, and regulation could help curb sales and health risks

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Sports utility vehicles (SUVs) are passenger cars that have a chassis with extra ground clearance and are generally taller, wider, and heavier than other models. Once a niche vehicle for offroad driving, SUVs now make up half of new car sales globally, up from 15% in 2010.[1] In the UK, SUVs accounted for 63% of new sales in 2024, compared with 12% in 2010. The proliferation of SUVs is one aspect of the wider trend of "carspreading," whereby cars are becoming steadily larger over time,[2 3] and with this comes potential harms to health.

In a collision, pedestrians and cyclists are at greater risk if hit by an SUV than by a regular car.[4 5] A recent systematic review found a 44% relative increase in the likelihood of death for an adult pedestrian or cyclist hit by a SUV or similarly large car compared with a standard car.[4] For children there was an 82% relative increase in the likelihood of death.

The taller, squarer bonnets of SUVs cause more serious injuries.[6] When an adult pedestrian is hit by a car, often they are struck close to the knees before being carried on to the car bonnet. If hit by an SUV, the pedestrian is more likely to be struck on the pelvis and then flung forward into the road, increasing the chance that the SUV rolls over them. For children, the point of impact may be their head. Poorer visibility for drivers in large SUVs further increases risk to children. The average driver in a Land Rover Defender cannot see a 4 year old child standing directly in front.[2]

Increasing bonnet heights much above 75 cm makes collisions more lethal, all other things being equal.[2] Nonetheless, vehicle manufacturers continue to increase bonnet heights by 0.5 cm a year, with average bonnet height increasing from 77 cm in 2010 to 84 cm in 2024 among new car sales in Europe.[2] Across the same years, new cars in Europe also grew 0.5 cm wider a year.[7] Thus, those who walk or cycle—or want to do so—face each year a cohort of new cars that have a more dangerous shape. These vehicles reduce the space available for cyclists (and other two wheelers) to move safely beside them and make it harder to achieve an increase in active travel and the substantial associated public health benefits.[8]

Carspreading is also an obstacle to achieving climate and air quality goals. Counting cars and SUVs together, around 80% of all new sales run exclusively, or partly, on fossil fuels, while 20% are all electric. SUV versions of regular sized petrol cars emit more carbon. Volkswagen's T-Roc SUV, for example, emits 11% more CO_2 than the VW Golf on which it is based.[9] Bigger vehicles, whatever their fuel type, use more raw materials in production, pushing up carbon emissions.

SUVs also increase air pollution as particles thrown off by tyre and road wear increase with rising vehicle weight. In Europe's urban areas, air pollution from non-exhaust emissions (ie, tyres, brakes, and road wear) now dominates particulate matter pollution.[10] The fine particles of this pollution can enter lungs and the circulatory system, and may be important contributors to chronic illnesses and premature mortality.[17]

Reversing the trend

Action is needed locally, nationally, and internationally to curb sales of new SUVs and to reduce their presence in urban areas. Cities can apply higher parking fees, as has recently been announced in Cardiff.[11 12] In Paris, the best known example, authorities report a large decrease in SUVs parked on streets.[13] The French cities Bordeaux, Grenoble, and Lyon vary parking charges by vehicle weight, while German cities Aachen, Cologne, Koblenz, and Tübingen vary charges by either weight or size.

The UK currently has some of the lowest tax charges on large cars in Europe, and reforms to vehicle excise duty could also create stronger incentives for smaller cars.[14] For instance, a BMW X5 has an acquisition tax of £3200 in the UK versus £66 000 in France, and it is therefore unsurprising that sales of the largest SUVs are four times higher in the UK than in France.[15]

Vehicle width and length are stated on registration certificates in Germany and Italy but not in most other European countries. Including dimensional information on registration certificates adds insight for policy makers considering tax and parking reforms. Moreover, mandating such data on certificates will also increase public consciousness of rising vehicle size. Including a requirement for bonnet height or total vehicle height, in addition to width and length, would be valuable, given the effects on injury severity.

Well established pan-national safety rating programmes such as Euro NCAP provide independent vehicle safety ratings based on crash avoidance and mitigation measures.[16] Such programmes could implement a "child visibility test," which would encourage lower bonnet heights in future vehicle designs.[2]

Further engagement and advocacy are vital to secure reform of parking rates and car taxation, making them more proportionate to harm. National and supra-national regulators also need to be convinced to adopt reforms that reduce ever-increasing bonnet heights and vehicle widths. We urge health professionals, as opinion leaders in society, to raise their voices in supporting the health and environmental case for policy action.

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