

Create Streets
Briefing Paper

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The bin-lorry effect

How new homes and places are ruined by highways' regulations and how we can fight back

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Chaos theory famously outlines 'the butterfly effect' in which a tiny change in initial conditions can create vastly different outcome. In Western Europe, a butterfly beats her wings. Far off in Asia, a hurricane happens in indirect consequence. Something similar, if a little less complex, is happening in urban design and highways policy. We might call it the bin-lorry effect. It is ruining most new developments and stopping us from building the next Bath or Barcelona. Not because we mean to. It somehow just happens. Most great new places are built despite the guidance not because of it. This should change.

Highways departments' well-intentioned rules or guidance have had a devastating effect on new housing developments over the past 80 years. Many have led to roads not streets, units not homes, and 'could-be-anywhere' housing developments, not real places with centres and edges. A range of rules have the effect of stopping you getting out and about, preventing you meeting your neighbours, stopping you from creating communities and locking you into car dependence. For each rule I will suggest potential resolutions to help win the battle against poor places and prevent highways' design from ruining our health and happiness.

How new homes and places are ruined by highways' regulations and how we can fight back

'New places are designed by the wheelie bin operators' Evidence to the Building Better Building Beautiful Commission, 2019

Effect one: Bin collectors cannot walk more than a few metres from the lorry to your bin. Many local authorities have standards stating that bin collectors must be able to pick up rubbish without walking more than a few metres. In Islington the maximum is 10m from the lorry. ¹

It may sound logical but this results in a number of unwanted outcomes:

- Firstly, large unsightly and environmentally damaging asphalt turning areas are needed in almost every small side road; and
- Secondly, underutilised dead spaces, which could be used for homes, are left on edges of developments.

There are two ways we can fix this. One is to comply with the 10 metre standard by using communal bins, often placed underground and close to the main road. This may also require the alteration of another rule, in Islington at least, that 'storage areas for residential dwellings should be sited so that the occupiers are not required to carry waste more than 30 metres'. A further benefit of using communal bins is avoiding the unsightly image of bin- (rather than tree) lined streets.

The second solution would simply be to extend the distance bin collectors can walk. The addition of a few metres could dramatically increase the number of homes we can build and reduce the acres of asphalt used in developments for wide turning areas.



Communal bins in Freiburg, Germany

¹ Islington Street Environment Services (2013), Recycling and refuse storage requirements, p10.

Effect two: Designing our streets around bin lorries, instead of designing bin lorries around our streets. Developments should place the human experience first. Instead we make a thousand tiny cuts to the quality of future places by requiring street widths and designs on behalf of large bin-lorries and commercial vehicles.

An example from a Cheltenham guidance document requires that, 'all developments will need to cater for access by service vehicles of varying types, ranging from refuse collection vehicles to large articulated lorries'.² This seemingly innocuous stipulation entrenches wide- sweeping roads and diminishes the quality of developments. Many highways authorities still require bin lorries to be tracked, meaning they can stay in their own lane whilst turning. This again leads to not only broad roads but very wide junctions and is contrary to existing national guidance set out in Manual for Streets.

Instead requirements should fall on the design of service vehicles, so they adapt to traditional streets, through smaller lorries or technologies such as rear axle turning vehicles, as already used in Lewisham and York.³ There is a golden opportunity to update public-sector vehicle standards when electrifying fleets to comply with emissions targets. We must design our streets to please the people that use them every day. Not the bin lorry that frequents them once a fortnight.

Effect three: Minimum parking standards. Requiring new developments to provide minimum number of parking spaces per home, which are often excessive and crudely decided upon, wastes land and helps to embed car use for the foreseeable future.

Designing a new neighbourhood could be simplified as the balance between space for homes, space for parks and space for parked cars. Considering we are in a housing crisis and that no one has ever said 'no thanks, we have enough parks', excess space for car parking should be minimised where public transport and availability of car sharing (clubs) allows. I have come across an example from one district, not an exception by any stretch, where guidance calls for every home to provide space for 1.7 parked cars,⁴ even for a one bed flat. Considering the drive to use sustainable transport and set against the government's target for carbon net neutrality by 2050 the case for removing parking minimums is compelling.

² Cheltenham Borough Council (2012), Requirements for refuse and recycling provision at new developments.

³ <https://www.ukhauled.co.uk/news/road-transport/fleet/lewisham-council-upgrades-its-refuse-fleet-with-39-mercedes-benz-econics-from-orwell-truck-van/> <https://www.yorkpress.co.uk/news/18488574.new-bin-lorries-costing-3-million-ordered-york-council/>

⁴ A Supplementary Planning Document from the South West

A simple fix, which many authorities from Sunderland to London already use, is to replace parking minimums with parking maximums. This allows the market to decide if developments would benefit from less space for parking and more space for homes and green space. Parking maximums would also permit car-free or 'car-lite' developments close to good public transport or town centres.

Effect four: Parking spaces must be overlooked by a kitchen or living room. Known as 'Secured By Design' (SBD) this is in fact police guidance. I know most of us like nothing more than opening the curtains on a sunny Sunday to give our car a good watch, but this small requirement has enormous consequences on the layout of new streets and neighbourhoods.

Whilst vehicle crime used to be significant it has reduced substantially in the past few decades as cars have become more secure. 'The likelihood of vehicle-owning households being a victim of vehicle-related theft fell by around 80 per cent compared with 1993.'⁵ It is time we looked more holistically to include other metrics of housing design. Equal focus should be placed on wellbeing, health, obesity rates and air pollution as that of car theft.

SBD's treatment of parking means in many developments efficient parking design is prevented. Designers are discouraged from grouping parking spaces together on the periphery of developments. The result is that parked cars in front driveways dominate the street; instead of the buildings and people within them.



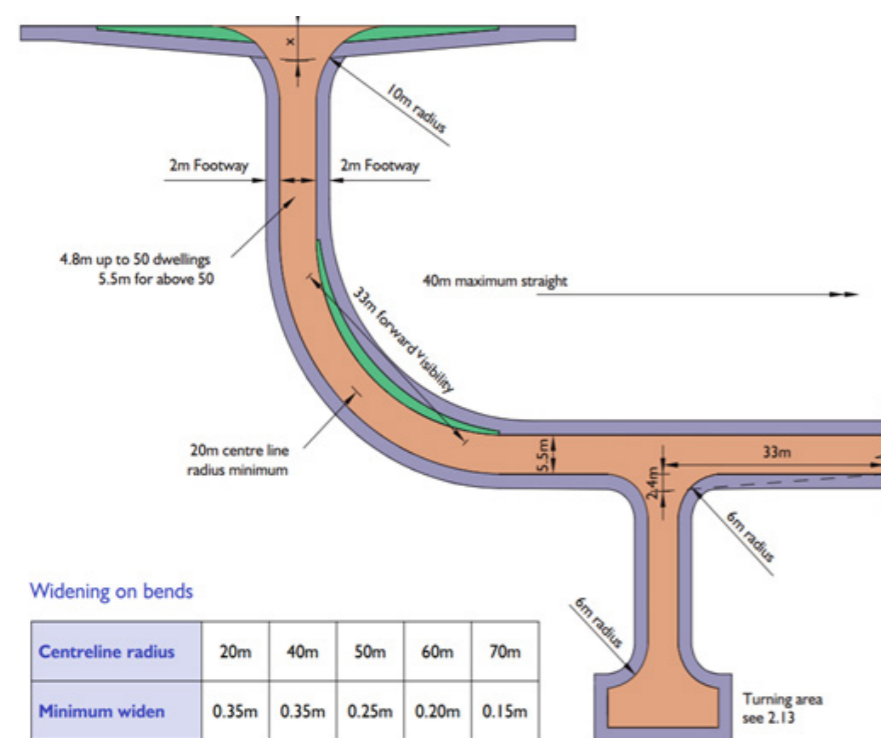
An exemplar development...according to Secured By Design

⁵ ONS (2017), Overview of vehicle-related theft: England and Wales, p5.

By embedding parking into the curtilage of a property we can restrict the future adaption of these spaces. Technology (zip cars on demand among others) is set to reduce the number of cars and thus the amount of parking required. We can already see that the young generation drive less. Only 60 per cent of 25 year olds hold a driving license versus 94 per cent of 54 year olds ⁶. Parking spaces on the edge of a development can more easily be converted to a park, playground or future homes more easily.

We should amend the 'Secured By Design' housing guide ⁷ to encouraging efficient and sustainable parking options, reducing the focus on garages and allowing developers to build streets focused on humans.

Effect five: requiring large sweeping bends. Many highway's guides still recommend that we create roads with large turning radii, to allow vehicles to maintain speed whilst cornering. The greater the speed, the wider and more sweeping the bend. This is also known as a turning circle. But should we still be designing roads in new towns for cars to fly past at 30mph or more?



An extract from Herefordshire's highway design guide showing the typical wide bends

Not only is this creating roads that encourage fast traffic harmful to the safety of our friends, family and children. It also has an adverse impact on the quality of places we build as it obliges seas of asphalt and prevents the sort of tightly-grained streets that most of us find beautiful, in which we wish to walk and in which we pay more to live. ⁸ The beautiful, walkable, terraced Victorian streets most people enjoy are simply not permissible for new developments in many regions of the UK. Instead we are forced to introduce wide sweeping bends in residential developments which are less popular and less pleasant or safe to cross. ⁸



A pleasant and easy place to cross the road?

Effect six: Enforcing cul-de-sacs. Our friend 'Secured By Design' rears its head again, encouraging winding streets with dead ends, that lead to nowhere. Designers often refer to this as 'poor permeability'.

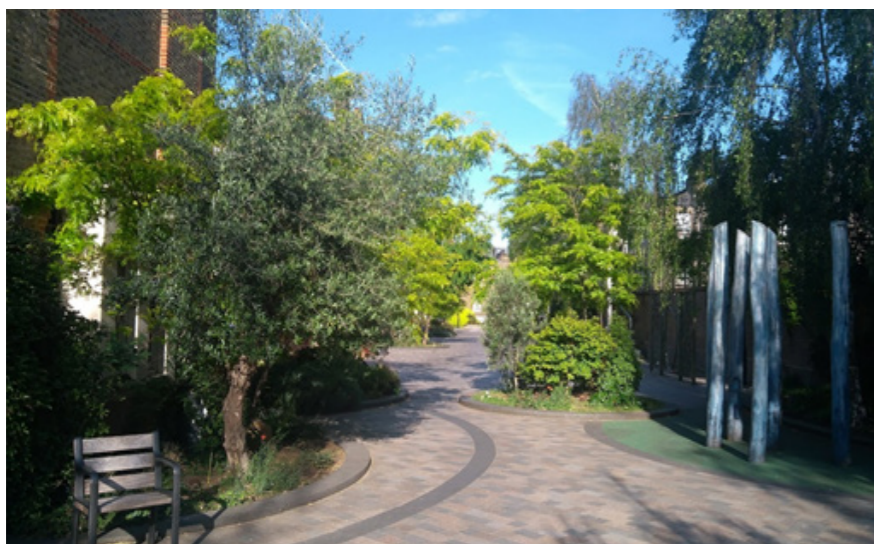
The homes design guide states that cul-de-sacs linked to one another by footpaths, so called 'leaky cul-de-sacs', are undesirable. ¹⁰ This means we create a maze of winding roads that end arbitrarily, where pedestrians have to walk four times longer than necessary to reach their destination. The result? We abandon the walk and drive.

⁶ Iovene et al (2019), Of Streets and Square. Venerandi et al. (2017), Beyond Location.
⁷ Herefordshire Council (2006), Highways Design Guide for New Developments.
¹⁰ Secured By Design (2019), Homes design guide, p15.

New developments should create streets that link existing homes with new ones. This encourages walking and helps to bind communities together. There should be multiple ways in and out of developments with streets built on the routes people are likely to take, known as 'desire lines.' Again, this helps to encourage walking and cycling by creating multiple efficient routes. We should not confuse this with the principle of so-called 'filtered permeability' This means that a planter or bollard is used to allow pedestrians and cyclists through but prevents rat running cars. It is right that we nudge people into using sustainable forms of transport by preventing through traffic but allowing people through.



A winding development with roads to nowhere ¹¹



Planting allowing people and bikes through, but restricting cars ¹²

¹¹ "Cul de sac du futur" by 2. is licensed under CC BY-NC-SA 2.0

¹² Van Gogh Walk, Lambeth

Wherever possible, we should create places that are easy to live in and difficult to drive in. This will create better places, which are worth more to developers, have cleaner air and in which you are likely to know more of your neighbours. ¹³

If you drive through Bath (please don't by the way), narrow roads and tight bends force you to be more alert, to take more care and to drive more slowly. By trying to give drivers a wide field of vision in the name of safety, we perversely create places which are more susceptible to road accidents and where the walking experience is so dull that people do not bother.

The key guidance on highway design 'Manual for Streets' is being updated to its third version. It is expected to support a less car dominated street design and will follow hot on the heels from two national guidance documents on better walking and cycling infrastructure, Gear Change and Local Transport Note 1/20. ¹⁴ To spread this approach across England effectively, the government should upgrade elements of Manual for Streets 3 to be policy rather than guidance, requiring highways authorities to adopt it. We should also help highway's engineers by including urban design training in their education. We must break apart the professional silos which prevent us creating beautiful, sustainable places.

I suspect that, ultimately, 'building back better' will be more about winning a hundred little fights than one or two huge ones. Here are a few fights we should pick: updating the guidance on highways and parking standards which we issue to designers and developers. This will permit us as a society, public and private, rich and poor, north and south, to create places which are better for people and better for the planet.

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¹³ Venerandi et al (2017), Beyond Location for the effect of poor places on property valuations.

¹⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904146/gear-change-a-bold-vision-for-cycling-and-walking.pdf and https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/906344/cycle-infrastructure-design-ltn-1-20.pdf

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