The British Journal of Criminology, 2026, **00**, 1–18
https://doi.org/10.1093/bjc/azag026
Original Manuscript

OXFORD

Beyond motonormative punishment: On road safety as environmental regulation

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Criminology has a blind spot concerning road safety. The field tends to accept that the problem is best left to technical specialists; treats road safety as separate from its focal concerns with public safety; and reproduces an ideology of streets as distinct socio-juridical spaces. In so doing, criminology leaves unaddressed a significant dimension of the question of how to create safe and liveable urban environments. In this article, I set out to unsettle these distinctions. I begin with a brief historical and geographic sketch of the forms of violence and harm associated with car systems. I then offer a critique of what I term 'motonormative punishment'—a mix of legal sanctions and a culture of blame that focuses on the individualized responsibility of a minority of 'careless' or 'dangerous' drivers while accommodating the structural violence generated by regimes of automobility. I argue, instead, for theorizing road safety in terms of diffused responsibility between actors and hybrid actants in a system. It follows, I conclude, that we should radically decentre criminal punishment as a response to road violence in favour of forms of environmental regulation organized around five harm reduction principles: diversion, design, distributed agency, deliberative learning and the disassembly of dangerous actants.

Keywords environmental regulation; motonormativity; public safety; road violence; punishment

Road safety: A criminological blind spot?

The field of criminology has long had a blind spot when it comes to road safety. Its focal concern with public safety does not typically extend to injury and death on the road. Criminological research on disorder seldom encompasses 'anti-social behaviour' caused by speeding motorists, careless parking, or soundscape pollution from cars (cf Loader *et al.* 2025) or attends to the threats to vulnerable road users and the quality of communal life caused by

the speed and prevalence on urban streets of powerful, motorized steel machines. Questions of road safety are left to other specialists and discursive framings beyond that of 'crime' and 'disorder'. There are, to be sure, exceptions. A small number of criminologists work on the policing and surveillance of (unsafe) driving (Corbett 2003; Wells 2012; Savigar-Shaw and Wells 2023); an even smaller number of criminal lawyers devote themselves to the rules regulating the road (Cunnigham 2007; Kyd and Cammiss 2020; Kyd 2024).[1] But these tend to be regarded as niche pursuits. For the most part, criminology seems content to treat road safety as a matter best given over to those schooled in traffic management, accident prevention and highway engineering.

This mental and institutional separation comes at a cost. It means accepting that road safety is a discrete, technical problem, not one that is structurally entangled with the habits and routines, ideologies and affects, of automobility as a form of life. It means that criminologists conceptualize and investigate public protection and safety as if injury and death on the road are not an integral component of urban 'harmscapes' (Berg and Shearing 2018). This happens partly because the field has (until recently) drawn a sharp line between 'crimes' and 'harms' and because the criminological gaze has tended largely to fall on a minority of—presumptively distinct—offenders, not on the causes and effects of illegal/harmful mass behaviour. It also means criminology buying into 'ideologies of flow' (Schmitt 2020); uncritically accepting streets as distinct socio-juridical sites separate from other public spaces (Braun and Randell 2022*a*) and thereby disconnecting road safety from struggles over 'the right to the city' (Lefebvre 1968). In so doing, criminology leaves unaddressed a significant dimension of one of its core concerns: how to create safe and liveable urban environments.

My aim in this article is to unsettle these distinctions. It forms part of—and is an early foray into—a wider project that seeks to use the harms of automobility as a means by which to engage in an ecological reckoning with criminology (Loader 2025). Such a reckoning draws inspiration from cognate reassessments that have recently been produced in history (Chakrabarty 2021), political thought (Charbonnier 2020) and legal theory (Matthews 2023). It broadly entails two steps. First, an environmental re-appraisal of how criminology's categories, forms of representation and operational binaries (offender/victim, crime/harm, human/non-human, etc.) have been entangled with the systems, habits and affects that have accelerated climate breakdown. Second, an exercise in conceptual reframing and recuperation that enables criminology to better apprehend questions of crime, harm and justice under conditions of profound ecological mutation. The ambition, in short, is a fundamental reworking of criminology's terms of trade in a bid to equip the field with the conceptual resources and ways of seeing necessary for addressing the 'new climatic regime' (Latour 2018). It is not simply an exercise in green criminology but in the *greening of* criminology.

The present article makes a modest contribution to this more capacious task by reconceptualizing road harm and violence not as a matter of individualized responsibility that is principally the object of criminal law and punishment but through the lens of environmental regulation. To this end, using England and Wales as my principal case, I offer a critique of what I term 'motonormative punishment'–a mix of legal sanctions and a culture of blame that focuses on the behaviour of a minority of 'careless' or 'dangerous' drivers while accommodating the structural violence generated by regimes of automobility (Mattioli *et al.* 2020; Braun and Randall 2022*b*: ch. 1). I propose, instead, that we reconceptualize road safety in terms of diffused responsibility between actors and hybrid actants in a system. It follows, I argue, that we should radically decentre criminal punishment as a response

[1] See, on this, the Roads Policing Academic Network: https://www.keele.ac.uk/rprg/

to road violence in favour of modes of regulation organized around five harm reduction principles: diversion, design, distributed agency, deliberative learning and the disassembly of dangerous actants. I need to begin, however, with a brief historical and geographic sketch of the forms of harm and violence associated with car-centric transport systems.

Road unsafety: The normalized harms of automobility

It is an interesting and telling question how far we cast the net when thinking about 'road safety' and what we decide to call the things that may variously threaten such safety. Let us start in the most conventional place. Over the last decade, an average of five humans a day were killed on UK roads, and 80 per day were seriously injured. In 2024, 1,602 people were killed in road collisions; 409 of these were pedestrians and 82 were cyclists. A further 29,467 people were seriously injured.[2] As Louise Haigh put it to the UK Parliament's Transport Select Committee when she was Transport Secretary: 'If the number of people being killed or seriously injured on the roads were being killed in any other way, we'd be treating it as a pandemic'.[3] We have, she intimates, normalized road violence. We accept risks on the road that we are likely to deem unacceptable in other settings (Culver 2018).

This pattern of injury and death has a history, as does the process of normalization (Corbett 2003: ch. 2). Across the Global North, two decades proved fateful in this respect. The first is the 1920s. As the car expanded beyond its original use as a plaything of the rich, a bitter struggle ensued over the use and meaning of city streets, which had till then hosted an array of practices and mobilities. A newly formed alliance of motor lobbyists—termed 'Motordom' by Peter Norton (2008)—organized to remove pedestrians, horses, trolleys, cyclists and children playing from the path of motorists, not least by mobilizing to create a new offence of 'jaywalking'. These conflicts were attended by rapidly mounting injuries and deaths (in 1925 alone, 7,000 American children were killed by cars and trucks) as battle waged between Motordom and the interests of pedestrians, anxious parents, police and traffic engineers and over competing ideologies of safety, order, efficiency and freedom. It was at this time that the idea of installing speed delimiters in cars was proposed and defeated (Norton 2008: 98–9).

Cognate—if tamer battles resurfaced in the 1950s and 1960s, as the car became a mass consumer object and symbol of aspiration, prosperity, status and freedom. In the face of this seemingly inevitable tide, city after city across the Global North was remodelled to suit the interests and convenience of the car (Buchanan 1963). Cities became habitats whose built infrastructure was reconstructed with ramps, bypasses, tunnels, expressways and roundabouts and where the mundane experience of all urbanites (drivers and nondrivers alike) was to become inseparable from the 'flexible coercion' wrought by the dominance of automobility (Sheller and Urry 2000). This struggle has, to be sure, been accompanied by (often, at their inception, contested) measures to make motoring safer: in the United Kingdom, using, *inter alia*, traffic lights (1927), breathalyser tests and 70 mph maximum speed limits (1967), speed cameras (1982) and compulsory seat belts (1983, 1991 for all occupants). But the underlying 'settlement' was established long ago and remains in place: mass injury and death are prices worth paying for the freedom, comfort and convenience

[2] https://www.gov.uk/government/statistics/reported-road-casualties-great-britain-annual-report-2024/reported-road-casualties-great-britain-annual-report-2024. The UK government's current (2026) road safety strategy is available online at https://assets.publishing.service.gov.uk/media/695e2cff8832ab3a48513809/road-safety-strategy.pdf

[3] https://hansard.parliament.uk/commons/2024-10-10/debates/330C94F1-E2D1-42E4-95BE-69A809AD7E06/RoadSafety

of mass motoring. It is estimated that since its invention, 60-80 million people worldwide have been killed by cars, and at least 2 billion injured (Miner *et al.* 2024).

But traffic-inflicted injury and death also have a geography. The World Health Organization estimates that 1.19 million humans died in road traffic crashes in 2021; that is 3,260 deaths globally per day. This is a five per cent drop since 2010. Traffic deaths are the biggest global killer of children and young people aged 5–29, and the 12th highest across all ages. A further 50 million people are estimated to have been seriously injured in road collisions (World Health Organization 2023). But these global figures mask significant socio-spatial differentiations. Road injury and death are lowest across the global North, and for the most part, falling. A striking exception is the United States, where pedestrian fatalities have spiked by 83 per cent since 2010 and now stand at a 40-year high. The vast majority (92 per cent) of traffic deaths occur in low- and middle-income countries across the Global South: Africa reports the highest death rate per head of population (19 per 100,000); India is not far behind at 11.6 deaths per 100,000 population (Tiwari *et al.* 2022). There are further differentiations inside countries. In the United States, cars disproportionately kill poor people, Black people, children and the elderly (Miner *et al.* 2024; see, on the United Kingdom, MacDonald *et al.* 2025). People walking, wheeling and cycling are disproportionately more likely to be killed by cars than the drivers or occupants of cars (Global Burden of Disease Network 2020; Tiwari *et al.* 2022). The least wealthy members of societies do not have cars, but they bear a disproportionate burden of injury and death inflicted by people who can afford to drive.

An important criminal subcategory of road violence is the deliberate use of a car or van to inflict injury and death. Some cases of this kind involve cars as conduits of violence, as with drive-by shootings or car bombs (Davis 2011). But it can also involve cars being driven into people in a deliberate effort to maim or kill. There have been several high-profile—often terror-related—instances in recent years; for example, Nice (2016), London (2017), Stockholm (2017), Berlin (2022), Guangzhou (2023), Magdeburg (2024), New Orleans (2025) and Liverpool and Manchester (2025). These dramatic cases of vehicular killing and maiming may, however, overshadow countless micro-aggressions involving drivers using their vehicles as hostile objects that typically go unreported but which are nonetheless threatening to road users and the quality of their environments. Relatively little is known about the history and scale of this phenomenon or its motivations and effects (cf Rothe 2008).

What, though, if we cast the net beyond direct injury and death and think about road safety in terms of traffic's indirect impacts? Automobility is a leading driver of global warming (Miner *et al.* 2024). In 2019, transport 'accounted for 23% of global energy-related CO_2 emissions. 70% of direct transport emissions came from road vehicles' (Intergovernmental Panel on Climate Change 2021: 1674). Part of this is exhaust emission, but it also encompasses carbon emissions arising from each stage of a vehicle's lifecycle: production, energy use, infrastructure and maintenance and end-of-life disposal. But car-centric mobility systems contribute to ill-health and death with pollutants other than carbon. Air pollution is a product of motor running and particulates generated by abrasion from tyres and brake pads. 'Cars are the main source of poor air quality. They account for around 25% of PM10 and around 40% of the more dangerous PM2.5 (the smaller the particles are, the deeper they reach into the lungs)' (Moore and Kay 2025: 61; see also Donald 2023: ch. 7; see also Miner *et al.* 2024: 6). In 2021, the car killed more Americans as a result of air pollution (63,600) than in crashes (42,939). 'Globally, approximately 246,000 annual deaths are attributable to traffic-related air pollution' (Miner *et al.* 2024: 6). Cars are, in addition, the main source of noise (or, better, soundscape) pollution in urban areas (Donald 2023: 97), a mix

of 'propulsion noise' that predominates at lower speeds and 'rolling noise' that is the principal factor at speeds over 20 mph. The health effects of living with traffic noise are judged to be serious and range from insomnia and hearing disorders to increased risk of high blood pressure and heart disease. Around a quarter of Western Europe's population live in areas with noise levels considered to be harmful to health (Donald 2023: 91). 'A European Environment Agency report estimated 10,100 premature deaths per year due to road noise pollution across 32 European countries' (Miner *et al.* 2024: 7; Moore and Kay 2025: 56).

Electric vehicles are commonly supposed to offer a solution to these problems and have attracted significant investment from manufacturers and subsidy from governments in recent years. But while reducing carbon emissions by around 47 per cent over the life course of the vehicle (as well as being quieter), they are no panacea. Electric vehicles typically take more embodied carbon to manufacture and, in most places, still run on electricity generated from fossil fuels. They do nothing to address the 60–70 per cent of pollutants from cars produced by material abrasion; in fact, they make particulate pollution worse since electric vehicles tend to be heavier (to increase battery range). Most crucially, electric vehicles depend on minerals (especially cobalt and lithium), the mining of which has significant humanitarian issues in the supply chain, including child labour and modern slavery (Kara 2023; see also Henderson 2020; Moore and Kay 2025: ch. 7). They are also just as likely as cars propelled by fossil fuels to congest the environment and be involved in collisions.

We might, finally, want to note the record of injury and deaths inflicted on non-human animals and biodiversity by what Donald (2023) terms 'traffication'—that is, motor vehicles becoming more numerous, faster and pervasive in the environment. Concern about the effects of automobility on the lives and ecosystems of non-human animals has been present since the early days of mass motoring (Stoner 1925). Accurate records of the slaughter are, however, seldom reliably kept—because of perhaps related difficulties of counting and caring. A thriving sub-field of environmental sciences known as road ecology has nonetheless sought to map automobility's injurious impact. It is estimated that cars kill one million animals per day in the United States. 'Perhaps 200 million birds and 30 million mammals' are killed annually on Europe's roads. In Britain, the estimated annual death toll runs to around 100,000 foxes, 50,000 badgers and 74,000 deer (Donald 2023: 51). Animals have also been found to suffer problems such as stress and reduced immunity due to soundscape pollution and are detrimentally affected by air and road pollution (such as salt). There is evidence that animals have variously become attuned to the risks posed by road crossing; some species have adapted accordingly (Donald 2023: 67–68). But the exponential growth of roadbuilding across the world has produced an alien and destructive infrastructure that has negatively impacted the ecosystems and migration patterns of various species, as well as contributing to loss of biodiversity (Donald 2023; Goldfarb 2023).

We have, then, to decide how far to extend the net of 'road safety' across these various negative impacts of automotive forms of life. But, as criminologists know well, it also matters how these impacts are labelled and conceptualized. In respect of traffic injury and death, it has long been common among publics and authorities alike to speak of 'road traffic accidents' and report and record them as such. The term seems to signal the absence of intent to inflict harm and the apparent randomness of becoming an 'offender' or experiencing 'victimhood'. Such naming and framing today meets with strong objections on the grounds that there is no such thing as 'accidents' (Singer 2022).[4] Road injury and death is, rather, the argument runs, the predictable and preventable result of policy decisions with

[4] See, for example, https://www.roadpeace.org/working-for-change/crash-not-accident/

respect to car, road and urban design (what safety systems to install, where motorized traffic can and cannot go, at what speeds and so on). Many road safety advocates have proposed 'crashes' or 'collisions' as alternate descriptors, and several UK news organizations and police forces have adopted this practice (Foundation for Integrated Transport 2025).

But what of other terms? Should we not bring all these effects together under the umbrella of the harms of automobility? Harm has a capaciousness that is helpful in this setting, acknowledging and drawing our attention to detrimental impacts that may not be intended or even regulated by (criminal) law. Violence, by contrast, may jar in a road safety context, signalling as it at first does the intentional and malign infliction of bodily injury by one person upon another. Yet we might, in fact, struggle to find a more apt concept than (fast) violence for describing the everyday mutilation of human and non-human bodies and habitats by large motor vehicles. Further, Rob Nixon's idea of 'slow violence' may capture well the invisible, and quietly accumulating, damage of car-centric mobilities. Slow violence, Nixon (2011: 2) writes, is 'violence that occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all'. Such violence, he continues, is not 'explosive and spectacular' but 'incremental and accretive'. Its 'relative invisibility' is 'seldom dramatic enough to rouse public sentiment and warrant political intervention' (Nixon 2011: 3). Its 'slowly unfolding environmental catastrophes' present 'formidable representational obstacles that can hinder our efforts to mobilize and act decisively' (Nixon 2011: 2). It is the normalized violence of pollution, habitat destruction and silent, unremarked-upon death.

There will be occasions in what follows when it is necessary to draw distinctions between these various aspects of road unsafety. But when it is not, the term 'road violence' will do. It may well be a provocation. But it is also intended as a reminder that, while cars are promoted and consumed as vehicles of freedom, fun, comfort, convenience and prosperity, they are also one of the most life-damaging, life-threatening and life-taking objects ever invented.

Motonormative punishment: Or, how law thinks about automobility

On 26 June 2022, Shayne Hill was driving his blue Citroen Dispatch at 60 mph on the A11 in Cambridgeshire. Hill was 'engaging with his phone' for about 10 seconds 'to wipe away notifications' when he crashed his car into—and killed—Cheryl Tye, who was competing in a bicycle time trial. A jury cleared Hill of 'causing death by dangerous driving'. But he admitted to the lesser offence of 'causing death by careless driving' and was handed a 12-month prison sentence suspended for 18 months, banned from driving for 12 months and ordered to do 300 hours of unpaid work. The judge described the case as 'very sad', a framing which appears to transform the wrongdoer into one of the victims.[5]

A significant amount of road violence reduction work takes place outside the confines of criminal law and punishment, if not outside the world of law and regulation. It is to be found in vehicle safety standards and systems, a regime of emission controls and regular compulsory testing of vehicle roadworthiness. It is grounded in a (one-off) test that people have to pass prior to being granted licence to drive, a legal requirement to obtain insurance, and the graded stipulations of private insurance companies. It is embedded in urban/road design practices, determining where vehicles can and cannot go, at what speed and where they can legally be left (cars, it should be noted, are parked 96 per cent of the time).

[5] https://road.cc/content/news/driver-who-killed-cyclist-avoids-jail-despite-phone-activity-316227

It is found in rules and infrastructure coordinating interactions between different mobility modes. It is routinely propagated via educational messaging and episodic campaigns focused on drivers (as well as cyclists and pedestrians), urging them to take care, pay attention, not drink alcohol, be mindful of others, make themselves seen and generally exercise individual responsibility. Mobilities are, in sum, shot through with a plethora of 'everyday law on the street' (Valverde 2012). Motoring is a practice constituted by law. Driving in public space only becomes legal under a very particular set of conditions pertaining to the driver and to the object being driven. It is hyper-regulated freedom, albeit that much of that regulation and control passes unnoticed and without remark (see also Zerubavel 2018; Loader 2023).

This stands in stark contrast to the subset of the legal regulation of driving that centres on criminal law and punishment. This is routinely the focus of the cultural politics of automobility and the affective complaints of sections of the 'motoring public' and has been so since the early days of mass motoring (Plowden 1973; Emsley 1993; Wells 2012). In England and Wales, a range of laws and sanctions govern driver behaviour. They spell out how fast vehicles can legally be driven in particular settings, ranging from 20 mph in an increasing number of built-up areas to 70 mph on motorways. It is an offence to drive with blood alcohol levels higher than 80 mg per 100 ml or when rendered unfit to do so by legal or illicit drugs. The Road Traffic Act 1988 (as amended in 1991) lists two endangerment offences of 'careless' (s. 3) and 'dangerous' (s. 4) driving—endangerment meaning that the offence does not require the poor driving to occasion actual harm. The former describes driving behaviour falling 'below the standard of a careful and competent driver'; driving is judged 'dangerous' in law when it is 'far below' that standard. Guidance helps sentencers with concrete examples of behaviour that might be deemed either careless or dangerous. Separate offences cover 'causing serious injury by careless driving'; 'causing death' by 'careless' or 'dangerous' driving; 'causing death by careless driving when under the influence of drink or drugs'; and 'causing death while disqualified' or while 'unlicensed or uninsured'. It is an offence to drive without a licence or insurance and, since 2003, to use a handheld mobile phone while behind the wheel of a car. The offence of 'wanton and furious driving' can be applied to reckless driving on private land and to aggressive cycling. People driving a car can be, though almost never are, charged with grievous bodily harm, manslaughter and murder.

At what is presumed to be the least serious end of these offences—speeding, careless driving and using a mobile phone behind the wheel—the system of sanctions operates outside of criminal punishment and inside the specific world of motoring. The regulatory regime here combines penalty points on a licence (up to 12, whereupon a motorist may be liable to disqualification) coupled, for speeding and careless driving, with an optional out-of-court disposal involving driver education courses. This is often combined—or interchanged—with a standard penal technique used elsewhere in the criminal justice system: taking a portion of people's money from them in fines. For the most part, this regime of surveillance and sanctions is automated and faceless (O'Malley 2010).

Beyond this, a familiar menu of penal institutions and practices kicks in. Dangerous driving carries the possibility of an unlimited fine, mandatory driving ban, and up to 2 years in prison. Causing death while driving unlicensed or uninsured entails an unlimited fine, a driving ban of at least a year and up to 2 years imprisonment. Matters then escalate. Causing death by careless driving carries a maximum 5-year prison term coupled with disqualification for at least 1 year. Causing death while driving when disqualified carries a maximum 10-year prison sentence. If death is caused by careless driving under the influence of alcohol or drugs, the driver faces an unlimited fine, mandatory disqualification for

a minimum of five years and up to life imprisonment. Causing death by dangerous driving carries an unlimited fine, a minimum 5-year driving ban and, since the Police, Crime, Sentencing and Courts Act 2022, a maximum penalty of life imprisonment. This is the same sentence as applies in cases of manslaughter (Kyd 2024).

These, then, are the basic parameters of the regulation of driving by criminal law and punishment in England and Wales. But how, presently, are these penalties enacted? How does law *think* about road violence? One worry here is that this legal regime operates to enact and reproduce two key common-sense axioms: that driving is normal/unproblematic, and that driving is safe. Let me explain.

Motonormativity is a term coined and made popular by environmental psychologist Ian Walker (Walker *et al.* 2023). The term describes a collective, largely subconscious bias towards car-based transport as the means by which people do and/or should get around. On this view, car-centricity is treated as both an 'is' and an 'ought': it is simply a fact about the world (regrettable or otherwise) that we must accommodate, and/or it is a system of mobility freedom we should value and protect, or aspire to build or extend. Typically, these presumptions operate 'paleo-symbolically' (Gouldner 1974) as a deep structure of affect and meaning that underpins how people see and make sense of the social and physical world. Moreover, Walker and his colleagues find motonormative presumptions lead people to accept harms caused by cars that they judge unacceptable in other settings, or if caused by other means, and to temper or suspend forms of moral judgement that they apply in those other contexts. Respondents in Walker *et al.*'s (2023) surveys report, for example, being much more accepting of the risk of serious injury while driving than of being seriously injured in the workplace and of toxic fumes at the school gate produced by car engines than those created by people smoking. Similar results have been found by Tara Goddard (2024) when replicating this research in the United States.

Motonormative assumptions arguably frame how we see and respond to most of the direct and indirect harms of automobility: as somehow inevitable or the unwelcome but tolerable price of modern freedom, convenience and prosperity. These assumptions can be found in much modern urban zoning and planning policy, resulting in low-density sprawl and baking car-dependence into people's daily lives. They also shape the affordances of built infrastructure across many contemporary cities (from how and for what uses space is allocated to how junctions are designed), as well as guiding the rules that coordinate interaction between different transport modes. But does motonormativity also structure the operations of law and punishment?

It has long been observed in motoring law that there exists a reticence among juries and sentencers to censure the misconduct of errant motorists; their judgement is 'muddied by our love affair with the vehicle, our *right* to drive, and tacit tolerance of risk-taking behaviours' (King 2020: 264; emphasis in original). That was one reason why the statutory offence of 'causing death by dangerous driving' was first enacted in 1956 to replace manslaughter (Kyd 2024). If we scroll forward, can we be sure that a motonormative outlook was not an organizing presence in the case of Shayne Hill described above: in the jury's decision to acquit in respect of 'causing death by dangerous driving'? In the sentence handed down for death-producing carelessness while operating hazardous machinery? In the judge's observation that the case was 'very sad'? Equivalent forms of harm generated by other objects—knives, guns—and other sorts of 'offenders' are seldom met by judicial observations of this kind.

We cannot, of course, be sure. But here, as elsewhere, there are puzzles and questions and an agenda for further enquiry. We might ask such questions about, for example, the paucity of effective police systems for third-party reporting of bad driving (as well as

the marked unwillingness of many police forces to be active participants in multi-agency Vision Zero partnerships). We can note the reluctance to prosecute endangerment offences in the absence of an actual collision, an outcome that is typically the result of simple good fortune (Kyd and Cammiss 2020). Such reluctance discounts the actual harm that speeding and careless or dangerous driving do to the well-being of other road users and the liveability of urban ecosystems. We may ask about the capacious way in which sentencers appear to interpret the 'exceptional hardship' provision when deciding whether to disqualify a driver who has reached the maximum 12 penalty points, with the result that proven reckless motorists are permitted to drive with what must feel like impunity. In the United Kingdom, a total of 10,056 drivers hold a valid licence despite having at least 12 points.[6] We need to ask comparative questions about the penal treatment of injury and death inflicted by drivers of motor vehicles when contrasted with equivalent harm enacted using other objects or means. And we can compare the relative lengths of prison terms with those of disqualification in relevant motoring cases and ask whether judges are permitting retributive penal logics to override considerations of future safety.

What though of the work that law does in reproducing a further motonormative axiom: the widely held taken-for-granted belief that mass motoring is, for the most part, safe? Criminal law's ordering work is focused, in the ways just described, on motorists who have behaviourally demonstrated that their driving poses a risk to others. The task of law, police and punishment is to identify, apprehend and convict that subset of drivers and impose on them penal measures that are typically structured by the standard retributive mix of hard treatment (removal of money, community service, or periods of incarceration) coupled with moral censure of the wrong done. But, as Durkheim (1894/2014) taught us long ago, the principal recipient of penal communications is not (only) the offender to whom they are addressed but (also) the audiences to that address. In this respect, law and punishment always perform cultural as well as ordering work, variously reinforcing, reworking, or even producing authoritative social meanings about such matters as criminality, safety, danger, morality, normality and community (Garland 1990).

In the present case, two forms of such work can be discerned. First, law signals that road safety and violence are principally a matter of individual responsibility, rather than a systemic question in respect of which agency and responsibility are distributed between corporate and public institutional actors and a range of hybrid actants. Its task here is to underscore the general requirement to be responsible and punish those who fail to meet the required standard. In so doing, law, second, authors the reassuring message that road risk is the result (and fault) of a minority of 'careless' or 'dangerous' drivers onto whom emotionally charged solidaristic ire can be projected (Carvalho and Chamberlen 2018) and that motoring remains harmless and unproblematic so long as it is conducted 'responsibly'. Criminal law's work is to render road unsafety a contingent problem of errant but governable individuals rather than an intrinsic feature of modern socio-technical systems of automobility.

Road safety as environmental regulation: The five D's of reducing road violence

What would happen to how we think about, and act upon, road safety if we managed to step outside of these motonormative framings? What if, instead, we formulated law, regula-

[6] https://www.theguardian.com/money/2024/nov/04/more-than-50-people-have-uk-driving-licences-with-at-least-30-points-on-them

tion and policy on the assumption that all driving (even when done attentively) is dangerous and, relatively speaking, the most violent mode of private transportation? What would happen if we extended the ambit of 'road safety' to include the wider, indirect harms of automobility? What if, more radically, we designed a road safety regime that was intended to accompany—even promote—rapid and just transitions to systems of environmentally sustainable mobility (Schwanen 2021)? How differently might we then proceed?

I want, in this final section, to sketch an approach to road harm reduction that is grounded in these alternate starting points. Doing so requires that we radically decentre criminal punishment from how we respond to road harm and turn, instead, to practices of environmental regulation organized around five road violence reduction principles: diversion, design, distributed agency, deliberative learning and the disassembly of dangerous actants. These principles emerge in the main from the case just considered—that of England and Wales: it is a question for future work how they can be extended or adapted to address the harms of automobility in contexts across the Global South (cf. Tiwari *et al.* 2022). For now, let us consider each of these principles and how they fit together a little further.

Diversion

'Every time I start my car', Timothy Morton (2018: 8) writes, 'I don't mean to harm Earth. [But] harm to Earth is precisely what is happening'. When people drive, they do not typically set out to injure other humans and non-human animals or to damage their supporting environments. Nor do they experience their actions as harmful or injurious; they are but part-and-parcel of everyday rhythms of convenience, care or love. Indeed, 'the effects of each agent taken individually are negligible'. The harms of automobility are the outcome of 'aggregated, interacting effects' that obscure 'the causal connection between agent and outcome' (Krause 2023: 103–4). Many car-users are also located in places and locked into mobility systems that leave them with few, if any, transport alternatives.

It is for this reason that road violence reduction has to start with diversion. This is a deliberate borrowing of a criminal justice term. But I mean here something very different. Mass injury and death may not be intentional, taken at the level of individual drivers. But they are a structural feature of automotive forms of life, not a bug. Any serious proposal for reducing road violence has to start with and from that social fact, and this means diverting as much movement as possible into alternative forms of transportation, thereby reducing the prevalence of dangerous actants on the road. 'The goal', Moore and Kay (2025: 161) argue, 'is not to remove cars entirely. Instead, it is to reduce the tonnage of cars in the world'. Cutting the number of car trips and miles driven needs to become a related harm reduction ambition of public policy. This, in broad terms—further discussion falls outside the scope of this article—means investing in alternative modes: in reliable public transport; in safe cycling, wheeling and scootering; in the creation of more walkable environments; as well as crafting new, non-sovereign conceptions of mobility freedom (see also Moore and Kay 2025: ch. 14; Schwanen *et al.* 2026). It means transitioning away from the car as an individual consumer object towards automobility as a shared service available on demand. In the short term, these measures are geared towards diversion. But they are ultimately aimed at *dismantling* automobility as a system and form of life, in favour of living with multimodal mobility systems in which with car travel becomes a specific use, transport mode of last resort. This project and its component steps are—among other things—a preventative public health and safety intervention, akin to those initiated from the latter decades of the twentieth century onwards with respect to the control of tobacco (Braun and Randell 2025).

Design

People and goods will always need to get around, often over significant distances. So, cars, vans and lorries will remain on the road. Given this, we need to rethink road violence reduction as a design question, extending modes of thought and practice that also have analogues in crime prevention (Clarke 1980) as well as being found today in Vision Zero 'safe systems' programmes (Whitelegg and Haq 2006).[7] Doing so means thinking systemically about road harm and enrolling a relevant range of responsible actors and institutions, including the car industry itself. It also entails recalibration of the relation between urban safety and liveable dwelling and the demands of efficient traffic flow (Marohn 2021). This recalibration can take a number of forms. It may mean regulatory steps to arrest the growth of 'car-spreading', a term used to describe the global industry-wide trend towards larger, heavier and, provenly more, dangerous SUVs (Edwards and Leonard 2022; Brand 2024). It might mean accelerating the development of car-safety systems that govern driver behaviour and anticipate, prevent or correct human mistakes.[8] But it is also—and for the most part—a question of the planning and design of road/urban environments in terms of such matters as the space and affordances offered to various mobility modes; regulating where motorized vehicles are permitted to intrude using traffic filters, low-emission zones, 'super-blocks' and the like; slowing the permitted speed of cars in built-up/residential areas; and reformatting junctions at which most collisions occur.

In contexts, such as driving, where law-breaking is a majority—and culturally normalized—behaviour, it is futile to treat road safety as principally a law enforcement issue. The same holds in settings where the police have a track record of discrimination or corruption or lack capacity or authority (e.g. Jauregui 2016). Rather, it makes more sense to reconceptualize practices of camera surveillance, roads policing and law enforcement as *one* design component of systems of safer mobility focused on the environmental regulation of mass behaviour.

Distributed agency

Questions of design intimate that responsibility for the prevention and control of road harm is distributed across multiple actors and institutions within systems of safe mobility. But where does this expanded focus leave individual driver responsibility? Road safety campaigners often take exception to public representations of road collisions that efface the agency of the driver and, strangely, attribute blame to the vehicle itself. Examples are legion: 'Two people have died and a third person has been left seriously injured after being *hit by a car*, which later crashed into a house', reads one headline about a collision in Coventry.[9]

[7] https://visionzeronetwork.org/about/what-is-vision-zero/

[8] Probably the only good answer to the question 'why autonomous vehicles?' is enhanced road safety. Yet there are many reasons to remain sceptical. First, we have been around this track before. As Peter Norton (2022) points out, the history of the car industry is the history of promised but never-realized utopias. Second, many profit motives unrelated to safety are driving investment in autonomous vehicles, such as making cars into vehicles of data surveillance and extraction (Schuilenburg and Eski 2025) and securing the attention of erstwhile drivers for advertising (Moore and Kay 2025: 98). Third, road safety is not ultimately a question of technology. The safety of automated vehicle systems rests, first and foremost, on political choices about how best (and in whose interest) to regulate the co-existence and movement of humans, nonhuman animals and objects in urban space. A future of automated vehicles 'could lead to *more* congestion, *more* emissions and *more* crashes than ever' (Moore and Kay 2025: 96; emphasis in original). They are a monumental distraction, a solution in search of a problem.

[9] https://www.theguardian.com/uk-news/2023/sep/03/people-dead-and-injured-after-being-hit-by-car-in-coventry (emphasis added).

This from the United States is in the same vein: 'Gurnee police are investigating after a woman was *hit by two cars* and killed. It happened on Monday night at Hunt Club Road and Washington Street'.[10]

Campaigners insist that safer roads require thinking about collisions in ways that reinsert the driver and place human agency and responsibility centre stage. This is replicated across orthodox road safety discourse, which routinely focuses on individual *human* error, especially the so-called 'fatal four'—speed, impairment, distraction and failure to wear a seatbelt. But to reduce road harm, we do *not* need individualized responsibility (though all road users should pay care and attention to others around them, in terms proportionate to the potential harm they pose to others). That, I have suggested, is part of the road unsafety problem. We need instead to extend the account I have begun to sketch of *diffused responsibility* among all actors and objects in a system.

Bruno Latour's (1999) analysis of gun violence is analogously helpful here. Latour wants to navigate beyond two common and competing claims about such violence: 'Guns kill people!', a favoured slogan of the gun-control lobby, and 'Guns don't kill people, people kill people!', a counter often deployed by pro-gun activists. There is an inadvertent, yet nonetheless uncomfortable, parallel here between the claims of road safety advocates and those pressed by lobbyists like the US National Rifle Association: both contend that the relevant object of concern is nothing other than the 'neutral carrier of will that *adds nothing* to the action' (Latour 1999: 177; emphasis in original). So, Latour asks, 'Who or what is responsible for the act of killing?'—whether with a gun or, we might add, a car. It depends, he suggests, on how you think technology mediates action.

If you think of mediation, Latour says, as a 'programme of action', then a translation occurs between two agents (a person without a gun/car and a gun/car with a person) that changes them both. This occurs when technology intervenes to create a new goal, such as 'I can kill rather than just injure' or 'I can drive to the shops rather than walk or take public transit'. So the pertinent actor is best described not as an owner or driver, or a gun or car, but as something else—the citizen-gun, or in our case, the *driver-car* (Beckmann 2004) The modification here is symmetrical: humans are different—another subject—with a gun or car; the gun or car is different—another object—with a human holding or driving it. Having entered into a relationship with a human agent: the gun is no longer the gun in the locker; the car is no longer the car in the garage. The twin mistake of the materialist 'objects kill people' and sociological 'people kill people' accounts is to start with essences—objects and subjects, respectively. Instead, humans and objects are turned into what Latour calls 'hybrid actants'. On this view, neither people nor guns (or cars) kill: responsibility for the action is shared among various actants.

A system of environmental road-harm regulation needs to diffuse responsibility along these lines. It must recognize that the object of regulation is not human motorists: the human-vehicle coupling constitutes a novel, distinct and distinctively risky agent-in-the-world. It requires a post-human ontology that treats road violence not as the fault of drivers or product of human error but as the situated outcome of relations between specific human-object hybrids—'driver-cars'. This may appear highfalutin. But, as Beckmann (2004: 87) observes, attending to hybrids 'has grave implications for contemporary *traffic-Realpolitik*'. It offers a necessary escape from road safety reassurance rituals that attribute road 'accidents' or 'collisions' to agentless vehicles or to a minority of 'bad' and blameworthy drivers whom we complacently assume to be different from the rest of us.

[10] https://abc7chicago.com/pedestrian-hit-by-car-crash-gurnee-il-news/14023107/ (emphasis added).

Deliberative learning

It follows from the two principles just set out—the priority of design and making driver-cars the object of regulation—that road injury and death should not first and foremost be occasions for the trial of drivers. Such killings call, instead, for 'enquiries' that take full account of distributed agency and responsibility across a system. There are analogues in the present for the kind of deliberative learning I have in mind here. One is Coroners' inquests into the deaths of people killed in traffic collisions. These have an organizing purpose to investigate causes of death and suggest steps that responsible actors can take to prevent future occurrences, though these recommendations tend to be limited to proximate causes. The second is investigation into aircraft disasters. These are explicitly set up as exercises, not of blame-attribution, but for collective learning. The ambition again is to identify causes with a view to preventing future loss of life. A third is restorative justice (Braithwaite 2002).

A system of environmental road harm reduction would put in place modes of deliberative learning that build upon approaches such as these, only with certain crucial extensions aimed at transcending the technocratic limitations of extant practices of enquiry (Aitken 2022) and adapting the aspirations of restorative conferencing. In response to a road collision fatality, or a spate of serious injuries/deaths at particular locations, one would assemble a gathering of all actors and actants implicated in, or affected by, the harm. These would include the driver-car as well as friends and family of the injured or deceased. But it would, in addition, call to account representatives of relevant car manufacturers, as well as urban planners, highway engineers and the police and emergency/health services. Other concerned actors (such as road safety campaigners) might be afforded standing or conditional rights of participation.

The purpose of such gatherings would be twofold. First, they would act as rituals of public mourning in ways that 'call forth grief by marking certain losses as publicly significant and worthy of regret' (Krause 2023: 97). In so doing, gatherings would give official recognition and expression to current informal practices of road death memorialization (see, e.g. Bednar 2020 and Costantini 2019 on 'ghost bikes'). But such gatherings would also acknowledge accountability in ways designed to 'spur critical reflection and sometimes collective transformation' (Krause 2023: 96). Gatherings would, in other words, be occasions for deliberative learning that engage parties in capacious enquiry into the distant and proximal causes of injury and death and what might be done to prevent their recurrence. The organizing question here would be: what aspects of the environment need to change to prevent this from happening again? The answer may sometimes be none: maybe this was just a case of driver-car failure. But that ecological question should always be the starting point.

Disassembling dangerous actants

In a system of environmental road harm prevention, the question that today stands noisily at the forefront of law and public culture comes last. But it still needs to be posed: what should be done in instances of careless or dangerous driving that are infractions of road traffic/criminal law? The answer to that question flows from those dimensions of the proposed regulatory regime focused on distributed agency and a revised ontology of hybrid actants. The implication of these principles is that responding to forms of careless/dangerous driving does not, first and foremost, mean punishing a driver for their irresponsible behaviour but, instead, disassembling a dangerous actant. The principal task is to separate a combination of human and object that has proved to be demonstrably harmful.

This fifth and final principle entails a radical decentring of criminal sanctions (fines, community penalties and imprisonment) from the control of errant driving, in favour of a scheme that makes licence suspension and revocation, and material adaptations to relevant vehicles, the central levers of disassembly. In the former case, this regime might work, broadly, as follows: first, suspension kicks in earlier and for short periods in less serious cases (e.g. speeding offences); second, licence suspension is used commonly and for longer periods in instances of more serious or repeat offences (12 points on a licence) and with radically scaled-back 'hardship exceptions'; third, licence suspension would be extended or even permanent for the most serious harms, such as causing death by drink or dangerous driving. All these measures might be accompanied by a higher threshold for return of a licence (not only retaking a driving test, but also graduated or conditional licences for returnees).[11] In the latter case, disassembly would take the form of adaptations to, or the removal of, relevant vehicles. Measures might include the compulsory installation of breath alcohol ignition interlock devices, black-box trackers, or GPS-based intelligent speed assistance. In serious cases, they would entail asset forfeiture.

These practices of disassembly should be conceptualized, not as punishment, but as a form of civil disqualification (Von Hirsch and Wasik 1997). It is not censure for past behaviour but protection against future risk. For von Hirsch and Wasik, the justificatory bar for any such measures should be high; they must track risk and not be deployed to create second-class citizenship. One also, they argue, needs to be wary of overreach and preserve opportunity for the exercise of responsible agency in the future. Arguably, however, licence suspension and revocation (understood not as the punitive removal of a 'right' to drive, but as the withdrawal of special permission to operate hazardous machinery) comes close to, or at least approximates, von Hirsch and Wasik's justificatory tests: the disqualification pertains to special skills, subject to licensing and extensive regulation, with services having a fiduciary character (in this case, perhaps, to other road users) in relation to people 'having substantial vulnerability' (1997: 609).

It is commonly observed that sentencers 'struggle with the criminality' in respect of motoring offences (Kyd and Cammiss 2020: 10). Giving priority to disassembly releases them from that 'struggle' and asks sentencers, instead, to take steps to address the risk posed by dangerous human-machine hybrids. This is where the moral and intellectual energy needs to be focused. Yet by centring disassembly, is there a risk of neglecting the retributive work required of punishment in respect of hard treatment and communicative censure? You kill someone driving dangerously and *just* lose your licence or your car! This proposed schema appears to mean responding to violent death with regulation, not with appropriate punishment.

The hard treatment objection to regulatory sanctions is not wholly convincing. A serious regime of licence suspension/revocation and vehicle adaptation/forfeiture could in fact be harsher in its effects than the standard diet of criminal punishments currently found, for example, in England and Wales—though practical questions of differential impact and enforcement clearly come into play here.[12] The censure point is a more telling objection however, as Von Hirsch and Wasik (1997: 612) note. If criminal law/punishment is the way

[11] In my judgement, the corollary of such a system would be the removal of the practice—which is generally permitted in England and Wales and rife across the United States, for example Headworth (2023: ch. 4)—of attaching licence disqualification to punishments for offences that bear little or no relation to driving.

[12] These proposals also depend on the existence of effective licensing systems. For the contrary case of India, see Annavarapu (2025).

in which society sends authoritative signals about what they consider to be moral wrongs (Duff 2000; Simester and von Hirsch 2011), it is unclear whether a system of regulatory sanctions that operates *inside* the world of driving is able to do the necessary communicative work, no matter how 'harsh'. The point of the fifth principle is not, though, to replace criminal sanctioning; it is to reverse the usual order of things. It says to sentencers: do the future safety work first; decide on the appropriate length of licence suspension and forms of vehicular adaptation on the presumption that these *may* be sufficient. If having done so, one concludes that some penal aim remains to be satisfied (or if measures of disassembly subsequently falter in practice), only then add some quotient of punishment.

But if one proceeds in this manner, great care is needed. It remains a standing risk that logics of punishment will trump questions of safety. Firebreakers will be needed to stop penal rationalities being reasserted over the regulatory work of disassembly. If that happens, one will have abandoned the virtues that flow from reconceptualizing road violence reduction as a form of environmental regulation and reverted to a world in which criminal law and punishment help to sustain the social illusion that mass motoring is, for the most part, harmless.

Conclusion

In this article, I have made a case for folding various questions of road un/safety within criminology's operative concerns with public safety and protection and its long-standing focus on identifying conditions that foster and sustain safe urban environments. I have done so by spelling out the forms of violence and harm that flow from car-centric mobility systems and explicating the process through which such harm comes to be normalized. I have suggested that law's focus on the responsibility and punishment of individual errant motorists is one institutional process through which such normalization occurs and the systemic harms of car-centric mobility are obscured. This has prompted my central (and only superficially paradoxical) claim: if we are to publicly acknowledge and radically reduce the global scale of road harm and violence, we need to decentre the penal mindset and treat the problem, instead, as a matter of environmental regulation. Criminal law and punishment must take a back seat.

Acknowledgements

Earlier drafts of this article were presented to the Criminology Group in the School of Social and Political Sciences at the University of Melbourne; the Ilkley 'Cars and Crime Symposium' organized by the University of Leeds; the Criminal Justice Forum in the Law Department at the London School of Economics; the Centre for Penal Theory and Ethics at the University of Cambridge; and the National Law School of India University, Bengaluru. I'm grateful to all those who participated in these events for their constructive engagement with the article. My thanks are also due to Anthony Bottoms, Cian Ó Concubhair, Sally Kyd, Jose Pina Sanchez, Julian Roberts, Ian Walker, Helen Wells, and the anonymous readers for their detailed comments on earlier drafts.

Funding

This study was supported by a Leverhulme Trust Major Research Fellowship on 'Car harms: Automobility and the objects of criminology' (MRF-2024-099). I am very grateful for the Trust's support.

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