A Safe System for Motorcycling

Managing risk through developing the mode

National Motorcyclists Council

November 2026

Executive summary

In the UK, motorcycling provides independent transport, supports employment and business, connects communities and sustains a diverse sector encompassing manufacturing, engineering, retail, logistics, heritage, leisure, tourism and sport, with a notable economic impact. For many riders it is a source of enjoyment, identity and social connection. Importantly, around two-thirds of motorcycle mileage is undertaken for commuting, access to education, employment and training, plus other utility purposes

Globally, it is a popular, established and expanding form of mobility, which has numerous transport, economic, environmental, quality of life and cost/benefit advantages for riders. Motorcycle usage is expanding significantly year on year in many global regions – increasing by nearly 14% in the UK alone since 2013.

Motorcycling offers a solution to Britain's transport, economic and social challenges, but at the same time it also presents a significant road-safety challenge. This has led to motorcycling's contribution being all too often absent from the policies that shape our roads, communities and economy.

But the debate about motorcycling should not be reduced to a choice between promoting its benefits and confronting its safety challenges. A credible transport policy must address both facts simultaneously, underpinned by a comprehensive Safe System approach to rider safety.

Safe System is attractive precisely because it rejects a narrow 'user problem' model. It assumes human error, recognises limits to human tolerance, shares responsibility among users and system designers, and requires mutually reinforcing action across transport planning, infrastructure, speeds, vehicles, users and post-crash response.

For motorcycles, however, Safe System application is frequently incomplete. Motorcycle-focused frameworks often only revert to safer users, safer vehicles, safer roads, enforcement and emergency response and overlook or exclude the underpinning and essential policy and planning component which sits at the core of how a Safe System is designed and delivered. Once a component that shapes

exposure, network design and investment is omitted, the framework is no longer operating as a complete system.

This matters. If motorcycles are excluded from the transport policy and planning component of the Safe System because policy prefers travelers to shift to other modes, or merely ignores them in areas of transport policy, often because of safety concerns, there is less institutional reason to invest in motorcycle-aware infrastructure, research, standards, data, parking, access, emerging technology and other road user motorcycle awareness education. An approach seeking to reduce, overlook, or 'sideline' motorcycling, even if this isn't stated policy, can therefore weaken the very system measures needed to reduce risk for the riders who are present – often in large numbers.

National, Global-regional and Global motorcycle fleet growth demonstrates the practical limits of discouragement, overlooking, or sidelining as a principal safety strategy where underlying demand remains strong.

In summary, policies or guidance which may seek to displace motorcycle users, or ignore motorcycling's role in transport, have not worked - given the significant increase in motorcycling globally. But this approach has instead led to riders being exposed to additional risk through exclusion from the transport policy and planning elements of the Safe System, despite the fact that a safe system across transport networks cannot be established unless all road users are included within the system.

However, both internationally and in the UK there are already useful foundations for altering this approach. In the UK, the IHE Guidelines for Motorcycling; Northern Ireland's 2023 DEM 92/23, which directs road staff to motorcycle infrastructure guidance; the DMRB; Manual for Streets; and current National Highways research already provides useful policy pointers regarding motorcycling in local road networks and improving infrastructure safety. "Better Connected - A Strategy for Integrated Transport" published by the Department for Transport (DfT) in April 2026 sets out a national framework for a future UK transport model, and explicitly recognises motorcycling across the urban, suburban and rural transport settings it mentions, as part of a future, holistic transport network.

Existing guidelines, policies and research should now be brought together, updated and mainstreamed within the Government's overall transport policy, with motorcycles fully integrated within that policy as a mobility component. There is a need to deliver a paradigm shift from Government viewing motorcycles solely through the prism of a safety problem to be managed, to a mode where transport policy development under a key plank of the safe system can improve safety.

This paper explores how the Safe System, when fully applied to motorcycling, can 'shift the dial' on motorcycle safety and thereby develop the role of the mode in transport. It also proposes a full Safe System structure for motorcycling.

1. The proposition: developing motorcycling as a safer mode of transport

The purpose of a Motorcycle Safe System should not be to promote motorcycle use irrespective of consequences. Nor should it treat discouraging motorcycle use as a substitute for making motorcycle journeys safer. Its purpose should be to ensure that, where people choose or need to use motorcycles, the transport system accepts its share of the responsibility for preventing death and serious injury while recognising the wider value the mode can provide.

The central proposition of this paper is therefore that wider transport policy should develop motorcycling into a safer mode of transport. Development in this context must not be interpreted as simply being about increasing use. It means integrating an already expected and widely used mode of transport into the policies, institutions and investment decisions that shape the transport system: planning, infrastructure, standards, vehicle technology, research, data, training and post-crash response. The objective is to create the conditions in which motorcycle mobility can become progressively safer – irrespective of whether usage increases or decreases.

This is an important distinction. A mode treated principally as a problem to be contained will tend to receive policy focused on exposure, behaviour and compliance. A mode treated as an integral part of the transport system is more likely to receive integrated planning, safer infrastructure, stronger technical standards, better safety research resourcing, vehicle technology, better data gathering, investment and institutional ownership. Development is therefore not in tension with safety - properly conceived, it is one of the mechanisms through which safety is delivered.

The approach also reflects the Safe System principle of shared responsibility. Riders retain clear responsibilities for competence, behaviour and compliance, but the organisations that plan, design, regulate, build, maintain and operate the transport system must also accept responsibility for reducing foreseeable risks. The policy objective should consequently move beyond managing motorcycle risk towards systematically developing the conditions for safer motorcycling.

2. Why development belongs inside a safety strategy

The case for development is not that every motorcycle journey is socially preferable to every journey by another mode. It is that safety policy should sit within a complete appraisal of mobility. Every mode of transport has costs, risks and benefits. Sound policy identifies all three.

The OECD/ITF report ‘Improving Safety for Motorcycle, Scooter and Moped Riders’ describes powered two-wheelers as an important element of mobility and argues for an integrated strategy that combines rider, vehicle, infrastructure and transport-policy measures.[1] The policy logic is important: the more fully the mode is integrated into mainstream transport decisions, the more opportunities exist to engineer out risk.

The development value of an integrated approach, which is mentioned in the OECD/ITF report, can be defined as follows:

- Mobility and access. Motorcycles can provide independent mobility where public transport is limited, where walking or cycling is impractical, or where the cost and space requirements of a car are excessive.
- Congestion and network efficiency. The Transport & Mobility Leuven simulation of the Leuven-Brussels corridor found that a modelled 10% shift from commuting cars to motorcycles reduced total vehicle-hours lost by 40% in that scenario.[2] It is a scenario result, not a universal prediction, but it demonstrates potential network effects.
- Parking and road-space efficiency. PTWs generally require materially less static and moving road space than cars.
- Economic value. Oxford Economics estimated that motorcycle-related activity supported EUR21.4 billion of GDP, 389,000 jobs and EUR16.6 billion of tax revenues across Europe in 2019.[3] The UK-specific MCIA/ICF study, Economic Benefits of the UK Motorcycle Industry 2014, estimated net annual sales of about £5.3 billion, direct GVA of £2.066 billion, more than 58,500 direct jobs across 5,700 businesses, over £1 billion in annual tax contributions and approximately £444 million of exports. Including supply-chain effects, it estimated around £2.9 billion of GVA and about 75,000 jobs supported in the UK economy.[23]
- Social and rural mobility. UK evidence submitted by the NMC highlights access to work, services, social mobility and quality-of-life value where alternatives are limited.[4]
- Tourism, sport and leisure. Motorcycle journeys support visitor expenditure, rural economies, events and participation.
- While environmental performance is not uniform across all motorcycle types, on average Motorcycle use can more than halve CO2 from private transport.

The wider benefits argument is therefore relevant to safety. If policymakers recognise legitimate societal value in the mode, there is a stronger institutional case to invest in safer roads and infrastructure, better standards, research and technology rather than treating reduced exposure as the primary answer.

3. What a complete Safe System requires

The WHO & United Nations Regional Commissions, Global Plan for the Decade of Action for Road Safety 2021-2030 states that road transport is a complex system and that remedies after crashes should be sought throughout that system rather than by blaming road users alone. It then identifies multimodal transport and land-use planning as an important starting point for implementing a Safe System.[5]

The Safe System starts from two realities: people make mistakes, and the human body has limits to the forces it can withstand. A safe transport system therefore needs to anticipate error and create layers of protection so that a mistake is less likely to result in death or serious injury, Responsibility is shared amongst those who design roads and vehicles, set rules, enforce standards and use the network.

Effective planning around this key component of the Safe System is not peripheral. It sits at the core of the Safe System and determines the expected mix of users, where and how journeys occur, how road space is allocated, which modes are accommodated, what infrastructure is built, and where investment and professional capability are directed. In systems terms it is an upstream component: it shapes the operating environment for all the downstream safety interventions.

The policy integrity test

If one of the components that determines how the transport system is planned is removed for one class of user, the result is no longer a fully integrated Safe System for that user or for other road users. This is a core policy integrity test.

This does not mean every Safe System publication must use identical headings. It means the functions performed by the missing component must still be present. If motorcycle policy contains roads, vehicles, riders and enforcement but does not address motorcycle integration into network planning, access, design standards, parking, traffic management and investment, a material part of the system is absent. It is no longer an effective and holistic system.

The delivery of safe roads and roadsides, junction layouts, sight lines, surfacing, drainage, markings and roadside furniture should be assessed through the lens of motorcycle vulnerability. Maintenance programmes should recognise that defects tolerable for four-wheeled vehicles can be dangerous for two-wheeled users. Safety audits and investment appraisal should explicitly consider likely motorcycle movements and potential incident scenarios.

4. Why omission changes the system

Omitting motorcycles from multimodal transport and land-use planning has consequences for safety. Planning determines priorities, budgets, standards, research questions and professional routines. If motorcycles are not an expected or supported mode at that stage, the downstream safety system can become structurally weaker.

- Infrastructure investment: authorities have less reason to redesign junctions, barriers, surfacing, roadworks or parking around a mode they do not expect or wish to develop.
- Standards: motorcycle requirements are more likely to remain in specialist guidance rather than being embedded in mainstream design manuals.

- Research: scarce public research funding is less likely to be directed to a mode framed principally as one to discourage, ignore, or substitute.
- Data: exposure, trip purpose, infrastructure risk and benefit data remain weak if the mode is treated mainly as a casualty category.
- Vehicle technology: public policy may focus on safer motorcycles while underinvesting in motorcycle detection and avoidance by other vehicles and automated systems.
- Network operations: filtering, bus-lane access, parking, work-zone design and incident management become ad hoc rather than planned.
- Governance: motorcycle expertise is often invited into road-safety discussions but not necessarily into wider transport, planning, infrastructure and decarbonisation discussions.

The result can be a self-reinforcing loop: non-integration reduces investment and knowledge; the resulting safety deficit reinforces the view that motorcycles should not be encouraged; that view then justifies continued non-integration. This is essentially a “disvirtuous circle of safety” - virtually guaranteeing continued negative outcomes for motorcycle safety.

5. Critiquing exposure suppression as a principal strategy

There is a legitimate place for modal shift in transport policy. High-quality public transport, walking and cycling can improve safety, accessibility, health and environmental outcomes, and in some journeys, they will be preferable to motorcycle use. However, within some high-level Safe Systems publications, guidance aimed at displacing motorcycle users towards other modes has unfortunately been proposed as a substitute for building a complete safe system for motorcycle users.

This policy strand has a concerning lineage. A European Commission's archived motorcycle-safety material states that the WHO/World Bank World Report advised caution against policies that could encourage growth in motorised two-wheeler traffic by giving advantages to PTW users.[6] The WHO/UN Global Plan later recommends discouraging private vehicles in high-density urban areas.[5] A 2026 IDB report recommends public-transport alternatives to reduce motorcycle dependency in some contexts,[8] while the July 2026 UN high-level progress declaration couples a holistic PTW safety package with promotion of safe and sustainable mobility alternatives.[9]

Motorcycle fleets and ridership have nevertheless continued to grow strongly in many regions over the period in which this policy approach has existed. The 2026 IDB report is itself prompted by the scale and growth of PTW use in Latin America, where motorcycles have become central to mobility, employment and access in many places.[8] It is not suggested that discouragement policies caused growth, but it does show that a strategy which assumes motorcycle exposure can simply be designed away is not robust where demand is driven by affordability, journey time, flexibility, employment and limited alternatives.

Therefore, a safety strategy dependent on substantial reduction in use is fragile. If the predicted modal shift does not occur, the riders remain in a system that may have underinvested in their safety, leading to disproportionate rider vulnerability exposure and higher incident numbers. The more robust strategy is to make the system safe for actual and reasonably foreseeable patterns of mobility while allowing wider transport policy to influence mode choice on its own merits.

The archived European Commission page referred to above, provides an unusually clear illustration of the concern. It records the WHO/World Bank advice and, in the very next paragraph, notes the relative lack of motorcycle-safety design research.[6] That sequence does not prove causation. It does, however, support a plausible institutional mechanism: if a mode is not regarded as one whose use should be facilitated, the expected return on public investment in its infrastructure, research and integration appears lower.

For a Safe System this is potentially self-defeating. The objective is to prevent death and serious injury for the users who actually exist in the system. Where motorcycle use persists or grows, withholding integration because policy would prefer a different modal outcome leaves real people exposed to avoidable system risk. A complete Safe System must therefore design for all modes that are present or reasonably foreseeable.

The practical test is straightforward: would an authority still invest in motorcycle-safe road design, detection technology, standards, data and research if motorcycle use did not decline or started to increase? If the answer is no, the safety strategy is contingent on a modal-shift assumption rather than resilient to actual mobility demand.

Key principles for policy

- support better public transport, walking and cycling where they meet people's needs, but recognise motorcycling as part of the overall transport mix, suitable for a range of journeys where public transport, walking and cycling cannot meet individual need;
- oppose the use of modal discouragement or policy exclusion as a substitute for motorcycle safety investment;
- require safety provision and planning policy inclusion for motorcycles wherever they are an expected part of the transport mix;
- assess motorcycle policy using the same economic, social, environmental and safety appraisal principles applied to other modes;
- recognise that integration itself can improve safety by generating better infrastructure, data, research, standards and user awareness.

6. International full motorcycle safe system policy: Lillehammer and beyond

Despite the issues raised in section 5 above, the international foundation for the full Safe System approach is notable, meaning there is a number of international publications and examples for governments to draw upon for more proactive Safe System guidance.

A 2015 OECD/ITF report draws directly on the 2008 Lillehammer Workshop on Motorcycling Safety and subsequent work. It treats PTWs as a mobility issue as well as a casualty issue and examines rider behaviour, vehicles, infrastructure and traffic management within an integrated strategy.[1]

The 2022 ITF policy brief Improving Motorcyclist Safety: Priority Actions for Safe System Integration advances the point explicitly and emerged from work involving ITF, the Swedish Transport Administration, VTI, FIM, IMMA and ACEM.[11] This is valuable because it frames motorcycle safety as an integration matter rather than simply a stand-alone rider programme.

The 2024 European Road Safety Observatory report likewise concludes that countermeasures should adopt a Safe System approach, citing infrastructure, vehicle safety, appropriate speeds, safer behaviour, interaction between road users and enforcement.[7] Its limitation is that the upstream transport policy and planning function is not present in its PTW safety structure.

Several other jurisdictions and international bodies have already produced practical guidance. These demonstrate that motorcycle-sensitive infrastructure can be expressed as engineering rules, checklists and treatment programmes – and that design and land-use planning are essential components of the motorcycle Safe System.

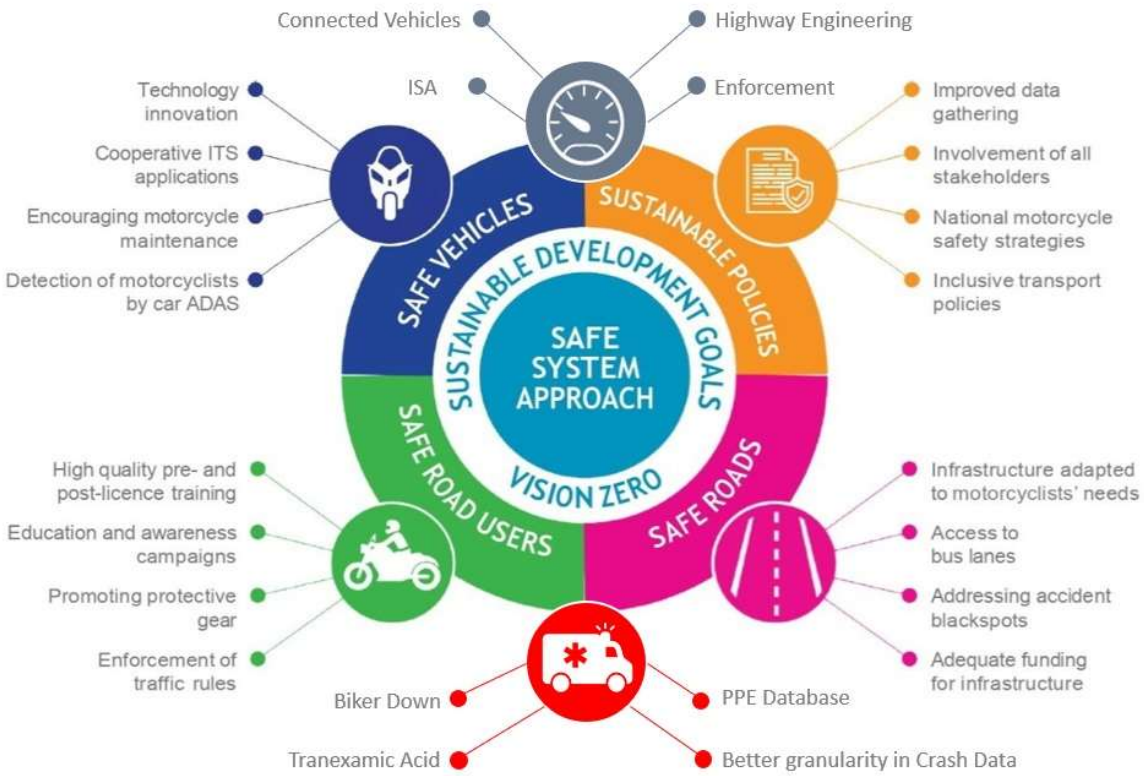
Jurisdiction/body	Guidance	Relevance
Victoria, Australia	Making Roads Motorcycle Friendly Guide	Current Victorian guidance for practitioners who plan, design, construct, operate and maintain roads; provides road-design and safety-treatment examples and is tied to a motorcycle safety infrastructure programme.[14]
Austroads	Guide to Road Design / Guide to Road Safety plus motorcycle research	Australasian road-design guidance embeds Safe System principles, while dedicated motorcycle research has addressed infrastructure improvements, curves, roadside risk and motorcyclist considerations.[15]
FEMA / European Road Federation	Safer Roads for Motorcycles / infrastructure recommendations	Calls for motorcyclists to be included when roads are planned, built and maintained; covers surfaces, barriers, markings, maintenance and road-risk assessment.[16]

Jurisdiction/body	Guidance	Relevance
World Resources Institute	Motorcycle Safety and Urban Road Infrastructure (2025)	Uses evidence from six cities to link urban built-environment design and planning with motorcycle death and injury prevention.[17]
Northern Ireland	DEM 92/23	Formal road-authority memorandum requiring motorcycle infrastructure issues to be considered in new road development.[13]
United Kingdom / IHE	Guidelines for Motorcycling	Long-standing specialist guidance on road design, traffic engineering, maintenance, parking and integration.[12]

7. The complete Motorcycle Safe System

With the missing elements of the Safe System which have been discussed above included, the following is the proposed structure of the System as it applies to motorcycling.

Plank	Objective	Motorcycle application
1. Safe mobility, transport & land-use planning	Motorcycling is included in decisions about movement, land use and network operation.	National/local mobility strategies; access; parking; filtering; priority lanes; rural mobility; mobility hubs; development appraisal.
2. Safe roads & roadsides	Infrastructure accommodates motorcycle dynamics and predictable human error.	IHE update; NI precedent; DMRB/MfS integration; surfaces; junctions; barriers; bends; roadsides; roadworks; maintenance.
3. Safe speeds	Speed and road design manage collision energy and conflict.	Appropriate limits; self-explaining roads; junction/bend speeds; differentials; enforcement and technology.
4. Safe vehicles	All vehicles contribute to crash avoidance and injury reduction.	ABS/ARAS; motorcycle conspicuity; AEB PTW detection; blind-spot/junction assistance; automated vehicle recognition.
5. Safe road users	Competence and compliance are built across all interacting users.	Licensing; training; post-test training, lifelong learning; driver awareness; PPE standards; impairment; occupational riding; targeted enforcement.
6. Post-crash response	Consequences are minimised and serious failures generate learning.	Detection/eCall; rural response; trauma care; rehabilitation; collision investigation and feedback.
7. Cross-cutting governance	Institutions own outcomes and coordinate the system.	Leadership; targets; data; research; funding; stakeholder participation; standards; evaluation and reporting.



(TranSafe Network, Jeavons 2025)

Component 1 - Safe mobility, transport and land-use planning (sustainable policies)

This is the defining plank of the Motorcycle Safe System. It is where motorcycle safety through integration becomes transport policy rather than merely casualty policy, so creating a full Safe System. The WHO/UN Global Plan itself says multimodal transport and land-use planning is an important starting point for Safe System and that minimum safety performance should be required for all expected modes.[5]. The following approach is proposed

- explicit motorcycle consideration and integration in national, regional and local transport strategies, plus an explicit motorcycling strategy to sit alongside the walking and cycling strategies;
- motorcycle impact assessment for road-space allocation, access and traffic-management changes;
- evidence-led parking, filtering and bus-lane access policy;
- integration with urban and rural mobility, employment access and transport-poverty reduction policy (including policies to support those not in employment, education or training - NEETs);
- motorcycle inclusion in mobility hubs and future energy/charging infrastructure;
- assessment of safety, mobility, congestion, economic, social and environmental effects together;

Component 2 - Safe roads and roadsides

Infrastructure defects and design features tolerated by enclosed vehicles can be destabilising or severe for motorcycles. International guidance from IHE, Victoria, Austroads, FEMA and WRI provides a substantial starting evidence base.[12][14][15][16][17]. The following measures are proposed:

- motorcycle-sensitive road safety audit, inspection and route assessment;
- predictable standards for friction, repairs, markings, ironwork and contamination;
- junction design addressing detection and turning conflicts;
- motorcycle-friendly restraint systems and roadside hazard treatment;
- roadworks and temporary traffic management designed for motorcycle stability and visibility;
- targeted treatment of bends and high-severity motorcycle routes, ie PRIMES etc;
- routine involvement of motorcycle-aware engineering expertise during design, not only after construction.

Component 3 - Safe speeds

Safe speed should be understood as management of collision energy and predictable behaviour rather than simply lower limits. Instead, credible, risk-sensitive speed environments should be created where enforcement activity targets dangerous behaviour across all vehicle types. The WHO Global Plan itself treats speed as crosscutting across land-use planning, infrastructure, vehicle design and road-user behaviour.[5]. The following is recommended:

- match speeds to road function and foreseeable conflicts;
- use self-explaining design to make appropriate speed intuitive;
- focus on high-severity junctions, bends and routes;
- address extreme/inappropriate speed by riders and other road users;
- consider speed differentials and overtaking environments;
- evaluate intelligent speed warning and assistance suitable for motorcycles.

Component 4 - Safe vehicles

A whole-system approach must address both motorcycles and the vehicles that collide with them. Safe Vehicle policy should not reduce motorcycle safety to just equipment fitted to the motorcycle itself. Other vehicle systems must be designed and developed with a full awareness of motorcycles and their specific characteristics as part of core R&D. Government and industry should promote rigorous testing, clear standards and research into real-world effectiveness. Applications include:

Motorcycles

- ABS and cornering ABS;
- traction/stability systems and ARAS;
- lighting and conspicuity;

- tyres and braking;
- connected warnings;
- appropriate injury-mitigation innovation.

Other vehicles

- AEB performance in motorcycle-relevant scenarios;
- blind-spot and lane-change detection;
- junction/turning assistance;
- HGV and bus conflict detection;
- robust motorcycle recognition by automated and connected vehicles, including full motorcycle inclusion in 'statements of safety principles' or international equivalents under automated vehicle legislation.

Component 5 - Safe road users

Rider and driver competence and responsible behaviour need to be developed further, though the Safe System change is one of proportion and developing personal and institutional responsibility. When it comes to motorcycling, Safe Users is but one plank of the Safe System, not a whole system in itself. The following principles are proposed:

- proportionate licensing and testing legislation focused on real-world competence and rider development though an educational approach – not on merely making licence acquisition bureaucratic and expensive through the erection of excessive barriers to entry;
- high-quality initial training and safe progression;
- fully supported post-test training and lifelong learning;
- Continued emphasis on speed issues, plus alcohol and drug compliance enforcement;
- A focus on helmet and protective-equipment (PPE) quality, with properly enforced standards, the tackling of fake and counterfeit products and better-informed rider choice through awareness;
- driver training/testing addressing motorcycle awareness and detection;
- employer/gig platform responsibilities and standards for occupational riders;
- appropriate use of enforcement tools such as S59.

Component 6 - Post-crash response and system learning

Timely emergency attendance, trauma care, bystander education and systematic investigation can reduce harm and prevent recurrence. There should be a focus on continuing the development of existing systems and strategies, utilising emerging technologies where appropriate. Key points include:

- rapid detection and accurate location transmission technologies;
- motorcycle-compatible eCall and connected emergency systems;

- rural ambulance and air-ambulance response;
- motorcycle-specific first-on-scene courses;
- rehabilitation and return-to-mobility support;
- systematic investigation of fatal and serious crashes with lessons fed into road standards, vehicle policy, training and enforcement.

A mature Safe System treats a serious collision not only as an emergency but as evidence of a system failure from which institutions must learn.

The five pillars must operate together. An intervention should be evaluated not only by whether it changes individual behaviour, but by whether it measurably reduces exposure to severe harm. And to ensure the effective operation of a safe system for motorcycles, there should be explicit motorcycle inclusion not only in the national Safe System framework but also within local road safety planning.

Component 7 - Cross-cutting governance

System governance is especially relevant to motorcycles. Research and development across the transport system follows policy priorities. If motorcycles are framed mainly as a mode to either not support or to discourage, there is an obvious risk that public institutions underinvest in the knowledge needed to make them safer. To ensure that this component of the full Safe System is extended to motorcycles, the following is proposed:

- a national Motorcycle Safe System implementation plan under the 2026 UK Road Safety Strategy;
- a named senior DfT lead and cross-government/agency coordination mechanism;
- formal motorcycle representation in road-safety, transport-planning, infrastructure and technology work, including representation on the main Road Safety Board and the Expert Advisory Group, with the work of these groups being fully transparent;
- improvements to the scope of published exposure, casualty and intervention indicators;
- dedicated research spanning mobility, infrastructure, vehicles, behaviour and post-crash care;
- clear responsibilities for highway authorities, manufacturers, enforcement, training bodies and employers;
- annual reporting against actions, outcomes and unresolved system gaps;
- a research presumption that persistent use creates a duty to understand and reduce risk, irrespective of modal-growth policy.

8. Building on UK infrastructure guidance foundations

IHE and Northern Ireland

The UK does not begin from zero. The IHE Guidelines for Motorcycling remain the principal published specialist UK guidance and are explicitly framed around 'improving safety through engineering and

integration'. They state that road design and maintenance must take account of motorcycle dimensions and dynamic stability and encourage designers to 'think bike'.[12]

Northern Ireland provides an especially useful contemporary precedent. Department for Infrastructure Director of Engineering Memorandum DEM 92/23, published in May 2023, applies to DfI Roads staff involved in new road infrastructure and recommends documents as good design practice so that issues experienced by motorcyclists are known and considered during development.[13]

This is important for two reasons. First, it demonstrates that a UK road authority can formalise motorcycle considerations within engineering governance rather than relying solely on voluntary awareness. Second, it offers a model for linking specialist motorcycle knowledge to mainstream design processes. Actions needed:

- Update the IHE Guidelines comprehensively for the Safe System era.
- Use the Northern Ireland DEM 92/23 approach as a governance precedent for requiring motorcycle considerations in design processes.
- Audit and update relevant DMRB requirements and advice so motorcycle characteristics are explicit and visible where necessary.
- Integrate motorcycle requirements throughout the forthcoming Manual for Streets update.
- Develop a consistent motorcycle-sensitive road safety audit and inspection methodology.

DMRB: mainstreaming motorcycle requirements on the strategic road network

The Design Manual for Roads and Bridges is the principal technical framework for the strategic road network. A complete Motorcycle Safe System requires a systematic audit of DMRB requirements and advice against motorcycle dynamics, crash mechanisms and vulnerability. The NMC does not claim that DMRB lacks relevant provisions; it asks whether those provisions are sufficiently visible, explicit, current and consistently applied in the following areas:

- road safety audit and explicit recognition of vulnerable motorised road users;
- road restraint systems and motorcyclist impact risk;
- junction visibility, turning conflicts and conspicuity;
- horizontal alignment, bends and delineation;
- surface friction, transitions, ironwork, drainage and contamination;
- road markings, high-friction and coloured surfacing;
- roadworks and temporary traffic management;
- roadside objects, sign supports and forgiving roadsides;
- maintenance intervention thresholds for motorcycle-critical defects;
- intelligent transport systems and detection of motorcycles by connected/automated vehicles.

TRL's 2024 National Highways research on motorcyclists and barriers is a good example of evidence that should feed directly into a standards review rather than remain a parallel research output.[18]

Manual for Streets: motorcycling designed into urban mobility

Manual for Streets is equally important because many motorcycle interactions occur on urban and local roads. The existing Manual recognises motorcycle parking and refers to the IHE Guidelines, but motorcycles are not as deeply embedded in the main street-design narrative as pedestrians and cyclists. Government has indicated that an updated Manual for Streets will be published, creating a timely opportunity for integration.[19]. The revised Manual should:

- recognise motorcycles explicitly in street user analysis and design decisions;
- address junction geometry and motorcycle detection;
- specify surface quality and material choices with single-track stability in mind;
- avoid traffic-calming features that create unnecessary motorcycle hazards;
- integrate secure and appropriately located motorcycle parking;
- consider access, modal filters, priority lanes and bus-lane interaction;
- address roadside furniture and restraint risks;
- embed motorcycle-safe construction, inspection and maintenance practices;
- design predictable interaction among motorcycles, cycles, pedestrians, cars, buses and freight.

9. The UK policy opportunity

The 2026 Road Safety Strategy is helpful in two important respects. It explicitly recognises motorcyclists as a road-user group at substantially higher risk and places motorcycle safety within the first national road-safety strategy for more than a decade. It also provides a wider framework covering road users, safer infrastructure, vehicle technology and post-collision care, and enforcement.[20] However, the motorcycle-specific commitment within the Strategy is much narrower: Government's stated action is a targeted review and consultation on moped and motorcycle training, testing and licensing, plus support for PRIMEs road markings – an infrastructure measure.

A Safe System does not diminish the importance of rider competence; it rather places that competence within a broader framework of protection. An effective Safe System should improve initial training, encourage progression, influence other drivers' behaviour and address issues with the physical road environment.

But the impression given by the Government in its Road Safety Strategy is that limited intervention in motorcyclist licensing and training, plus one standalone infrastructure measure, will solve current safety issues around motorcycling. The Strategy does not take into account the broader framework of Safe System protection that will be needed to effectively improve road safety outcomes for those using motorcycles. Parliamentary answers since publication of the new Road Safety Strategy have

reinforced that interpretation, and in April 2026 the Minister stated that there were currently no plans for a separate motorcycle strategy [24].

This distinction is central to the NMC case. Motorcycles are recognised as vulnerable, but they are not yet systematically integrated across the Strategy's other Safe System elements. The existence of general commitments on infrastructure, vehicle technology, data, enforcement and post-collision care, while welcome, does not in itself ensure that motorcycle-specific risks are identified, researched, funded or addressed within those programmes. The training, testing and licensing review is valuable and welcomed by the motorcycle sector, but by definition concentrates the policy response on the rider rather than on the complete system.

Delivery of the Road Safety Strategy should therefore be strengthened by requiring each of its major workstreams to state explicitly how motorcycle risk will be addressed. This should include motorcycle-sensitive infrastructure standards and maintenance; road restraint and roadside risk; motorcycle detection by vehicle safety technologies; inclusion in the new road-safety investigation function and data programme; post-crash response; speed and enforcement interventions based on motorcycle collision typology; and formal motorcycle stakeholder involvement in implementation and evaluation. A genuinely Safe System is built through sustained collaboration across multiple stakeholder groups, not through isolated policy changes and campaigns, or an assumption that one intervention can solve every problem.

The separate 2026 Integrated Transport Strategy, *Better Connected: A Strategy for Integrated Transport*, provides a second policy opportunity. It is a welcome advance on earlier policy because motorcycling is recognised, albeit briefly, across the principal urban, suburban and rural transport settings, and the Strategy's overarching vision is for transport to be safe, reliable, affordable and accessible.[25] Yet it stops short of commitments to reduce rider vulnerability through developing motorcycling's role as a transport mode. By contrast, the same wider policy framework contains more developed commitments for integrating and investing in some other modes.

The practical recommendation is to join these two 2026 strategies together. Better Connected should supply the missing transport-planning and mode-development dimensions, while the Road Safety Strategy should supply the casualty-reduction and Safe System discipline. Government should use their delivery mechanisms to create a motorcycle work programme spanning safe mobility and planning, infrastructure, speeds, vehicles, users, post-crash care, research and governance. That programme should include four immediate engineering tasks already identified in this paper: update the IHE Guidelines; build on Northern Ireland's DEM 92/23 precedent; audit and update relevant DMRB provisions; and secure explicit motorcycle integration throughout the next Manual for Streets.

Taken together, these changes would move UK policy from not just recognising motorcyclists as vulnerable road users but towards accepting the full Safe System implication of that recognition.

Vulnerability creates a responsibility to improve the system around the user in addition to improving the user.

Draft policy tests

1. Does the policy recognise motorcycling as a legitimate, reasonably foreseeable transport mode whose users are entitled to full Safe System protection?
2. Does it include all Safe System functions, including multimodal transport and land-use planning?
3. Does it address system design as well as rider behaviour?
4. Does it allocate responsibility to every actor with a role to play in preventing death or serious injury?
5. Does it consider the behaviour and technology of other vehicles and users towards motorcycles, not just motorcycles in isolation?
6. Is it based on a full and properly in-depth analysis of motorcycle-specific evidence and exposure data?
7. Are wider mobility, economic, social and environmental consequences assessed alongside safety?
8. Does the policy create incentives for infrastructure investment, research and standards development?
9. Does it have measurable objectives, ownership, resources and evaluation?
10. Would the same evidential standard be applied to another transport mode?

11. Safe System Recommendations.

1. Government should develop with motorcycle stakeholders and road safety experts a national Motorcycle Safe System implementation plan under the 2026 Road Safety Strategy.

2. Safe mobility, multimodal transport and land-use planning must become an explicit plank of motorcycle Safe System policy. This should be enabled by explicit motorcycle consideration and integration in national, regional and local transport strategies, with a motorcycling strategy to sit alongside the existing walking and cycling strategies.

3. The strategy should adopt, manage and decrease risk through developing the mode as a core principle.

4. Modal-shift policy should not be used as a substitute for investment in the safety of continuing motorcycle journeys.

5. The IHE Guidelines should be comprehensively updated for current Safe System practice with DfT and National Highways support.

6. England, Wales and Scotland should consider formal engineering mechanisms analogous to Northern Ireland's DEM 92/23 to require motorcycle infrastructure considerations in relevant

projects, with national and local highway authorities incorporating motorcycle-specific risks into maintenance prioritisation, design standards and safety audits. Infrastructure investment must address recurrent risks, poor skid resistance, potholes, uneven repairs, contaminated surfaces, dangerous roadside objects and junction layouts that compromise motorcyclist visibility.

7. DfT and National Highways should conduct a motorcycle Safe System audit of relevant DMRB standards and advice.

8. The forthcoming Manual for Streets update should integrate motorcycles throughout the design process.

9. National guidance should require motorcycle-sensitive design, maintenance, road safety audit and temporary traffic management.

10. Vehicle policy should treat motorcycle detection and avoidance by other vehicles as a core safety requirement.

11. Government should establish explicit motorcycle research, data, targets, governance and annual accountability.

12. Policy appraisal should value mobility, congestion, economic, social and environmental effects alongside risk.

13. International Safe System bodies should review whether their motorcycle-specific frameworks preserve the full set of functions present in their whole-system models and revise those frameworks which don't. This is important given that a policy of discouragement has not worked, given the backdrop of exponentially increasing motorcycle use in several global regions.

National Motorcyclists Council
November 2026

References

- [1] OECD/International Transport Forum (2015), Improving Safety for Motorcycle, Scooter and Moped Riders, OECD Publishing, Paris, DOI 10.1787/9789282107942-en.
- [2] Transport & Mobility Leuven (2011), Commuting by Motorcycle: impact of a modelled modal shift on the Leuven-Brussels corridor.
- [3] Oxford Economics (2021), The Economic Importance of Motorcycles to Europe.
- [4] National Motorcyclists Council, written evidence to the UK Parliament on motorcycling, mobility and wider social value.

- [5] WHO & United Nations Regional Commissions (2021), Global Plan for the Decade of Action for Road Safety 2021-2030. See Safe System principles and multimodal transport and land-use planning.
- [6] European Commission, Mobility & Transport - Road Safety, archived page 'Motorcycles' (current archive access). Records WHO/World Bank advice that policies should avoid encouraging growth of motorised two-wheeler traffic by giving advantages to PTW users; also notes limited motorcycle-safety design research.
- [7] European Road Safety Observatory / European Commission (2024), Thematic Report: Powered Two-Wheelers.
- [8] Inter-American Development Bank (2026), Motorcyclists in Latin America: Current Situation, Lessons Learned and Recommended Best Practices for the Protection of its Users, 2nd ed.
- [9] United Nations (21 July 2026), Progress Declaration of the High-Level Meeting on Improving Global Road Safety: Scaling up governance, financing and implementation to halve road traffic deaths and injuries by 2030, para. 30.
- [10] Marrakech Declaration, Fourth Global Ministerial Conference on Road Safety, Marrakech, 18-20 February 2025; see also WHO news release of 19 February 2025 on safe, green and equitable mobility.
- [11] International Transport Forum (2022), Improving Motorcyclist Safety: Priority Actions for Safe System Integration.
- [12] Institute of Highway Engineers, Guidelines for Motorcycling: Improving Safety through Engineering and Integration.
- [13] Department for Infrastructure Northern Ireland (2023), Director of Engineering Memorandum DEM 92/23: Motorcycling Infrastructure Design Guidance.
- [14] Victorian Government / VicRoads, Making Roads Motorcycle Friendly: A Guide for Road Design, Construction and Maintenance; current Victorian motorcycle safety road-treatment guidance.
- [15] Austroads, Guide to Road Design and Guide to Road Safety series; motorcycle infrastructure research including AP-R515-16 and later curve-treatment work.
- [16] Federation of European Motorcyclists' Associations (FEMA), Safer Roads for Motorcycles; and FEMA/European Road Federation infrastructure recommendations.
- [17] World Resources Institute (2025), Motorcycle Safety and Urban Road Infrastructure: urban road design and planning recommendations.
- [18] TRL (2024), Motorcyclists and Barriers on the Strategic Road Network, PPR2051, for National Highways.
- [19] Department for Transport, Manual for Streets; and 2026 Local Transport Plan guidance confirming a forthcoming update to Manual for Streets.
- [20] Department for Transport (2026), Road Safety Strategy.

- [21] NMC internal policy discussion, August 2026 - source of the working formulation 'manage the risk through developing the mode' and identification of the multimodal-planning gap.
- [22] UK Parliament, Written Question 20596, answered 20 December 2024 by Lilian Greenwood MP, Department for Transport: 'At present, the Government has no policy to encourage greater use of motorcycles, mopeds or other powered light vehicles.'
- [23] ICF Consulting Services for the Motorcycle Industry Association (2015), Economic Benefits of the UK Motor Cycle Industry 2014. Estimates include £5.3bn net annual sales, £2.066bn direct GVA, 58,530 direct jobs, 5,700 businesses, £1.021bn taxes and £444m exports; with supply-chain effects, about £2.9bn GVA and 75,000 jobs.
- [24] UK Parliament, Written Question 124491, answered 16 April 2026 by Lilian Greenwood MP; and Department for Transport (2026), Improving moped and motorcycle training, testing and licensing. These confirm the Road Safety Strategy's targeted motorcycle work is focused on training, testing and licensing and that Government had no plans at that point for a separate motorcycle strategy.
- [25] Department for Transport (2026), Better Connected: A Strategy for Integrated Transport, published 2 April 2026. See also DfT Local Transport Plan guidance and NMC/BMF responses noting the strategy's recognition of motorcycling across key transport settings but the need for further policy development.

Copyright 2026 National Motorcyclists Council (NMC). This publication can be further distributed by third parties provided no alterations are made. It can be quoted or used in other publications and statements, provided the NMC is credited as the source.