



Position papers 2017



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Position paper: **ADVANCED DRIVER ASSISTANCE SYSTEMS (ADAS)**

June 2017

In general

Advanced Driver Assistance Systems (ADAS) cover a wide range of systems and applications and provide personal assistance to drivers. In this context we mean ADAS for cars. ADAS can draw attention to approaching traffic and stationary or slow moving vehicles, signal road users in the drivers blind spot and provide prior knowledge of the traffic situation ahead. Some systems actively interfere by braking, by applying additional braking force or interfering with the steering or speed of the vehicle. In a number of situations, ADAS can completely take over the task of the driver. ADAS can work autonomously or in connection with other vehicles (V2V) or with the infrastructure (V2I/I2V).

Effects of ADAS on motorcycles

- Riders can benefit from ADAS by better conspicuity. ADAS devices can also prevent situations where drivers are not aware of motorcyclists, especially situations where a car is crossing the lane of oncoming traffic, or when a car driver's vision is obscured at crossings.
- The situation will occur where many motorcycles belong to a declining minority of non-automated and non-connected vehicles, which can cause risks if ADAS devices in cars assume connectivity and digital conspicuity.

Conditions for ADAS to be safe and acceptable for motorcycles

- Motorcycles differ from bicycles and pedestrians in speed and acceleration. ADAS devices should be developed with all kinds of vulnerable road users in mind and should always be tested with motorcycles.
- ADAS devices must be developed and tested with non-ADAS equipped road users in mind.



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Position paper: **ADVANCED RIDER ASSISTANCE SYSTEMS (ARAS)
ON MOTORCYCLES**

June 2017

In general

ARAS covers a wide range of systems and applications that provide personal assistance to riders. ARAS can draw attention to approaching traffic, signal road users in the riders blind spot, assist the rider in directing his attention to relevant information, provide prior knowledge of the next traffic situation, warn the rider of obstacles in his path. ARAS can work autonomously or in connection with other vehicles (V2V) or infrastructure (V2I/I2V). In this case it is a Connected ITS (C-ITS) device.

Effects of ARAS on motorcycles

- Existing vehicle safety systems, such as ABS. Lean ABS (or cornering ABS) and traction control, have already proved beneficial to motorcycle road safety. Other devices can be just as beneficial as long as the rider is allowed full control of the throttle, both deceleration and acceleration, and steering.
- Systems can give warnings to riders about speed limits, oncoming curves; traffic jams ahead, damaged roads etc. However, this can also result in information overload. Special attention is needed for fully functional human machine interfaces (HMIs) that filter the needed information and cause no danger by their design.
- The situation will occur where many motorcycles belong to a declining minority of non-automated and non-connected vehicles, which can cause risks if ITS devices of other vehicles assume connectivity and digital visibility.

Conditions of ARAS to be safe and acceptable for motorcycles

- ARAS devices for motorcycles cannot take over control of throttle and steering from the rider with present techniques.
- Roads should always remain accessible for vehicles that are not controlled by electronic systems, and are not connected with other vehicles and/or infrastructure.
- Data should be secure and privacy should be guaranteed.



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Position paper: **MOTORCYCLE BLACK SPOTS
AND NETWORK SAFETY MANAGEMENT**

June2017

In general

To enhance motorcycle road safety a safe road infrastructure is essential. This starts with a safe road design. However, notwithstanding this, accidents occur and infrastructure can be less safe than expected. Therefore, motorcycle black spot management (BSM) is an essential part of the site-specific traffic safety work done by the road administration authorities, and concerns short road sections (<0.5 km). Supplementary to this is network safety management (NSM) that concerns longer road sections (2-10 km). Both black spot management and network safety management concern all infrastructural aspects, but both BSM and NSM lack standardised definitions and methods.

Black spot detection and registration

- Regular road inspections must be done with a motorcycle focus.
- Systematic accident data collection will reveal places and stretches of roads that are particularly motorcycle accident prone, needing further investigation and follow-up measures.

Black spot safety management

- As traffic collisions are rare occurrences it is not possible to identify a black spot simply by the number of collisions. Therefore, the EU should adopt the Critical Crash Rate Factor Method as this takes into account additional factors, including traffic volume, to assess risk.
- Black spot management and network safety management should be part of the safety policy of the European Union with special attention to vulnerable road users, including riders of powered two-wheelers.
- Black spot management should not be restricted to the TEN-T network.



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Position paper: **ROADSIDE AND MEDIAN CRASH BARRIERS**

June 2017

In general

Crash barriers are developed for, and tested with cars and trucks. Especially for these vehicles they provide safety as they prevent them from hitting objects near the road or colliding with oncoming vehicles. However, by their design and features they also create a hazard for motorcycles. Motorcyclists have no protective cage like car drivers and motorcyclists have a much smaller chance of surviving a collision with a barrier than car drivers. Barriers should therefore only be installed when necessary. The cost of improving standards for roadside and median barriers to meet the so far neglected needs of vulnerable road users, including motorcyclists, is far outweighed by the benefit of saving lives on European roads. Barriers that are safe for motorcyclists are not less safe for other road users.

How roadside barriers should be improved

- Crash barriers, of whatever type, should only be installed where there is a real risk of a collision with an object or oncoming traffic and no other solution - like removing the objects - is possible.
- New standards for roadside and median barriers should be adopted to make them less dangerous to motorcyclists. The existing Technical Specification TS1317-8 should be turned into an EN standard.
- New standards should include protection against hitting the posts and top-side protection for motorcyclists.
- No new cable barriers (i.e. wire rope fences) should be installed. When old cable barriers need to be replaced, they should be replaced by a safer barrier type.
- Whenever a barrier is installed, the distance from the road should be as large as possible to allow for evasive manoeuvres and maximum emergency braking in the event of an accident and to possibly reduce the force of the impact.
- Existing barriers in outer curves or other locations with heightened risk should be retrofitted with Motorcycle Protection Systems (MPS).
- Introduce a common European classification system for crash barriers, based on vulnerable road users (VRU) collision friendly features.



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Position paper: **MOTORCYCLES AND THE ENVIRONMENT**

June 2017

In general

Road transport is a large contributor to greenhouse gas emissions and air pollution. The European Union has laid down several goals to decrease the emission of especially CO₂ and NO_x. National and local authorities are also trying to reduce CO₂ and NO_x emissions within their boundaries. Some have already banned or are planning to ban older vehicles, including motorcycles, or demand high tolls to enter cities, e.g. Paris and London. Furthermore, taxation schemes are being developed that are based on fuel consumption and exhaust emissions, e.g. in Norway. These developments demand an appropriate answer from the motorcycle industry and motorcyclists themselves in order to preserve a role in future mobility schemes.

Contribution of motorcycles to a cleaner environment

- Motorcycles are smaller and lighter than cars and therefore already contribute to less fuel consumption and less pollution.
- Motorcycles are able to keep moving where cars are stuck in traffic jams, which means they use less fuel and pollute less.
- Motorcycles have become much cleaner in the last decades and will become even cleaner with the implementation of the Euro 5 emission limits in 2020.
- Less energy is needed to produce and scrap motorcycles than is needed with cars, because motorcycles are much smaller than cars and much less material is used to make them.

Actions to make motorcycling cleaner

- Motorcyclists should be aware of the fuel consumption and emissions of their motorcycles and make a balanced choice when they purchase a new motorcycle. To be able to do this the manufacturers of motorcycles should provide motorcycles with consumer-information about fuel consumption and emissions of CO, CO₂ and NO_x.
- Manufacturers of motorcycles should keep on developing cleaner motorcycles by enhancing the environmental performance of internal combustion engines, and at the same time develop more low and zero emission engines.



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Position paper: **MOTORCYCLE SAFE INFRASTRUCTURE**

June2017

In general

Road infrastructure is developed with cars in mind. The design of roads, and the tests of roadside barriers, poles, road surfaces, everything that is part of, or next to a road is done from the perspective of car drivers. Motorcycles are by their nature different from cars and trucks and have different demands. Motorcycles are one-track vehicles and as such are more sensitive than cars to cracks, potholes, slippery and polluted road surfaces and poorly applied markings on the road. Motorcyclists have no protective cage like car drivers, so roadside barriers, curbs and poles that may be beneficial, or just not dangerous to other road users, are often a hazard for motorcyclists. For further detail, see *Roadside and Median Crash Barriers* position paper.

Why better infrastructure:

- Bad infrastructure is one of the most important causes of accidents in which motorcycles are involved. Only 29% of the roads in Europe have a 3-star rating - on a scale of 1 to 5 stars of the EuroRAP system - for motorcyclists. For car drivers this is 44%. This should at least be 75% 3-star rating or better.
- Bad infrastructure is one of the main causes of severe injuries and deaths of motorcyclists.
- Additional costs to improve road infrastructure standards to meet the, so far neglected, needs of vulnerable road users, including motorcyclists, is by far outweighed by the benefit of saving lives on European roads.

How infrastructure should be improved

- New standards should be adopted for roadside- and median barriers to make them less dangerous to motorcyclists.
- All unnecessary objects along the road must be removed where possible, to create an obstacle free roadside and to provide free sight for all road users.
- The surface of the road should be free of unnecessary markings. Where markings are unavoidable they should be made of a material with the same skid resistance as the pavement, and the thickness of the material should be limited. This skid resistance should be maintained for as long as the marking exists.
- The road should be free of all raised lane separations that cannot be driven/ridden over, especially on roundabouts.
- The current Directive 2008/96/EC should be applicable to other roads as well, preferably also to the secondary road network.
- Road layout, and the development, installation and maintenance of road infrastructure and road furniture should be designed with motorcycles in mind.
- The road should be free of debris, including grit.



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Position paper: **MOTORCYCLING AND MOBILITY**

June 2017

In general

By 2050 82% of EU citizens will live in urban areas. Not only will the existing urban areas be more crowded, they will also be extended and existing urban areas will merge and form conurbations. The current focus of the European mobility strategies is on public transport, cycling and walking. However, public transport will never reach everywhere in an urban area and cycling and walking are only good for limited distances. There will always be a need for individual motorised personal transport. We foresee a growing role for powered two-wheelers, especially motorcycles, instead of cars.

- Motorcycles can be cheaper to buy, easier to maintain and use less fuel than most combustion engine cars and trucks. Therefore, motorcycles are often the only affordable form of personal motorized transport for many people, both in developed and in emerging economies, and in both urban and rural areas. Motorcycles are an important - if not the only - means of personal motorized transport for many people commuting to work, thus escaping social exclusion.
- Motorcycles can go to places where other vehicles can only go with greater difficulty. This makes motorcycles important vehicles for the police, medical organisations, health care professionals and other care workers.
- Motorcycles provide the greatest flexibility of all means of personal transport, because:
 - they are smaller than cars, so there is less congestion and less need for parking space
 - they have a larger range than bicycles or e-bikes
 - as a means of personal transport, motorcycles provide personal freedom to take you where you want to go, when you want to do so.
- Because of their size and weight motorcycles use less fuel, have fewer emissions and are less affected by congestion. Motorcycles use less room and therefore need less parking space, as a result motorcyclists save time and distance. Motorcycles can be easier and cheaper to electrify than cars.

How can motorcycles contribute to improved mobility?

- By allowing motorcycles to use bus lanes where possible
- Acceptance of filtering through slow moving traffic and advanced stop lines for bicycles and powered two-wheelers
- Accept parking of motorcycles on pavements if not hindering pedestrians and cyclists
- Privileged inner city access for powered two-wheelers
- Tax incentive schemes
- Awareness campaigns highlighting the advantages of powered two-wheelers
- Greener motorcycles less energy consuming internal combustion engines, fuel cell powered engines, battery powered electric engines
- Make motorcycling safer by use of appropriate intelligent transport systems (ITS), improved rider training, safer infrastructure and better awareness by other road users.
- Motorcyclists pay road tax like all other owners of vehicles. They consider it unjustifiable to be excluded where other road users are not.



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Position paper: **REPAIR AND MAINTENANCE INFORMATION (RMI)**

June 2017

In general

Repair and maintenance information (RMI) is information stored in electronic devices which are part of the vehicle. RMI can be accessed by universal or special connectors. Vehicle repair and maintenance information means all information required for diagnosis, servicing, inspection, periodic monitoring, repair, re-programming or re-initialising of the vehicle, which the manufacturers provide for their authorised dealers and repairers, including all subsequent amendments and supplements to such information. This information includes all information required for fitting parts or equipment on vehicles.

Why is repair and maintenance information (RMI) important for the rider?

- Repair and maintenance information (RMI) is vital for the functioning of the motorcycle and therefore for the rider.
- Without access to the RMI, repair shops, roadside assistance services and owners of vehicles who, for whatever reasons, do their own maintenance and repairs, may not be able maintain and repair the vehicle.
- RMI stores a large amount of data on the vehicle itself, but in some cases also of the use of the vehicle, that can be accessed by means of a device or transmitted to the manufacturer. Therefore, ownership of data and privacy are at stake.

How to handle repair and maintenance information

- Riders own the repair and maintenance information (RMI) and have a right to know what data is generated.
- Riders should have the ultimate right to decide who has access to the RMI and what is being done with it.
- RMI should be accessible by the owner, or anyone who is delegated to this by the owner, by way of a standardized connector, at no extra cost.



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Position paper: **MOTORCYCLE SAFE SYSTEMS**

June 2017

In general

Safe systems are an approach to road safety management, based on the principle that our lives and health should not be compromised by our need to travel. Motorcycle safe systems are especially aimed at the needs of motorcyclists. Road safety is a basic right of all road users. In the Lillehammer ITF/OECD conference in 2008 it was clarified that it is a fundamental motorcycle safety requirement that motorcycles should have a place in overall transport policy and infrastructure policy management. Motorcyclists are not always included in road safety programs. Infrastructure and road furniture are often not developed with the motorcyclists needs taken into account. Because motorcyclists have no protective cage like car drivers, accident prevention measures are even more important than injury reduction measures. Next to infrastructure issues there is need for better basic and advanced training for motorcyclists, because in general the training is still overly focused on technical skills and less on risk awareness. Another aspect that needs attention is the development of ITS (Intelligent Transport Systems) for cars without considering motorcycles.

How motorcycle safe systems should be improved

- Improving safety for motorcyclists implies setting up a continuous dialogue and co-operation between the stakeholders, including motorcyclists themselves, policy makers, researchers and motorcycle manufacturers
- Counter measures need to be founded on evidence-based scientific research into driver and rider behaviour, and before-and-after evaluations should be conducted.
- Accident prevention measures are even more important than injury reduction measures.
- Funding effective road safety activities.
- Launching public awareness campaigns for drivers and riders.
- Better training systems for riders with focus on risk awareness, risk avoidance and risk management.
- Safer infrastructure, especially roadside- and median barriers if they cannot be avoided.
- Make motorcycles safer by use of appropriate intelligent transport systems.
- ITS developments for cars and trucks should always include motorcycles and other road users.
- (C-)ITS devices for other vehicles should always be developed keeping in mind that powered two-wheelers often are not equipped with (C-)ITS devices.



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Position paper: **TRAFFIC CALMING DEVICES**

June 2017

In general

Speed is considered one of the most important causes of accidents, especially on urban roads or smaller roads in rural areas. Signs are often not enough to reduce speed and enforcement is either not always possible or the costs are considered to be too high. For this reason, the road authorities often choose to install traffic calming devices. These can be optical (road markings), horizontal (road width restrictions/chicanes) or vertical (speed bumps/rumble strips).

Why traffic calming devices can be dangerous for motorcycles

- Motorcycles are balancing vehicles, and loss of balance can be caused by a sudden vertical movement or a sudden lateral movement.
- Sudden vertical movements can be caused by excessive vehicle speed, excessive gradient or height of a speed bump.
- Motorcycles are single-track vehicles. This means, that they lose grip more suddenly than multi-track vehicles. Loss of grip can be caused by a slippery surface, but also by the sloping ends of a speed bump that does not run the entire width of the road or by the sloping ends of cushion shaped, or rounded speed bumps.
- When a motorcycle does not approach a speed bump at the appropriate angle, the motorcycle can lose grip, or the rider can lose his balance. This happens when a speed bump is installed in or near a bend, or when the speed bump has an abnormal shape.
- Horizontal calming devices can be dangerous when the shape is not in accordance with the current national regulations, when the markings are not clear under all circumstances or are situated in a bend or in other place with inadequate view.

How to install traffic calming devices that are safe for motorcycles

- Calming devices should always be designed and installed in a way that is in accordance with the current national regulations
- The calming devices should be well marked and signed and placed correctly, so they are visible for the road user under all circumstances.
- Calming devices should never be situated in a bend.
- The material of the calming devices should ensure enough grip under all circumstances.
- The gradient and height of a vertical calming device should never be greater than is strictly necessary.
- The vertical calming device or speed bump should never have a slope that runs lateral to the direction of an oncoming motorcycle, because it can lead to loss of balance.



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Position paper: **INITIAL TRAINING AND LICENSING**

June 2017

In general

High quality, cost effective initial rider training is probably the most important measure for improving motorcycle safety. Every European citizen who wants to start riding a motorcycle should have easy access to it. The present EU 3rd Driving Licence Directive focuses only on the regulatory framework, not even considering the content of training, only briefly commenting on the content of testing, and by doing that, ignoring the very purpose of training and testing. The present regulatory framework's positive effects on motorcycle safety is undocumented and at the best questionable. An extensive evaluation is necessary. If training and testing becomes overly complicated and overly expensive, there is a real risk that citizens will choose to ride without licence, which is both illegal and extremely dangerous.

How to improve initial rider training

- Initial rider training must teach the skills, knowledge and attitude needed to be a safe rider, not just the skills needed to pass a licence test.
- Initial rider training should arrive from the EU/FEMA/FIM/ACEM Initial Rider Training Programme and be described in detail in an agreed, national curriculum for category A.
- The licence test is a quality assurance of the candidate's competence, meaning the minimum skills, knowledge and attitude needed to safely operate a motorcycle on public roads, and it is of great importance that the licence test is designed to do exactly that.
- Risk awareness and risk management should be part of the licence tests.
- The licence test should not expose candidates to peculiar exercises with little relevance to real-life safe riding, the consequence being that perfectly competent candidates may fail the test, while questionable candidates, who have "learned the tricks", may pass.
- Instructors should ideally be practising riders and should have participated in an officially recognised instructor's training programme arriving from the agreed, national curriculum for category A.
- As with instructors, examiners should ideally be practising riders and should have participated in an officially recognised examiner's training programme derived from the agreed, national curriculum for category A.



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