

ECF POSITION ON THE EU REGULATORY FRAMEWORK FOR ROAD INFRASTRUCTURE SAFETY MANAGEMENT

European Cyclists' Federation

Aleksander Buczynski and Ceri Woolsgrove, a.buczynski@ecf.com, c.woolsgrove@ecf.com

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EXECUTIVE SUMMARY

The European Cyclists' Federation welcomes the initiative to improve the EU regulatory framework for road infrastructure safety management, especially in the area of actions targeted to protect vulnerable road users.¹ Based on the work of the expert group involved in the preparation of the EU Cycling Strategy², ECF proposes a number of measures to include in the directive 2008/96/EC on road infrastructure safety management³ (RISM) and the directive 2004/54/EC on minimum safety requirements for tunnels⁴. The main recommendations include ensuring:

1. Provision of safe, comfortable and direct **active mobility routes** – functional connections of settlements and workplaces **along the (re)constructed road**;
2. Sufficient density of **safe and comfortable crossings across (re)constructed roads**;
3. **Upgrade of other roads affected** by the (re)construction project **to safe standards**;
4. **Safe active mobility option** or an attractive alternative **for tunnels**
5. **Minimum quality requirements for cycling infrastructure**;
6. Cycling infrastructure included in **training and certification of road safety auditors**.

Implementing the measures would improve the safety of pedestrians and cyclists by fully utilising the opportunities created by road and tunnel (re)construction projects falling under the scope of the RISM and tunnel Directives.

¹ "More targeted actions towards VRU" is one of the areas for improvement identified in the "Study on the effectiveness and on the improvement of the EU legislative framework on road infrastructure safety management": <https://ec.europa.eu/transport/sites/transport/files/facts-fundings/evaluations/doc/2014-12-eval-directive-2008-96-ec.pdf>

² https://ecf.com/eu_cycling_strategy

³ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0096>

⁴ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32004L0054>



1. BACKGROUND

- The current EU legislation on road safety covers roads and tunnels within the Trans-European Transport Network (TEN-T)⁵. TEN-T is a network of main European roads, serving mostly long-distance and international traffic. However, the infrastructure (re)construction projects on the TEN-T roads often have significant influence on how the cycling and pedestrian traffic in the area up to a few kilometres from the (re)constructed road is organised and on their safety, both positively and negatively.
- The current TEN-T network also includes different types of roads from motorways to express roads and conventional strategic roads, which can “integrate the main urban and economic centres, interconnect with other transport modes”⁶ and can therefore have a direct impact on cycling and walking. The Regulation (EU) No 1315/2013 also states that: “Where possible, synergies with other policies should be exploited, for instance with tourism aspects by including, within civil engineering structures such as bridges or tunnels, bicycle infrastructure for long-distance cycling paths like the EuroVelo routes.” TEN-T routes are then advised and indeed encouraged to create synergies with cycling infrastructure; this should impact the scope of road safety. This impact will be even greater, if the scope of RISM and Tunnels Directives is extended beyond the TEN-T.
- Up until now the infrastructure safety management procedures focused in practice mostly on the safety of car occupants, but there is a growing recognition that in the future more focus will be needed on the safety of cyclists and pedestrians.⁷ The number of cyclists being killed and seriously injured is decreasing, but it is decreasing at a slower rate than for car occupants. While car occupant fatalities have dropped by nearly 50% over the past ten years,⁸ cycling fatalities has stalled at around 30% and has even increased slightly over the past two years.⁹ Around 45% of these cycling fatalities occur *outside* urban areas, with some countries at levels of 55 – 60%.¹⁰
- Even if the scope of the Directive stays limited to the TEN-T network, on average in Europe 10% of people killed on motorways are pedestrians, up to 20% in some countries.¹¹ This number does not even include cyclists, people killed on TEN-T roads other than motorway, and many lower-class roads that are affected by TEN-T road design, for example in the interchanges area.
- Providing safe and attractive conditions for active mobility can release capacity for transnational traffic on many sections of TEN-T roads, currently used also (or even mostly¹²) by regional or local car traffic. Part of that traffic can be removed by providing an alternative transport mode option.¹³

⁵ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013R1315>, map: https://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/maps_en

⁶ Ibid.

⁷ E.g. CEDR Position paper 2016 “Main Road Safety Challenges for European Road Directors the Next 5-10 Years – Towards the Vision Zero”: http://www.cedr.eu/download/Publications/2016/Main_Road_Safety_Challenges_for_European_Road_Directors_Oct2016.pdf. An example of a new approach is Highways England Interim Advice Note 195/16 “Cycle Traffic and the Strategic Road Network” <http://www.standardsforhighways.co.uk/ha/standards/ians/pdfs/ian195.pdf>

⁸ https://ec.europa.eu/transport/road_safety/sites/roadsafety/files/pdf/statistics/dacota/bfs2016_car_occupants.pdf

⁹ https://ec.europa.eu/transport/road_safety/specialist/statistics_en

¹⁰ https://ec.europa.eu/transport/road_safety/sites/roadsafety/files/pdf/statistics/dacota/bfs2016_cyclists.pdf

¹¹ ETSC report from March 2015, “Ranking EU progress on improving motorway safety”: <http://etsc.eu/wp-content/uploads/2015-03-pin-flash-report-28.pdf>

¹² E.g. in 2015 the annual average daily traffic on S8 expressway in Mazovian voivodship in Poland varied from 14,000 vehicles/day at the border with Podlaskie voivodship (95 km from Warsaw) to 30,000 vehicles/day at the bypass of Radzymin (15 km from Warsaw) and 142,000 vehicles/day in Warsaw. The huge increase in traffic on the last 15 km implies that most of it is generated by commuting on distances that can be also served by (electrically assisted) bicycle.

¹³ A study undertaken by Dutch consultancy Goudappel Coffeng concluded that building 675 km of cycle highways would reduce time spent



With the growing popularity of electrically assisted bicycles, we expect cycle traffic to reach farther from cities and be able to replace or complement some car or motorcycle trips also on longer distances. This should be combined with high-quality cycle infrastructure also outside towns and cities for synergy.

2. RECOMMENDED ACTIONS

All future road (re)construction projects falling under the scope of the RISM Directive should include obligatory provisions for cyclists and pedestrians in the three following areas:

1. Provision of safe, comfortable and direct **active mobility routes** – functional connections of settlements and workplaces **along the (re)constructed road**;
2. Sufficient density of **safe and comfortable crossings across (re)constructed roads**;
3. **Upgrade of other roads** affected by the (re)construction project **to safe standards**.

Because, as for now the tunnels falling under the scope of the Directive 2004/54/EC are exempted from the Directive 2008/96/EC, a separate recommendation was made for the Tunnel directive:

4. **Safe active mobility option** or an attractive alternative **for tunnels**.

Additionally, EU level guidance is necessary in the fields of:

5. **Minimum quality requirements for cycling infrastructure**;
6. Cycling infrastructure in **training and certification of road safety auditors**.

2.1. Active mobility route along the (re)constructed road

Providing infrastructure for walking and cycling is an important part of safe road design.¹⁴ Although the roads currently falling under the scope of the directive serve mostly long-distance traffic, in many cases there is also a significant cycling traffic or potential for cycling traffic along a (re)constructed road. Typical contexts when it happens include:

- Roads that connect suburban areas or satellite towns with the main city of an agglomeration;
- Legacy road with housing and workplaces developed along it, upgraded to expressway or motorway status;
- Ring road with workplaces (shopping malls, outlets, warehouses, business parks etc.) developing along it;¹⁵
- A single connection across a barrier where cyclists have no choice but to use, for example, a bridge across a major river, road leading to border crossing, coastal road, mountain pass, etc...;

in congestion in the Netherlands by 3.8 million hours per year. A further 9.4 million hours of car travel time could be saved each year if the use of electric bicycles increased. Similarly, a traffic demand study in Germany's densely populated Ruhr area estimates that the 101-km long cycle highway RS1 can remove up to 50,000 motorised vehicle journeys. The total cost of RS1 is projected at €180 million (€1.8 million/km), which is significantly more cost efficient than motor vehicle road projects.

¹⁴ Physical separation of pedestrian and bicycle traffic is necessary under current scope of the RISM Directive, i.e. on TEN-T roads. If the scope of the directive is to be extended to local or urban roads with low speeds and volumes of motorised traffic, other options may be considered, like bicycle lanes, traffic calming, bicycle streets etc. – according to relevant standards.

¹⁵ E.g. on the section of S8 expressway in Warsaw which was equipped with cycling paths 200-400 bicycles/peak hour were counted in May-June 2017: https://zdm.waw.pl/uploads/1527/warszawski-pomiar-ruchu-rowerowego-2017_1503565221.pdf



- Alternative routes also carry heavy traffic and provide even less safe conditions for cycling (narrow carriageway with no hard shoulders, poor surface quality...)

In all these cases, incorporating cycling infrastructure in the design of a (re)construction project will improve road safety. It also has potential to release congested sections of long-distance routes from short-distance traffic. The number and length of sections that need solutions for active mobility will increase with growing popularity of e-bikes and development of fast cycling routes (cycle highways).¹⁶ ECF proposes introducing a general requirement of a continuous active mobility route for all future road (re)construction projects falling under the scope of the RISM directive, with possible exceptions (areas with extreme weather conditions, low population density, low traffic etc.) defined in standards described in section 2.5.

It should be noted that continuous active mobility route along the (re)constructed road does not necessarily mean constructing a cycle and pedestrian path along a motorway.

Functional, safe and comfortable cycling connection can be also provided by a variety of other route components such as:

- parallel local roads with low traffic and limited speed;
- old carriageway on sections where horizontal alignment of the road is corrected;
- access roads to housing/agricultural/forestry areas;
- service roads built for maintenance and emergency purposes.

In member states with well-developed networks of local roads, such routes may already exist. However, the signing on those roads might need to be updated to not direct the cyclists towards a motorway or expressway. In many other cases, the (re)construction projects includes building new local roads, either to allow access to areas (housing, agricultural, forestry) that would be cut off by limited access (re)constructed road, or for maintenance and emergency purposes. These roads typically carry very low traffic and can be safely shared by pedestrians and cyclists. For a relatively small cost they can be connected by short sections of cycling paths to form a continuous link for active mobility.¹⁷

The directive should introduce requirements to:

- Identify existing and planned housing and workplaces along the planned (re)construction project and determine whether there is a potential for cycling traffic;¹⁸
- Analyse possible alternative routes for active mobility and whether they meet the minimum quality requirements described in 2.5;
- Identify missing links (cycle and pedestrian paths, bridges, tunnels) and necessary safety interventions (traffic calming, junction treatment etc.) on the alternative route(s),
- Incorporate the missing links, safety interventions and signing of the alternative route into the project.

¹⁶ In the Netherlands, the numbering of fast cycling routes (snelfietsroutes) already mirrors the numbers of motorways. The cycle highway does not necessarily stay just next to the motorway, it might lead on local roads 500 m away, but connects the places along the motorway and is a part of integrated mobility solution (Park&Bike facilities etc.)

¹⁷ E.g. "Rowerowa S5": an initiative by local municipalities to connect service roads along the S5 expressway in Poland into a continuous safe cycle highway: <http://www.portalsamorzadowy.pl/inwestycje/burmistrz-rawicza-proponuje-rowerowa-trase-z-wroclawia-do-poznania-wzdłuż-s5,76477.html>

¹⁸ Models for identifying cycling potential are already available and are further developed for example in the "Cycle Highways for smarter People Transport and Spatial Planning" (CHIPS) project.



2.2. Safe and comfortable crossings across (re)constructed roads

Roads (re)constructed under the scope of the RISM Directive should provide sufficient density of safe and comfortable crossings and not create a barrier for non-motorised traffic or divert this traffic to roads unsafe for pedestrian and cyclists. In extreme cases, TEN-T (re)construction projects up to date sometimes involved destroying existing cycle path or routes.¹⁹

If the (re)constructed road is only crossable at interchanges with main roads, this may concentrate the pedestrian and cycling traffic on a main road. Even if the main road is redesigned and equipped with segregated pedestrian/cycling infrastructure in the interchange area, it might not have continuation further on. Therefore, the (re)construction project might have negative impact on road safety even a few kilometres away from the project location, which may not be reflected in a simple before-after safety analysis.

On the other hand, providing an additional tunnel or bridge under or over the (re)constructed road is much easier and cheaper during the road (re)construction phase than as a separate project. It also causes less traffic disturbances.

Therefore, in all road (re)construction projects falling under the scope of the directive:

- Existing connections for cycle commuting, tourism or recreation should be identified and preserved.
- Potential for future cycling connections should be identified and provided for.

Specific criteria for identifying crossing locations or minimum density of crossings might be defined in the minimum quality requirements for cycling infrastructure, described in 55.

2.3. Upgrade of other affected roads to safe standards

Infrastructure for cyclists and pedestrians should also be provided also along the roads that will carry increased traffic because of a (re)construction project. For example, a regional road with previously low traffic might become an important link to a newly constructed motorway. The following increase in traffic might make it necessary to segregate pedestrian and cycling traffic. Without such measures, the (re)construction project might have a negative impact on road safety in the area.

Similarly, if the (re)construction project provides a new route for the long-distance traffic to bypass e.g. settlements, the old route should also be adapted to the new role, e.g. by introducing traffic calming, cycle lanes etc. Otherwise, the project might not succeed in improving safety by removing the long-distance traffic from the sensitive area (or might succeed only temporarily).

¹⁹ E.g. the construction of M5 motorway in Hungary (part of Budapest – Belgrade connection) cut a popular existing cycle path connecting towns of Mórahalom and Domaszék with the city of Szeged. The cycle path was used both for commuting and as a part of EuroVelo route 13. In the consequence of the motorway construction the cycling connection is interrupted, because the junction of the M5 and national road 55 does not include any cycling facility in the complicated interchange. The construction of a separate cycle bridge and additional cycling infrastructure will be necessary.



2.4. Active mobility option for tunnels

Tunnels, especially in urban environments, can be a significant safety problem and barrier for cycling.²⁰ On the other hand they could be an important link for active mobility with adequate provisions.²¹

An active mobility option should be included by default in tunnel (re)construction projects. If for some reason it is not feasible, safe and comfortable alternatives should be provided: signposted alternative routes, free and frequent ferry or bus transport with space for bicycles etc.

This rationale and recommended procedure is very similar as in the case of roads outside the tunnels. However, tunnels falling under the scope of the Directive 2004/54/EC are currently exempted from Directive 2008/96/EC. Therefore, the requirements described in section 2.1 should also be introduced in the Tunnel Directive.

It is worth noting that adding infrastructure for pedestrians and cyclists to an existing tunnel can be integrated with improving general tunnel safety (evacuation option), as proven for example by Tunnel de la Croix-Rousse in Lyon.²²

2.5. Minimum quality requirements for cycling infrastructure

Currently the EU does not provide any specific guidance on cycling infrastructure. Some international best practices for cycling infrastructure have emerged,²³ although they tend to reflect the situation in the country where they were developed and therefore it is not always straightforward to transfer the recommendations to other situations.

Despite the differences in each Member State there are certain key principles to cycle infrastructure that are universal and should be adopted everywhere. The EU should set minimum quality criteria based on these principles (tailored to the likely levels of use), for example as an annex to the updated RISM Directive. They should include common definitions of infrastructure types (cycle path, cycle lane etc.), varying degree of segregation of different user groups depending on traffic speed / volume, basic design parameters for bicycle parameters (minimum width, curve radius, stopping sight distance etc.)

Application of the standards for pedestrians and cycling infrastructure should be obligatory for road (re)construction projects falling under the scope of the Directive or funded by EU and recommended for other road investments. It should be noted that as the EU level standards can ensure only minimum quality requirements, Member States should be encouraged to develop more detailed and ambitious standards, tailored to the national context.

2.6. Training and certification of road safety auditors

Because of the current scope of the RISM Directive, road safety inspectors and auditors during their training learn to identify dangers relevant for fast moving, long distance vehicle traffic. The focus is on safe roadsides, median protection, vehicle restraint systems (crash barriers) etc.²⁴ Even if the scope of the

²⁰ Many tunnels in Malta fall into this category, among them tunnels at San Giljan and Santa Venera on the TEN-T network. After a fatal accident in 2004 (cyclist hit by a truck), cyclists were generally banned from using the carriageway in tunnels in Malta, and are now legally obliged to use the sidewalks. However, cycling on the sidewalks is also far from safe, due to insufficient lighting, width or surface quality, see for example: <https://www.timesofmalta.com/articles/view/20160910/local/cyclists-demand-footpath-fix-for-kirkop-tunnels.624566>

²¹ E.g. Maastunnel in Rotterdam (Netherlands), Sint-Annatunnel in Antwerp (Belgium), Žižkovský tunel in Prague (Czech Republic), Greenwich Foot Tunnel in London, Tyne Tunnels near Newcastle (UK).

²² <http://www.lyon.fr/page/accueil/tunnel-de-la-croix-rousse.html>

²³ E.g. CROW Design Manual for Bicycle Traffic.

²⁴ E.g. the current legally binding scope of the training programme for road safety auditors in Poland includes only 19 hours on roads in built-



Directive stays limited to TEN-T roads, the same procedures are often voluntarily applied and road safety auditors consulted on project implemented on other roads. Therefore, cycling infrastructure should be an obligatory part of training curricula for road safety auditors. The training should include the quality requirements for cycling infrastructure described in section 2.5.

3. SCOPE OF THE DIRECTIVES

ECF notes that in many EU Member States the practical implementation (procedures, auditors' trainings and certifications, manuals, guidelines, checklists...) of the RISM Directive was focused on preventing accidents on motorways, expressways, 2+1 and similar high-speed roads.²⁵ If the Directive is to be extended to other roads, the current procedure and auditors' expertise might not be so useful in lower speed or urban environments.

For example, while on TEN-T roads it is safe to assume that cycling should be completely physically separated from motor vehicles, on local or urban roads, careful consideration should be given to stipulating the nature of the cycling infrastructure required (nature of separation, junction design, signalling etc.) based on the speed and volume of motor traffic and the street context. Most cycling collisions in built-up urban areas take place at junctions and so junction design is of paramount importance, if separation is introduced.

Therefore, the potential extension of the scope of the Directive should be accompanied by changes in training and certification of road safety auditors. Perhaps different specialisations of safety auditors should be introduced, as it would be difficult to significantly extend current training programmes without compromising their quality.

Similarly, extension of the scope to other roads would reinforce the need for an EU level guidance on cycling infrastructure, especially if the auditor training certificates are to be mutually recognised between Member States. It would also increase the importance of other recommendations made in this document, as cyclists and pedestrians constitute higher share of traffic on roads outside TEN-T network. Introducing obligatory provisions for cyclists and pedestrians, as well as minimum quality requirements for cycling infrastructure, should be a prerequisite for the scope extension.

up areas (out of 120 in total). There is no reference at all to pedestrian or cycling traffic and dangers specific for those groups of users in the programme: <http://isap.sejm.gov.pl/DetailsServlet?id=WDU20120001079>

²⁵ Ibid.

