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Project Team

LEAD PARTNER

European Institute for Road Assessment – EuroRAP, Slovenia

ERDF CO-FUNDED PARTNERS

- General Automotoclub of the Czech Republic, Czech Republic
- · Austrian Road Safety Board, Austria
- Automobile and Motorcycle
 Association of Slovenia, Slovenia
- KTI Institute for Transport Sciences Nonprofit Ltd, Hungary
- Bulgarian Association for Road Safety, Bulgaria
- University of Zagreb, Faculty of Transport and Traffic Sciences, Croatia

IPA CO-FUNDED PARTNER

Bosnia and Herzegovina Automobile Club, Bosnia and Herzegovina

ENI CO-FUNDED PARTNER Automobile Club of Moldova, Moldova

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To you. For your road safety.

Roads knit people, communities, and markets together. They are the lifeblood of cities and regions. More so than any other transport mode, roads remain the predominant and universal transport network – but they are also the deadliest.

Death rates in many countries in the Danube area are higher than the EU average. 3,200 people died on roads in eight Danube area countries throughout 2019 alone, a similar number in 2018 and 2017.

It is often forgotten that the quality of road infrastructure plays an extremely important role in preventing road accidents! But the upgrading them always seem expensive.

What if we could identify the riskiest roads and improve their safety based on the cost as opposed to the savings in deaths and injuries? What if we improve roadside safety by using safety barriers to stop vehicles running off the roads? We can save more than 1,600 lives in Europe in a single year.

Road intersections also take many lives. We can save more than 2,000 lives by simply installing traffic signals or roundabouts and using cost-effective traffic calming treatments, such as speed bumps.

What percentage of Europe's GDP will be saved by avoiding deaths and injuries on roads? How does this compare to the costs of improving infrastructure safety? Although estimates vary, road traffic crashes cost most countries 2-3 % of their GDP. Typical benefitcost ratios at accident prone locations show that for every Euro invested at least five lives will be saved, often much more.

That is why we do what we do.

RADAR was there to tackle the lack of capacity of road safety specialists and national road safety authorities and to identify and reduce risk on roads using an innovative, independent, and international approach based on cost-benefit ratios.

Above all, we do what we do because we want to contribute to BETTER road safety.

RADAR in a nutshell



€ 2,152,510 + Project duration:

Project duration: June 1, 2018 – November 31, 2021 RADAR project aimed to improve the road infrastructure safety in the Danube area by raising capacity and enhancing transnational cooperation for all road users, including vulnerable road users on Danube major, secondary and tertiary road networks. One of RADAR's main tasks was to identify risk on road networks and offer plans to systematically reduce that risk by improving infrastructure and road layout.

Project co-funded by European Union funds (ERDF, IPA, ENI).

Non-Governmental Organisations

General public

International Organisation



Why is Road Safety on our RADAR?

Risk Assessment on Danube Area Roads (RADAR) project's Partners and Associated Strategic Partners have joined forces in June 2018 to address the urgent need to improve the road safety performance in the Danube area countries, where fatalities are higher than the EU average and road infrastructure quality and safety varies immensely.

Danube area road safety stakeholder, policy makers and road engineers now share a common understanding where the risky roads are. The results are going to maintain awareness of the need to improve the road safety performance across the Danube area.

RADAR contributes to closing the gap between policy and practice in road safety by providing a crucial link, at the tactical planning level, between strategic targets set by governments or highway authorities for casualty reduction, and the operational engineering activities required to deliver them.

RADAR project is instrumental in building regional capacity and strategic action plans for evidence-based smart road infrastructure safety investment in Eastern Europe.

Radar Will Benefit Road Safety for the Next 20 Years

By using the most comprehensive methodology – star-rating methodology (EuroRAP) – that covers most of the new Road Infrastructure Safety Management Directive 2019/1936/EC (RISM) requirements, our project group of distinguished road safety experts successfully implemented Road Infrastructure Safety Training Courses. The concept of courses was comprised of local face-to-face training in eight partnering countries, one online training course, and two additional webinars.

Besides training courses, RADAR addressed road safety at the operational level with a Danube Road Safety Expert Group (RSEG). The international group of road experts combined political and strategic representatives of road safety organisations, thus project partners, associated strategic partners, and stakeholders, representatives of relevant EU and international organisations, to define provisions for road safety for each country and the whole region.

The wide geographical coverage of RADAR was designed to raise the standard of infrastructure safety across the network of the Danube region where those least advanced in road safety learn from the best. By providing knowledge for road infrastructure investments, RADAR's contributions will be measured in lives saved for the next 20 years.

Exchange of Best Practices Among Participating Countries

The composition of the RADAR consortium provides an excellent combination of the scientific and technical approach, with experience in advocacy skills as well – all the necessary skills that helped with achieving the project objectives and goals. The project has boosted knowledge, expertise and transnational cooperation as well as boosted institutional capacity and brought huge benefit to the territories involved. Strong collaboration between government and operational engineers has been a springboard for successful exchange of best practice and knowledge transfer relevant to road safety improvements solution.

Improving capacity of PPs and ASPs to identify and reduce risk on road

RADAR aimed to improve the capacity of technical personnel and engineers responsible for road safety in the participating countries through tailored concepts and country-tailored training courses that demonstrated how to assess a network for safety, prioritised road sections and matched crash countermeasures to high-risk sections. RADAR aimed to broaden their practical knowledge through:





Study Visits

Slovenia/Croatia, Hungary, United Kingdom, Austria

- ▶ on Provisions for Vulnerable Road Users (TA2) in Slovenia/Croatia
- ▶ on Smart Speed Management Infrastructure (TA3) in Hungary
- ▶ on Safer Road Investment Plans (TAI) in United Kingdom
- ▶ on Road Safety near Schools (TA4) in Austria





Road Infrastructure Safety Training Webinars

Online Road Infrastructure Safety Training Course

Enhancing transnational cooperation in addressing risk on Danube roads

RADAR aimed to improve transnational cooperation of PPs and ASPs organisations and representatives of stakeholder groups by establishing a Road Safety Expert Group (RSEG) that enabled exchange of knowledge and coordination through:





Road Safety Expert Group meetings and reports on

- Safer Road Investment Plans
- Provisions for Vulnerable Road Users
- Smart Speed Management Infrastructure
- Road Safety near Schools
- COVID-19 and Transport Safety
- Road Infrastructure Safety Management Directive (RISM) In Danube Area



Conferences

- 1st Danube Road Safety Conference
- Joint Conference with SABRINA project Improving Road Safety in Danube Area for All Road Users: Challenges and Opportunities in the Second Decade of Action for Road Safety (2021-2030
- Final Conference: Striving for Safer Infrastructure for All Road Users in Danube Area

Demonstrating road safety layout concept solution

RADAR aimed to practically demonstrate road safety solutions through road safety layout concept pilot actions that were performed making use of documents and tools acknowledged during the training courses and study visits and considering thematic reports of the RSEG. Ongoing evaluation and peer review of the pilot results have produced databases with useful data to feed the transnational road safety strategy and the country-specific action plans.





Pilot Actions



Pilot Action on Provisions for Vulnerable Road Users in Czech Republic, General Automotoclub of the Czech Republic



Pilot Actions on Smart Speed Management Infrastructure in Hungary, KTI Institute for Transport Sciences Nonprofit Ltd





Pilot Action on Safer Roads Investment Plans in Bulgaria, Bulgarian Association for Road Safety



Pilot Action on Provisions for Vulnerable Road Users in Slovenia, Automobile and Motorcycle Association of Slovenia



Pilot Action on Safer Roads Investment Plans in Bosnia and Herzegovina, Bosnia and Herzegovina Automobile Club



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We are RADAR



Road Infrastructure Safety Training Course in Slovenia



Road Infrastructure Safety Training Course in Croatia



Road Infrastructure Safety Training Course in Bulgaria



Road Infrastructure Safety Training Course in Bosnia and Herzegovina



Road Infrastructure Safety Training Course in Montenegro



Road Infrastructure Safety Training Course in Austria



Road Infrastructure Safety Training Course in Hungary



Road Infrastructure Safety Training Course in Czech Republic



Road Infrastructure Safety Online Training Course



Road Infrastructure Safety Webinars Part 1 (Safer Roads Investment Plans and Provisions for Vulnerable Road Users)



Road Infrastructure Safety Webinars Part 2 (Intelligent Transportations Systems with Speed Management and Star Rating for Schools)





Road Infrastructure Safety Management Directive (RISM)

RECOMMENDED BY RADAR PROJECT

Recommendations for state governments/ministries/ agencies:

- National authorities should encourage including roads where at least 50% of fatal and serious accidents occur.
- Country specific classification should be encouraged in order to enable proper classification of high, medium, and low risk roads.
- Safe system concepts should be built in all road infrastructure related legal acts.
- Vulnerable Road Users: Pay special attention to VRUs and promoting Active modes of Transport by developing dedicated road infrastructure.
- Investment plans should be made based on cost/benefit analysis with modelling of savings in terms of fatal and serious injuries prevented.
- Raise the minimal road safety design standards for new and existing road infrastructure.

Recommendations for local governments:

- Road safety audit and inspection procedures should be performed on regional road network based on crash occurrence analysis.
- Pay special attention to VRUs and promoting Active modes of Transport by developing dedicated road infrastructure in urban and suburban areas.
- Promote and expand 30 km/h speed limit zones in residential areas.

- Significantly increase weight of road safety priorities in investment and maintenance plans development.
- Define clear strategy and action plan to reduce 50% of fatal and serious accident on managed road network by 2030.
- Set internal guidelines above the minimal road safety standards.



Safer Roads Investment Plans (SRIP)

RECOMMENDED BY RADAR PROJECT

Recommendations for state governments/ministries/ agencies:

- Define a national minimal standard for existing and new roads based on internationally recognised methodology for road infrastructure safety rating.
- Dedicate certain portion of road infrastructure investments for road safety intervention.



- Coordination
- Data, research and evaluation
- Road rules and enforcement
- Licensing and registration

- Ensure embedding of the Safe System approach to road legislation and practice.
- Ensure trainings of road safety auditors.
- Take into serious consideration second level roads.
- Share good practices and approaches for road authorities and to regional/ local governments.

Recommendations for local governments:

 Start systematic road safety data collection and analysis to plan interventions and investments on most critical locations.

- Form special road safety funds dedicated for direct investments in road safety upgrades.
- Follow the road safety trends and good practices to plan maintenance and upgrades of existing road network in operation.
- Use the methodologies for selecting most critical locations with highest potential savings.
- Ensure public accessibility to the list of high accident concentration road sections.



Provisions for Vulnerable Road Users (VRUs)

RECOMMENDED BY RADAR PROJECT

Recommendations for state governments/ministries/ agencies:

- ► Incorporate the Safe System Approach.
- Develop a unified protocol for assessment of the crash risks of VRUs.
- Ensure that countermeasures selection, prioritisation, and implementation process is based on official and internationally acknowledged methodology.
- Define a national minimal standard threshold values of relevant road safety indicators based on which high-risk road sections for VRUs will be identified.
- Ensure that funds are invested in low-cost, high-impact countermeasures, by considering the concepts of tactical urbanism and space-wise planning.
- Develop and link datasets on road traffic accidents, traffic volume and road network.
- Try to link the police database on road traffic accidents with hospital data to minimize the under-reporting issue.
- Raise public awareness to improve the traffic culture.
- Share knowledge with demonstrations of good practices and approaches.

Recommendations for local governments:

- Ensure that results obtained by road safety assessments performed at local level are standardized and comparable.
- Start systematic, high-quality road safety data collection and analysis to plan investments on most critical locations.

- Use the official, standardized, objective methodology for selecting most critical locations for VRUs with highest potential savings.
- Ensure that provisions for VRUs are selected based on the operating speed of traffic flow and peak-hour flow volumes.
- Periodically collect relevant supporting data on characteristic locations on the road network and update relevant databases.
- Periodically perform analysis of effectiveness of implemented countermeasures for VRUs.
- Engage all stakeholders in the process of the road design.



Smart Speed Management Infrastructure



- Education and information
- Innovation
- Standards
- Coordination
- Data, research and evaluation
- Road rules and enforcement
- Licensing and registration

RECOMMENDED BY RADAR PROJECT

Recommendations for state governments/ministries/ agencies:

- Define a national minimal standard for existing and new roads based on internationally recognized methodology for road infrastructure safety rating.
- Dedicate certain portion of road infrastructure investments for road safety intervention.
- Ensure embedding of the Safe System approach to road legislation and practice.
- Ensure trainings of road safety auditors.
- Take into serious consideration also second level roads.
- Share good practices and approaches for road authorities and to regional/ local governments.

Recommendations for local governments:

- Start systematic road safety data collection and analysis to plan interventions and investments on most critical locations.
- Consider:
- Speed-activated warning signs
- Variable speed limit signs on high-level roads
- Time and weather dependent speed limits

- Transversal rumble strips in the approach of junctions or sharp bends
- Efficiency of administration of fines from automatic speed enforcement
- Lack of resources among authorities tasked with the issuing of fines
- Different degrees of automation

- Speed limits setting: elaboration and continuous revision of guidelines & systematic implementation.
- Speed limits consistency: differentiated speed limits depending on the function, alignment, volume, and structure of traffic defined in accordance with the existing local speed limits.
- Speed enforcement: implementation of section control, minimization of the obstacles in violation, processing procedures.
- Speed data collection and analysis: systematic collection of speed development data.



Road Safety near Schools

RECOMMENDED BY RADAR PROJECT

Recommendations for state governments/ministries/ agencies:

- Develop and support specific design guidelines for road sections in the vicinity of schools.
- Define special speed limits to be applied on road sections in the vicinity of schools.
- Ensure adequate funding for road safety interventions in primary roads in the vicinity of schools.
- Start systematic collection of data on road crashes near schools and related casualties.
- Systematically estimate and publish key performance indicators on the road network around schools.
- Ensure embedding of the Safe System approach to road legislation and practice.
- Share good practices and approaches for road authorities and to regional/ local governments.

Recommendations for local governments:

- Ensure adequate funding for road safety interventions in local roads in the vicinity of schools.
- Start systematic collection of data on road crashes near schools and related casualties.
- Organise educational campaigns to promote safer transport to/ from schools.

- Form own special road safety funds within regular or investment funds dedicated for direct investments in road safety, to implement upgrades in the vicinity of schools.
- Follow the road safety trends and good practices to plan maintenance and upgrades of existing road network in the vicinity of schools.
- Use appropriate methodologies to identify hazardous locations near schools and the causes of road safety problems, identify intervention priorities and implement countermeasures.
- Conduct 'before and after' studies to evaluate the road safety effect of implemented



Transport Safety COVID-19

RECOMMENDED BY RADAR PROJECT

Recommendations for state governments/ministries/ agencies:

- Review the default speed limit for rural roads and adapt where necessary.
- Implement Safe System with special emphasis on rural roads to ensure they become self-explaining and forgiving to human error.
- Provide police forces and other enforcement entities with adequate resources and legal precautions.
- Consider tougher legal sanctions for excessive speed violations, such as higher and income-dependent fines, prolonged licence withdrawal, and confiscation of vehicles.
- Encourage the use of seatbelts in passenger cars through awareness and enforcement measures.

Recommendations for local governments:

- Put high priority on enforcement and educational as well as awarenessraising activity to curb inappropriate speeds.
- Consider the implementation of a 30 km/h limit in urban areas and other traffic calming measures.
- Help making the apparently higher usage levels of active mobility

(walking, cycling) sustainable by providing them with safe facilities and an adequate share of road space.

 Set the necessary promotive steps to re-establish the modal share of public transport.

Recommendations for road authorities:

- Establish an evidence base to prioritise infrastructure investments based on safety: crash locations, traffic flows, speed levels, road infrastructure design and safety data.
- Make sure that for each road construction, reconstruction or maintenance project, the implementation of Safe System principles is considered.

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Our footprints in RADAR

European Institute for Road Assessment – EuroRAP

"In road safety, it is important to understand that very difficult work needs to be done and results may be visible only years after, even though we would want to see them immediately. You need to keep going. To cite one of my favourite notes from Tagore: *"The one who plants trees, knowing that he will never sit in their shade, has at least started to understand the meaning of life."* We need to leave safer roads for future generations."

- Olivera Rozi, EuroRAP

"History teaches us that if we lose focus on road safety due to the things that suddenly become more important than our lives, very soon the consequences become obvious. It is because of this reason we must not stop investing in safer roads. Every life is important, every life count, and we already have the knowledge and the tools to save lives and reduce trauma on our roads."

- Marko Ševrović, EuroRAP

Automobile and Motorcycle Association of Slovenia (AMZS)

"Although we take road safety for granted, having roads and its infrastructure safer for all roads users is fundamental human right. In a way, road safety chose all of us, we just should not have taken it for granted and should have ensured that making roads safer in every possible way was and is our goal."

- Nina Petrič, AMZS

"RADAR pointed out many differences between partner countries in terms of infrastructure provisions, many improvements still need to be delivered to prevent serious of fatal injuries on roads."

– Jure Kostanjšek

"RADAR has broadened my horizons."

– Klemen Filipič

University of Zagreb, Faculty of Transport and Traffic Sciences (FPZ)

"The beauty of this job is that it is truly important one and at the same time not amongst the first ones to come to mind when choosing a career – this should be changed in the near future: lives literally depend on it. Road safety is inevitably an important segment in the life of each of us even if we are not aware of it, but we use road infrastructure each and every day and it should be made to suit our needs and by that, I mean mostly having in mind our imperfections as road users."

– Sanja Leš, FPZ

"I think that RADAR project has laid down very strong and important foundational knowledge base that will be used in future projects and road safety studies that will be conducted in Danube-area countries during next decade. In this way, the project RADAR has already, by no doubt, ensured that the number of lives saved, and injuries prevented on Danube roads will be maximised in the years to come."

- Bojan Jovanovic, FPZ

KTI Institute for Transport Sciences Nonprofit Ltd (KTI)

"Road safety has been a field that was mainly led by men, I believe because of the engineering studies needed. But road safety is everyone's business, regardless of their gender and variety gives a wider respective on topics."

- Nikolett Winkler, KTI

"RADAR was my first international project. I learned a lot from the other partners, both professionally and in terms of project management."

- Gabor Pauer, KTI

In memory of prof. dr. Peter Hollo, KTI

"Péter was active in the project until his last day. He laid the foundations for the DIRSI Strategy, so his impact on the project was significant."

Austrian Road Safety Board (KfV)

"Especially in times of covid-19, we realised that we need roads that speak to drivers, that signalise by design or by smart feedback from road operators what the right safe speed should be. And then road should add yet another layer of safety by actively enforcing those safe speed limits, for example by applying section control, which is actually a surveyance of average speed on longer road section. The message is really there's plenty of room for improvement in all our countries. It's just a matter of large-scale implementation of smart speed management. It's no rocket science really, let's just start doing it."

- Klaus Machata, KfV

Bosnia and Herzegovina Automobile Club (BIHAMK)

"I realised that I wanted to make a change in road safety field and give my contribution to saving lives. Already then, I was determined that my path in life would be directed towards road safety, and it has been for more than 20 years."

- Mersiha Imsirovic, BIHAMK

"During my secondary education, which was closely connected to road safety, I realised that my calling in life would go the same way, and that I had desire to work in the Road Safety field. Ten years have passed since then, and I have never questioned my decision. If I had a chance to choose my calling again, I would choose exactly the same! This is such an important field where we make changes through road safety that save people's lives."

- Silma Muminovic, BIHAMK

"Project RADAR has been a great experience, a lot of fun and work to be part of. Apart from many new friendships that will last a lifetime, shared experiences and acquired knowledge, it has taught me to be part of a large team across Danube area, and I'm proud to have been part of a project that will pave way for better roads, infrastructure, and investments in the future. It will improve mobility and multimodality for generations to come, and for me as a mother it is a huge accomplishment that I am proud of."

– Maja Domazet, BIHAMK

General Automotoclub of the Czech Republic (UAMK)

"Working in road safety is highly meritorious, as well as never-ending activity, which makes me feel beneficial to the society as a whole. Moreover, concrete results and benefits are often visible very quickly."

– Jitka Madrova, UAMK

"RADAR has brought many new opportunities to learn and understand, how road safety is treated throughout the Danube Region. It has been both inspiring and challenging."

– Roman Turza, UAMK

"Repeated meetings with so many lovely people from all partners countries, which have the same, common interest to eliminate tragic consequences of road traffic. Technical visits, interesting solutions, exchange of knowledge, effort to make RADAR countries safer and more homogenous in traffic rules. This is how RADAR will stay in my memory."

– Jiri Landa, UAMK

Bulgarian Association for Road Safety (BBARS)

"I chose to work in road safety sector, because as a road user, I realize that road safety is shared responsibility and I want to contribute as much as I can to improving it."

- Paulina Milanova, BBARS

"It is important to see behind the statistics, to be empathic. This makes you also more devoted to your work, which is very important in the road safety sector."

- Vanina Popova, BBARS

"For me, women and men should have the same opportunities and it is important for inclusion not only for women, but for the whole of society to be engaged in a debate for us to collectively shape an improved system for road safety and anew understanding of road safety. Diversity and inclusion are about knowing that we can change things – each one of us in one way or another. This collaborative way of working should be promoted to set a good example to the people around us and our children."

– Nadya Parlakova, BBARS

Automobile Club of Moldova

"As a woman I learn much in project, get huge experience during the project implementation and from our Partners, I give all my capacity, responsibility, dedicate much time, inspiration, and soul to any project."

- Tatiana Mihailova, ACM

"In fact, road safety has chosen me. I was studying totally other area, work in road safety being just a temporary student job (I thought). But I am still here for eleven years now and I love everything we are doing. It is truly a big pleasure to see and feel the beneficial impact of your work on the society and on road authorities especially."

- Virginia Mandalac, ACM

"It is very important to stay in touch with stakeholders as much as possible. If you want to start a good discussion with the authorities, you need to start the discussion with stakeholders. Through RADAR project we produced some recommendations for authorities and within that we already received their support."

- Serghei Diaconu, ACM

SAFE JOURNEY SREČNO POT SRETAN PUT ŠŤASTNOU CESTU 50H BO93H GUTE REISE JÓ UTAT DRUM BUN

Find more information on RADAR project on our website: www.interreg-danube.eu/RADAR

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Your Road Safety is on our RADAR.