OUTPUT 10

Development of pedestrian crossing safety management methodology

The task will be implemented as part of working package 4 (WP4. Teaching materials development related to the Pedestrian crossing safety management). Directive 2019/1936/EC introduces changes that indicate pedestrians as a high risk group for which it is necessary to carry out risk assessment. One of the key elements that affect road safety level are pedestrian crossings and their parameters: density, location, visibility, volumes of vehicles and pedestrians. The Directive does not specify methodology how such assessments should be carried out, which imposes an obligation on individual EU countries to build specialised methods and tools.
An important aspect related to the level of road safety is the very high severity of events within pedestrian crossings, the consequences of which are most often borne by pedestrians (death or severe injuries). The second aspect requiring the development of methodology for recognising and responding to hazards at crossings is the ageing of the population in EU countries.
In many member countries, roads were built before joining the European Community or were not part of the Trans-European Transport Network (TEN-T). Therefore, they were planned, designed, built and used outside of the RSIM process. Directive 2019/1936/EC covers new roads (funded or co-funded by EU funds) that should be subject to RSIM. For existing roads that have not been subject to infrastructure safety audits (RSA), the periodic inspection. If these roads have been designed in a way that compromises safety, this inspection tool may not be sufficient.
In support of the road infrastructure safety management system (RSIM), it is necessary to develop a pedestrian crossing safety management system (PCSM), with following components:

- Pedestrian Crossing Safety Audit (PCSA),
- Pedestrian Crossing Safety Inspection (PCSI),
- Pedestrian Crossing Safety Rating (PCSR).

The work under Intellectual Output will be divided into developing a methodology at the strategic and detailed level for the selected element of road safety management at pedestrian crossings. It will be used to develop teaching and training materials under Intellectual Output 13.
At the strategic level, the methodology will take into account existing procedures for the

road network in partner countries, with modifications that improve their effectiveness. EuroRAP's knowledge and experience gained in the course of implemented research projects will also be employed. This approach has not yet been applied due to the fact that each country developed their methodology independently.
At the detailed level, the methodology will include PCSM for pedestrian crossings without traffic lights. In order to undertake this the results of an audit conducted on 3,000 pedestrian crossings without traffic lights in Warsaw will be used. GUT staff are the authors of this audit, for which they developed and implemented an assessment method, as well as created a database with identified risks and recommendations for remedial actions.
The planned results of the task will be:

• Comparison of methods, tools, considered factors, scope of roads and their categories or functions for the purpose of developing PCSM, in selected EU countries, especially in partner countries.
• Preparation of the PCSM method and a set of best practices with recommendations for their implementation.
• Preparing the PCSI method and recommendations for PCSA for pedestrian crossings without traffic lights.
Selected PCSM elements will be verified under WP4, Intellectual Outputs 11-12. Practical implementation of PCSI on the selected pedestrian crossings in Poland and Germany.

Target groups:

1. Research and teaching staff from institutions involved in the project.
2. Specialists dealing with road safety issues at the national and international level.

Elements of innovation:

1. Development of a new PCSM methodology dedicated to the safety of pedestrians in the area of pedestrian crossings with regard to the requirements of Directive 2019/1936/EC.
2. Adaptation of the PCSM implementation methodology for the needs of the countries of consortium participants and with the support of the expertise and experience of EuroRAP.
3. Developing a set of best risk reduction practices and PCSM methods in partner countries.

Expected impact:

Gaining expertise by scientific and teaching staff from the institutions participating in the project. The developed methodology will allow for carrying out PCSM in selected countries of consortium participants in practical classes on the selected road sections. Ultimately, it

will be used in the teaching process (for students) and training (for staff performing PCSI) throughout Europe.
Publication of articles and conference presentations related to the comparison of the methodology.

Transferability potential:

The developed methodology, in the form of a manual, will be available on the Internet platform, which will enable its use by research centres and road authorities throughout Europe.

The division of work:

The work will be divided among all consortium participants and will include:
• Review and comparison of methodologies and tools that can be used within PCSM.
• Development of a methodology at the strategic level of PCSM implementation for pedestrian crossings.
• Development of the PCSI methodology for pedestrian crossings without traffic lights.
• Preparation of a collection of best practices.
• Preparation of an analysis report.
• Development of assumptions for implementing Intellectual Output 11-12.
• Preparation of publications summarising the analysed issue.

The tasks leading to the production of the intellectual output:

Each of the consortium participants will be responsible for collecting the necessary information about the implemented RSIM elements that can be used for PCSM construction in the given country. The leading institution (GUT) will be responsible for collecting all materials, organising them, preparing a report and supervising the joint publication.

Applied method:

In the task, a case-based methodology will be applied that allows for focus on selected issues within the PCSM in individual countries. This, in turn, will allow for the assessment of the value of key elements used in this procedure and for their comparison.
Verification of elements of the adopted methodology will be based on the implementation of the working package WP4. Intellectual Output 11-12, Practical implementation of PCSI on the selected pedestrian crossings in Poland and Germany.