



BALTRIS
WP 5.4. Training programme on road infrastructure safety management
2012-10-31

Training Programme in Road Infrastructure Safety Management





Title: **Training programme in Road Infrastructure Safety Management**
Prepared by: Zsuzsanna Toth-Szabo, Lund University, András Várhelyi, Lund University, Anneli Nilsson, Swedish Transport Administration, Kornelija Ratkevičiūtė, Vilnius Gediminas Technical University, Rasa Ušpalytė-Vitkūnienė, Vilnius Gediminas Technical University, Vytautas Grigonis, Vilnius Gediminas Technical University
Date: 2012-09-15

Contact information: Lithuanian Road Administration
(Lead partner) under the Ministry of Transport and Communications
J. Basanaviciaus g. 36/2
3109 Vilnius
Lithuania

Project partners in BALTRIS are the Lithuanian Road Administration, the Estonian Road Administration, the Swedish Road Administration, Vilnius Gediminas Technical University, Tallinn University of Technology, Lund University and Riga Technical University. BALTRIS is led by the Lithuanian Road Administration.





Zsuzsanna Toth-Szabo, András Várhelyi, Anneli Nilsson, Kornelija Ratkevičiūtė, Rasa Ušpalytė-Vitkūnienė, Vytautas Grigonis

Training programme on Road Infrastructure Safety Management

Keywords:

Training in Road Safety, Road Infrastructure Safety Management

Abstract:

Trainings in road safety are one of the key issues to systematically improve and evaluate improvements in road infrastructure safety. Continuously performed and updated trainings in road safety are expected to have a positive effect on personal, local, regional and national level. This document gives some useful input for trainings in road safety infrastructure management, including lessons learned from the BALTRIS project and some recommendations.

Citation:

Toth-Szabo, Zs., Várhelyi A., Nilsson, A., Ratkeviciute K., Ušpalytė-Vitkūnienė R., Grigonis V. (2012) “Training programme on Road Infrastructure Safety Management” BALTRIS deliverable of WP5.





Content

Definitions and abbreviations	5
Introduction.....	7
Background.....	8
1. BALTRIS Training.....	10
2. Objectives and benefits of training in road safety	10
3. Target group.....	11
4. Designing a training programme in general.....	11
4.1. Content of the training.....	12
4.2. Methods for training	12
4.3. Selection of speakers.....	16
4.4. Selection of participants.....	17
4.5. Preparations	17
4.6. Giving the training	20
4.7. Certification	21
4.8. Evaluation and reporting.....	21
5. Recommendations for international trainings, based on experiences from the BALTRIS Training.....	22
References.....	25





Definitions and abbreviations

Road Infrastructure Safety Management (RISM)

Road infrastructure management is dependent on economical and political issues. The view of implementation shows a wide variety from country to country, also considering the countries within the EU. The main areas of road safety management, as mentioned in Directive 2008/96/EC, are:

- Road Safety Impact Assessment
- Road Safety Audit
- Road Safety Inspection
- Road Network Safety Management

These areas constitute a complex system for improving road infrastructure safety. The different areas follow the life cycle of a road – from early planning phase to the maintenance of the road in use. Each pillar has a vital role to make roads safer. Even so, economical and political issues influence the importance of the pillars, affecting the result of road infrastructure safety management. Each country makes the decision on what phase to focus in the struggle for improved road safety. The decision depends on the country's road network current condition and the willingness to adopt all different phases of road infrastructure safety management.

Road Safety Impact Assessment (RSIA)

The life cycle of a road starts with the decision to construct or not to construct the road itself. The process of decision making relies on different feasibility studies considering environmental, financial and social views. At this stage the safety aspect must be equally prioritized. Road Safety Impact Assessment (RSIA) is a tool to compare different scenarios, analyze each safety aspect and from that make recommendations regarding the construction and the design of the planned road.

The recommendations for RSIA prepared in the BALTRIS project (in WP3) give a summarized picture of this process. It names the involved actors, clarifying the role and responsibility of each of them and introduces the steps of RSIA procedure.

Road Safety Audit (RSA)

An essential part of a road's life cycle is the planning process. During different stages of the whole planning more and more details regarding the road design will be decided. To avoid safety problems in the new built road we need to consider the safety in each and every step of the





planning process. Road Safety Audit (RSA) follows the planning stages and helps finding eventual safety hazards with help of tailored checklists.

After the coming into effect of Directive 2008/96/EC on road infrastructure safety management (set by the European Council), Road Safety Audit should be implemented in all EU countries, and latest 19th December 2010 all EU countries had to accept the national curricula for auditor training.

Road Safety Inspection (RSI)

Existing roads – newly built or with a longer history – might carry minor to major safety deficiencies. Not accepting any person to be killed or seriously injured in traffic means we need to focus on eliminating these hazards. To identify the safety problems in the existing road network is helped by the process of Road Safety Inspection (RSI). Even though the EC Directive gives some recommendation concerning Road Safety Inspection, the current practice of RSI shows a large variety in the EU.

Network Safety Management: Ranking of High Accident Concentration Section and Network Safety Ranking (NSM)

Some road sections unfortunately show a relatively high amount of accidents and/or serious injuries. When identified these sections must be highly prioritized. Ranking of High Accident Concentration Sections (RHACS) focuses on the sections that need safety improvements due to a relatively high rate of accidents.

Focusing safety is however not only an issue related to hazardous road sections, but needs to be taken into account in the overall road network. The basis of a complex view of the road network system, focusing safety, is the Network Safety Ranking (NSR). NSR is a method for identifying, analyzing and classifying parts of the existing road network. The method considers each road's potential for safety development and accident cost savings.





Introduction

This document – written in the frame of BALTRIS – gives the most important inputs to carry out trainings in road safety. With lifelong learning and training we can positively contribute to improvements in road infrastructure safety, thus saving life, health and money. Concerning the content of the trainings more specific information can be found in the “best practices and guidelines” (developed in WP3 of the BALTRIS project). The objectives of this document are:

- to give a starting point to all organizations who will organize trainings in road safety infrastructure measurement (RSIM).
- to describe the process of the development of trainings in methods of RSIM (what, who, why, how).

The target group of this document is not only experts of road safety looking to improve their understanding of RSIM. Organizations with an awakening need to increase knowledge about the complex system of RSIM may benefit from this document. Hence, this report addresses all potential training organizers, like national authorities, road administrations, municipalities, academic institutions and professional associations.

Structure

Background gives a short overview of elements in RSIM. The chapter illustrates the importance of cooperation between organizations involved in the various stages of RSIM.

Chapter 1 is about BALTRIS Training, while *chapter 2* points to some objectives and benefits of training in road safety. *Chapter 3* introduces the targets groups. Detailed information on training design is given in *chapter 4*. Recommendations based on lessons learned and experiences from BALTRIS Trainings is summarized in *chapter 5*.

Relations to the BALTRIS project

The BALTRIS Training (4 different events during 2012) and this training programme is produced in the frame of BALTRIS work package 5. The focus of this WP is Capacity building in road infrastructure safety management. Main activity is not only to develop trainings based on collected best practices and guidelines but also to give inspiration for transnational trainings.





Background

A well performed Road Infrastructure Safety Management is necessary to help road users enjoy enhanced road safety. Improvements and developments are treasury for today’s traffic and future generations.

Road infrastructure safety management consists of a number of methods covering the whole lifecycle of road infrastructure, see figure 1. The elements of road infrastructure safety management have to follow the phases of a road; from early planning during the construction process to the regular maintenance. The training activities emphasize the difference between actions to prevent accidents and actions to cure existing safety hazards.

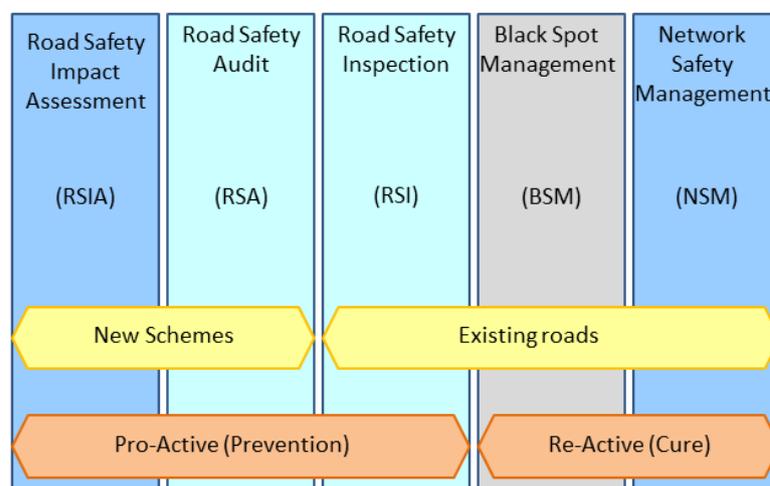


Figure 1 – Road Infrastructure Safety Management (based on Ripcord-Iserest – Road Infrastructure Safety Management, 2008).

BALTRIS has developed two training blocks. One of the blocks focuses Road Safety Audit and Inspection (light blue pillars in figure 1), while the other block’s topic is Road Safety Impact Assessment and Network Safety Management. BALTRIS Trainings cover all main pillars of road infrastructure safety management except Black spot management.

A short overview of the main pillars of road infrastructure safety management is given in Table 1.





Table 1 – Short overview of RSIM

	RSIA	RSA	RSI	NSM
Definition	Help to identify the likely safety effects of different proposed road or traffic schemes or policy actions.	Formal safety performance examination.	Strategic analysis of the impact of a new road or a substantial modification to the existing network on the safety performance of the road network.	Method for analyzing and classifying hazardous road sections of the existing road network.
Actors	Road administration / external experts	Auditor Client Designer	Inspector Client	Road administration authority
Qualification	Should be based on standardized method. No additional qualification	Participation on specific training program is obligatory for the auditor	There is no standardized training	There is no special training
Data requirement	Depending on complexity of the project	Scheme	Site visit	Traffic data Accident data Road design
Frequency	Mainly large projects and new road safety plans	Integral part of planning and design process	Not decided – there are various practices in Europe	Regularly: the intervals depend on the country
<i>The table data based on RiPCORD iSEREST – Road Infrastructure Safety Management (2007).</i>				





1. BALTRIS Training

During 2012 the BALTRIS project gave international trainings in road infrastructure safety. The content of the training covered most of the main pillars related to road safety. The purpose of the trainings developed in BALTRIS was:

- On one hand to give a "base-knowledge" as a fundament of national trainings for new auditors and widen information-field for certified auditors.
- On the other hand to move the emphasis from checklists to the communications of findings. The training tried to give the auditors some tools to be able to "deliver the message", to communicate the results of a safety analysis efficiently.

The trainings developed in the BALTRIS projects puts focus on safety together with communication issues, to help the auditor/inspector communicate the results. Regarding this context, the target group of the training is widened. Not only certified auditors, safety experts, designers, but everybody who is working with issues of traffic safety audit or traffic safety inspection can attend on the trainings.

2. Objectives and benefits of training in road safety

To define the goal of the training is the first and the most important step. There is a difference between trainings organized based on one particular demand (ad hoc or topical trainings) and regular training. The topical trainings need careful preparation and identification of real objectives, with perhaps just one occasion to satisfy the awoken demand. With regular trainings it is necessary to check objectives every time the training is launched. Demands belonging to the procurer, the regulations or the audience etc. can vary slightly. To give the most efficient training it is therefore needed to check whether the original objectives are still valid.

The objective(s) of a training can be defined considering the following:

- What do we want to achieve with the training? What kind of knowledge or information do we want to deliver?
- What is the best way and/or the possible way to bring the message?
- How many participants are suitable?
- How many speakers are appropriate (from one or more organizations)?

Road infrastructure safety management is highly benefitted by continuously performed and updated trainings in road safety. Ongoing improvements have effects on personal as well as local, regional and national level. When trainings are held with a transnational perspective we can find a





joint aspect of Vision Zero and reach its goal. Together we can make a crucial difference in the road infrastructure. An improved road infrastructure means improved safety for all road users, saving life, health and money. Training in road safety is a key issue to improve safety in road infrastructure.

3. Target group

Trainings in road safety should be of interest to all persons dealing with road safety in some aspect. Different sectors using traffic safety expertise might find a training more or less relevant depending on the level of the training. A training should always be adjusted to its target group.

Possible target groups for training in road infrastructure safety management are:

- Road Authorities (decision makers and employees)
- Road Designers (from public and private sectors)
- Road Safety Auditors
- Academics in Road planning and Traffic engineering (lecturers, researchers)
- Research institutes (decision makers, researchers)
- Police (traffic inspectors, officers, head of department)

A realistic selection of target group helps to achieve the objectives of the training. When selecting the most appropriate target group it is relevant to consider what organizations are involved in road infrastructure safety management.

Defining the needs of the target group means to figure out:

- what their actual level of road safety knowledge is
- what the desired level (to achieve with training) is
- what participants should learn to reach the desired level.

Clarifying the target group's needs the training can be adjusted according to theoretical or practical information, ideas and examples of application of existing tools. When the target group is given and the training participants selected, their current level of knowledge should be checked. This makes sure the planned effects are realistic.

4. Designing a training programme in general

There are various ways to design a training in road safety infrastructure management. In the following chapters some general aspects to take into account before launching a training are given.





4.1. Content of the training

Trainings in road safety must consider existing principles, practices and national standards. This will be a base for the training. Together with the participants' previous knowledge and experiences this fundament is an important part of the training content, just as the demand for enhanced knowledge is.

A well developed content is not sufficient for a successful training. To give a clear and understandable structure to the training is important to the participants.

The BALTRIS training is split up into modules, which is common for trainings in traffic safety. The modules should be partly independent from each other but clearly link to each other. In case the modules are following each other with a need to finish one module before continuing to the next, this must be emphasized.

4.2. Methods for training

All training is a combination of various training methods. There are classroom-activities and outdoor activities. The methods often applied in training in road infrastructure safety management are:

Classroom activities

- lecture/presentation (4.2.1.)
- case study (4.2.2.)
- group work (4.2.3.)
- role play (4.2.4.)

Outdoor activities

- site visit/field trip (4.2.5.)

The final content of the training is adapted to the participants' background and knowledge. In case the selected group consist mainly of technical experts, the most effective method could be site visit or field study. If the participants are mainly officials, the exercises helping the decision making process could be useful for them; such as role play and group discussions.

Selecting different modules (classroom or outdoor activities) assures a wide variety in the trainings. For case sessions it is important to:

- Assign the participants into small groups for the site visit (6-8 persons/group)
- Leave enough time to conclude each module in a plenary session!





- Prepare carefully the roles for role play

4.2.1. Lecture /Presentation

The lecture is one of the most common ways of transferring information. This one-way communication can be used in many ways, introducing and explaining facts and details, presented by tutors or participants. Lectures have many advantages: they are easy to implement, relatively easy to prepare, need few resources and work in groups of any size. There are however disadvantages as well. Due to the one-way communication the success of active learning process is limited. The lack of feedback during lectures makes it difficult to check if the audience understands. The audience can stay passive and/or keep a low level of concentration. This way of teaching is not suitable for changing attitudes or teaching practical skills – and this is often the key-target of trainings in road infrastructure safety management.

Almost all presentations can be divided into three parts:

- **introduction** gives the keywords, context and the main line of the lecture, including indication of length and time for questions.
- **body of the presentation** has to be constructed carefully. In this part the tutor can raise a problem, explain and illustrate the solutions. It is vital to summarize and repeat after each main point. This helps the audience to get the context.
- **conclusion** is necessary for repeating the most important messages.

Presentations and lectures are supported by visual tools, which could highlight the main points of the presentations, illustrate examples and help join separate units in the presentation by repeating the keywords.

Questions during or after the presentation are mainly the only feedback from the audience. It is good to ensure time for questions and in special case prepare some extra material for expected questions.

During the preparation of a lecture it is vital to consider the current level of knowledge of the audience – related both to language skills and road safety knowledge. It is useful to take this into account when preparing the presentation, selecting a visualizing tool and perhaps some extra material for questions.

4.2.2. Case study

The case study is a “real case” presented by simple materials (video, oral presentation, short documentation) and discussed by groups or by the audience. The purpose with case study is often to let the participants face a problem and search for new information or use tools presented during a previous lecture. The case study is not only giving more details about the case but help the participants to find various alternative solutions to the same problem. This is important to develop problem-analyzing and problem-solving skills!





There are some limitations related to this method, for example:

- With a complicated case it takes a long time to reach a fruitful discussion.
- Sometimes the different level of activity of the group members does not promote equal participation.

Since case studies can vary on a wide range, the preparation also differs. In general, the preparation of a case study should consider the following:

- The room has to be suitable for the case presentation (internet, screen, beamer etc.).
- The material available should be clear and well sufficient for the participants to understand the case, discuss the problem and find possible solutions.

During the case study the tutors should:

- Clearly explain the purpose of the case study.
- Keep discussions on the right track (avoid irrelevant topics, lift relevant questions).
- Sum up at the end, emphasizing “lessons learned” from the case.

The well-prepared and well-guided case studies are vital for understanding and memorizing the most important messages of given lectures.

4.2.3. Group work

The main purpose of a group discussion is to get an informal discussion on a topic, preferably with persons having different points of view. This discussion is a way to increase understanding via identifying and analyzing a situation, searching for problems, developing solutions, exchanging experience and attitudes. The group work enables clarifying different interests while at the same time establishing some consensus. As long as the group members share the workload and participate equally in the activity group work one of the most effective ways of learning.

Well-functioning groups are a key to success. In case the group is not working well, the target of assignment might not be reached. Group work can be energy and time-consuming for tutors. The tutor has a passive role during the group work, but has to be available to answer question, keep an eye on the discussions and help the groups to keep the discussions on the right track. The tutor should decide on the amount of time for discussion.

A group work session should finish with presentations from each group, summarizing their results. The group members should discuss some points with the audience before the tutor concludes the main point remarks.





4.2.4. Role play

In a role-play some participants act in a virtual real-life situation. Other participants will act as audience. The purpose of this teaching method is to show how a new method, approach or attitude, can be applied in real life, after the training. With the use of role-play, participants can get insight in problems of cooperation between different stake-holders, different motivations and targets, different organizations and positions within the same sector.

The main advantage of the role play is the “safe” environment which helps to provide and explore different solutions of cooperation and communication. In many cases the opportunity to change role and act as the other stake-holder in road infrastructure safety management truly helps to change attitudes and give understanding to the complexity of road safety issues.

The tutor should prepare the roles carefully before the role play by describing the roles in detail (motivations, attitudes, limitations). The person or group should get enough time to prepare and get into character, think through the strategy of communicating and arguing. The role of the tutor is important; either the tutor participates in the role-play or acts as “narrator”. The narrator role has the opportunity to pause an ongoing discussion or point out an important issue. In case the tutor is active in the role-play, he/she can influence the discussion.

All scenes should be analyzed in a plenary session after the role-play with questions to the participants about their feelings and their remarks. Finally the tutor should summarize the main points and findings.

4.2.5. Site visit/ field trip

In the frame of a site visit, participants visit a place, an object or a place of interest for observation. The site visit often represents an obvious safety hazard, giving deeper understanding of safety problems discussed during the training. At the same time the activity helps to start discussion which is essential when working in groups. The site visit has some advantages and disadvantages:

Advantages

- Seeing/perceiving something in real is more useful than to hear about it.
- Site visits are a very good way for experienced participants to exchange opinions and discuss possible solutions.
- Site visits can certainly help less experienced participants in gaining understanding, introducing them to examples in real life and enabling important discussions with more experienced participants and traffic safety experts.
- Site visits are usually very popular among participants.





- Site visits can result in a number of suggestions for possible improvements to increase safety – which can be dialogued with responsible road authorities.

Disadvantages

- Weather conditions can influence participants' activity.
- It can be difficult to estimate the amount of time needed on the site.
- In case the visits are located to several different places there is an uncertainty with participants travelling on their own.
- The time schedule can be hard to maintain.
- There is (a small) risk of injuries of the participants.

The length of the trip can vary, from a short visit to a whole day. All site visits need careful preparation:

Things to do before the trip

- Contact road owner or local authority before the visit. Inform them about the site visit and ask if they have a possibility to join. In some cases road owners can give more detailed information about the road section than the documentation does.
- Arrange a test-tour on the site. Check the planned stop points and measure the travel time. Make sure there is a safe place for discussions at the site.
- Make a feasible time schedule, with meeting time and meeting points.

What to pay attention to during the trip

- Before each stop, inform the participants about the purpose of the visit at the site (what to see, what to be aware of), the available time and what the trainees are expected to do.

It is possible to carry out a site visit in the classroom with the help of film or internet – but it cannot replace the real “on-site” experience.

4.3. Selection of speakers

In order to give the participants an interesting training experience the choice of speakers is relevant. With speakers representing more than one country the training can give a wider, international and more nuanced perspective. To ask prominent traffic safety experts contribute to





the training is not enough. Besides terrific knowledge the speakers should be able to deliver the message, be open and inspire the participants to engage in fruitful discussions. Please do not ignore the age, nationality and gender perspective. A really good speaker will encourage the participants and, in the best of situations, reveal a possible career.

Speakers can represent the academic/scientific world and the practical side of road safety management. To ensure an educating training the speakers need to communicate and harmonize their lecture material and topics during the preparation process.

4.4. Selection of participants

Group dynamics should be considered when selecting participants. With participants from different age groups and gender the training can reflect different ways of thinking, find jointed solutions to given problems and improve road safety in a transnational perspective.

A carefully and well composed group of participants is essential to achieve the training target, to deliver and receive the message of the training. It is useful to define some criteria:

- maximum and minimum number of participants (a well-functioning size for a training with relevant discussions is about 16-22 participants),
- maximum and minimum number of participants representing the same organization or same country. (In case part of the participants represent the same “unit”, there is a risk the communication between participants and the exchange of information will be limited),
- make sure the participants have approximately the same level of pre-knowledge. (In case there are participants with too different backgrounds, it could be useful to organize a special session in advance for them – for example politicians, decision makers etc).

4.5. Preparations

4.5.1. Organizational issues (costs, logistical preparations, equipment)

To make a proper planning and to avoid stress under the training it is good to prepare a detailed list of all necessary equipment, preparatory work and costs if any. It helps to make a working time plan and prevent the unwanted changes in the program due to late booking or lack of necessary materials.

It is recommended to make a list of the requirements per module and indicate whether the items are available, costs incurred and who will be responsible for what.

This is a sample of items often needed for training in road infrastructure safety management:

- Training venue/room reservation





- Technical equipment of the room (beamer, computer, white board)
- Other material for modules (flipchart, hand outs, case study material)
- Site visits (transportation, safety vest)
- Participants (lunch, accommodation)
- Tutors (fee, lunch, accommodation)
- Social activity (welcome dinner, coffee break)
- Certificates

Define mile-stones with deadline to facilitate the preparation work:

- Reservations (Training room, technical equipment, dinner/lunch arrangements)
- Select participants (final list of participants with organization and contact data)
- Sending information to the participants before the training (see more details in chapter 4.5.3.)
- Final program (and the list of tutors, with organization and their contact)
- Prepare case studies (contact persons to visited locations, arrange buses, necessary extra materials, safety jackets)
- Prepare evaluation forms (see more detail in chapter 4.5.4.)
- Prepare copies (training material, handouts etc.)

4.5.2. Presentations and case studies

Training programs in road safety often include case studies. Each case study should result also in a presentation; a detailed summary of the event (site visit, analysis, etc.). The presentation can be made by a participant or by a lecturer, it can be oral or interactive (film, internet) and sometimes written.

In road safety trainings, case studies often involve a road section or intersection with safety problems. The object of the case study should fulfil the following criteria:

- Be relevant to the safety problem treated during the training.
- The object's safety hazard should be recognizable in provided material.
- Recent drawings available (or at least some photos available from the site on internet – Google).
- Recent traffic data and accident data should be available.





- The section should not be further away than 45-60 minutes travel from the location in case a visit to the site is included in the training programme.

To select and prepare case studies beforehand is recommended. It is useful to prepare an extra case study – good to have if there is time left or if the other case for some reason cannot be used. In most cases the following material should be prepared:

- Digital drawings/photos from the site.
- General map of the area.
- Data of the traffic using the section.
- Road accident data.

4.5.3. Information to participants

Before the training starts the participants need to be informed about training details. The most common information the participants need:

- Title and aim of training
- Date and duration
- Venue/location
- Preliminary program (mentioning that minor changes can occur)
- Costs and how to pay (with deadline)
- Lists of tutors (with photo and short presentation) and topics to be covered
- Pre-exam/list of questions to check the level of knowledge in road safety issues (with deadline)
- Additional information (how to reach the location, and – in case of international participants – general information about the country, about the city).

4.5.4. Evaluation

Evaluation is an essential part of the feedback from the training. Feedback from participants is the main source to get information about how the training met the participants' expectations. There is a wide range of possible evaluation forms. To be able to discuss the result of the evaluation at the end of the training, it is important that the process of evaluation is quick and manageable in the classroom. The two most frequently applied evaluation methods are the individual evaluation and the group discussion:

Individual (anonym) evaluation





Individual evaluation is a quick and easy way to ask participants about their opinion and experience. The questionnaire could be:

- On paper – this takes longer time to aggregate the answers. In case the tutor wants to discuss the outcome at the end of the training, there is need to allocate time for aggregation answers.
- Via internet – this enables the participants to answer directly and gives quick, almost immediate results. The only necessary circumstances are good internet-connection in the classroom and enough computers.

Group discussion

It is possible to evaluate with help from group discussions. To have efficient discussions there is a need to prepare evaluation forms. This can simply be done as follows:

- training events in table in A2 paper size
- each row represents one of the events, rating “- -“ to “++” in the columns
- the participants get some sort of stickers to put on the scale according to their opinion (one sticker for each event of the training).

Having filled the evaluation form it is a good way to start a summing up discussion with the analysis of the evaluation.

4.6. Giving the training

Some important principles to keep in mind during the ongoing training:

- **Enthusiasm**
The engine of the training!
- **Flexibility**
The program is a guide and should be followed. However, it can happen that some changes are necessary. To be flexible solves most problems. For example if more time is needed for a module or if the participants want an extra lecture on a certain topic, or if a tutor cannot hold his lecture on the given time.
- **Workload**
Training is often a very intensive activity for a period of time. To be sure that neither the participants nor the tutor will be exhausted during the training, please check the number of assignments. In case the time dedicated to assignments is too short, elaborate more time and skip some parts instead of forcing through all assignments.





- **Focus on target**
The aim of the training is determined. Even if changes appear, the training has to keep focus to reach its target.
- **Exchange information**
Participants learn from each other as well as from tutors. That is why participants need an opportunity to share their ideas and experiences. Make room for this in the training programme.

4.7. Certification

Each participant should receive a certificate from the training, if they fulfil the given criteria for the certificate. The content of the different training, should be described at the back of the certificate. If it is an accredited training, the participants should be informed what organizations accept the certificate. Before the training starts there is a need to decide upon what kind of certificate the participants can achieve, and what the criteria to be approved are. Criteria for approval can be one or more of the following:

- participation in the activities
- active participation in the group works
- passed final exam/accepted home assignment.

If there is an exam to pass in order to be approved, there is a possibility to give two different levels of certification: 1) certification for participation, 2) certification for having passed exam. If two different certifications are available, make sure they are different from each other and that the difference is clear from administrative aspects as well. If there is an administration system for certifications, make sure all necessary details are written properly on the certificate form.

In case the training is planned to be given several times (regular training), template of the certificates should be checked by the education main office.

4.8. Evaluation and reporting

To evaluate training is a very important input for coming trainings. Based on the feedback from the participants it is often useful to prepare a list of how to improve the training. To complete the list, the tutors should evaluate themselves and the training based on the results from the participants exams. If the training did not manage to reach its target, adjustments are necessary!

To create a proper report after the training occasion will be helpful from an administrative point of view. A report can also be a starting point for the preparation of coming trainings, the training to follow (as a second part), and make it easier when finding and contacting a person or a tutor for new training sessions.





5. Recommendations for international trainings, based on experiences from the BALTRIS Training

One of the purposes of BALTRIS project was to develop trainings based on international best practice for international audience in road infrastructure safety management. It is evident that the BALTRIS success story is tied to the international context of the project. The project gathered professionals from different countries and allowed them to check and improve curricula and training materials for teachers. Importantly, members of the BALTRIS project and participants of the BALTRIS courses achieved synergistic effects in the Road safety field. Participation in training gives an opportunity to share and improve accumulated knowledge as prepared material and practical aspects may vary across countries. Moreover, sharing experience and the communication process during group work and role-play formed a strong network of road safety minded professionals.

Road Safety Audit (RSA) is a systematic safety check on road plans during the planning process of a road, got a real encouragement during the last decade by a Directive of European Council. The Directive 2008/96/EC on road infrastructure safety management anticipates the road safety audit itself as well as training and certification of auditors. The Directive is obligatory on the TEN-T network, covering a part primary road network of European countries. Unfortunately the Directive does not provide a unique/recommended method for the national process of RSA. In some countries RSA has long years experience while other countries started developing and introducing their national system during the last ten years – mainly based on the “existing” practice but often setting to the national circumstances. The training of the auditors is an important part of the national RSA process.

Road Safety Inspection is a systematic safety check on existing road. The Directive 2008/96/EC mentioning the RSI process, but giving too few information about implementation and trainings to build up a harmonized system. (See more about RSA process in BALTRIS deliverable Toth-Szabo, Zs. Varhelyi, A., Road Safety Audit – Good Practice Review for implementation, 2011.) The importance of Inspection is vital in countries where the main activity is not building and planning new roads but maintaining the existing road network. The purpose of RSIA is to demonstrate, on a strategic level, the implications for road safety of different designing/planning alternatives of an infrastructure project. RSIA is a very beneficial tool that could increase transparency and the availability of information, consequently, it leads the parties concerned to well-informed decisions. The Directive 2008/96/EC on road infrastructure safety management doesn't require certification of RSIA auditors, however prepared RSIA procedures and trainings are very good starting point for the developers of national systems and could be adapted to local conditions and peculiarities. It is recommended that RSIA auditors shall undergo an initial training





resulting in the award of a certificate of competence, and take part in periodic further training courses. Such process would ensure higher quality of infrastructure safety management.

There is much knowledge and similar elements in the process of RSA and RSI. This is why we tried to make a combined training in the frame of BALTRIS.

Some recommendations based on experience from the BALTRIS Trainings:

- For international trainings, select parts of road infrastructure safety trainings which are not specific for a national organization (for example: lectures and workshops on safety engineering, general parts and philosophy of checklists, safety measurements, and auditor behaviours). These trainings could also be a good base for national training, completing the national curricula. Good to know, the curricula of auditor training and the certification process belong to the countries and can be very different. A well built training with more “general” safety engineering and auditors “good to know” modules could be accredited partly by national bodies. To create training giving certification which is accredited by several countries often needs a long reconciliation of curriculum.
- For international trainings, the target group is wider and less defined with “pre-requirements”. The main motivation among training participants was to change experience. The international training should give enough time and encourage participants to start discussion and to change experience via different case studies.
- For international trainings, it is truly important that participants can communicate with each other. That is why the three main restrictions are vital to guarantee a fruitful discussion between participants (checked when selecting participants):
 - a certain level of common language (often English)
 - common background (road safety)
 - some basic knowledge of safety engineering to follow the lectures and be active in workshops (a pre-examina is a good way to find this out).
- For international training is important to show new practices, literature och introduce some new way of thinking.
- “Break the ice” quite early and encourage discussion between participants. Activate the participants and make them work with the topics of the course.
- A pre-examina is useful to get information about the participants’ current knowledge and if needed make adjustments in the training. It can also be a way of letting the organizers know what the participants may have questions about, making it possible to prepare answers and include necessary information in lectures.





A role play is a fruitful way for participants to experience a situation close to real life. This experience is of importance in future work; it can contribute to an improved communication – a part of being successful in improving road infrastructure safety. The role play includes a presentation of research and a discussion where the participants in different roles learn how to handle different opinions and how to make communication easier.





References

Antov, D., Metsvahi, T., (2011) Road Safety Inspection Guidelines and checklists. (Deliverables from BALTRIS, an EU-project in the frame of Baltic Sea Programme 2007-2013.)

Hulten, L., Wetering, B. (2005) “Take over” – A manual for trainers in safe road design, World Bank and Dutch Ministry of Transport, Public Works and Water management

Laurinavicius A., Ratkeviciute K., Jukneviciute-Zilinskiene L., Cygaite L., Lingyte I. (2011) “Ranking of High Accident Concentration Sections and Network Safety Ranking”. BALTRIS project report WP3.

Matena, S., Weber, R., Huber, C.A., Hruby, Z., Pokorny P., Gaitanidou E., Vaneerdewegh, P., Strnad, B., Cardoso, J., Schermers, G., Elvik, R. (2008) Road Safety Audit – Best Practice Guidelines, Qualification for Auditors and “Programming” Deliverable D4 RiPCORD iSEREST <http://ripcord.bast.de/> accessed: 2011-08-16

Ratkeviciute K., Grigonis V., Ušpalytė-Vitkūnienė R. (2012) BALTRIS training #2: Road Safety Impact Assessment and Network Safety Management. (Deliverables from BALTRIS, an EU-project in the frame of Baltic Sea Programme 2007-2013.)

Road Infrastructure Safety Management. Results from the RiPCORD-iSEREST Project.(2007). Deliverable from the RiPCORD-iSEREST Project. <http://ripcord.bast.de/> accessed: 2011-08-16

Smirnovs J., (2012) BALTRIS training #4: Road Safety Impact Assessment and Network Safety Management. (Deliverables from BALTRIS, an EU-project in the frame of Baltic Sea Programme 2007-2013.)

Toth-Szabo, Zs., Varhelyi, A. (2011) Road Safety Audit – Good Practice Review for implementation. (Deliverables from BALTRIS, an EU-project in the frame of Baltic Sea Programme 2007-2013.)





Toth-Szabo Zs., Várhelyi, A., Antov D., (2012) BALTRIS training#1b: Road Safety Audit and Inspection. (Deliverables from BALTRIS, an EU-project in the frame of Baltic Sea Programme 2007-2013.)

Ušpalytė-Vitkūnienė R., Grigonis V. (2011) Recommendations for Road Safety Impact Assessment. (Deliverables from BALTRIS, an EU-project in the frame of Baltic Sea Programme 2007-2013.)

Várhelyi, A., Antov D., Toth-Szabo Zs. (2012) BALTRIS training#1a: Road Safety Audit and Inspection. (Deliverables from BALTRIS, an EU-project in the frame of Baltic Sea Programme 2007-2013.)

