

# Traffic Education and Information Campaigns in Finland

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## 1 Introduction

The Finnish system of arranging road safety information campaigns and education involves the cooperation of many operators. The Finnish Road Safety Council, first of all, has an important legal role in contacting individual road users and supporting the traffic safety work of other organizations. Other organizations range from voluntary organizations to associations, authorities, and schools. Traditional campaigning is a common method, but another very popular approach is to enable and energize other operators by providing practical tools. Operators in the voluntary field are particularly integral in establishing practical and easy-to-use methods. This approach is also valuable when the intention is to include traffic safety work within the scope of other professional work (e.g., that of teachers). The methods used by the Finnish Road Safety Council and described above are mostly examples of these efforts.

The Finnish Road Safety Council has to be very flexible in order to cooperate successfully with various partners. There is an ongoing effort to improve the role of traffic safety work on the system level—an initiative that faces the challenging question of how to implement traffic safety as a normal activity of schools and companies. Reaching the working population is a big challenge. Workers no longer share a large, collective environment like school or the army, and companies have traditionally been indifferent about enhancing road safety. This is slowly changing, however. Because of the implementation of different kind of quality systems, companies are becoming gradually more interested in improving their workers' traffic safety.

One general trend in training and education in recent years has been the development of learner-centered, active learning methods and methods based on self-evaluations. This trend owes its momentum to both theoretical knowledge of learning and knowledge of safe road behavior. Safety, after all, depends not only on knowledge but also on the willingness to behave safely and know one's personal risks and typical behavior. Clients usually evaluate active learning methods very positively.

It is very difficult to evaluate the extent to which a single campaign or educational countermeasure reduces accidents or changes traffic behavior. Sample population sizes can be too small, and there are often several reasons contributing simultaneously to the changes—or the lack thereof—besides the specific campaign or countermeasure in question. However, traffic safety education and campaigning is something that cannot be stopped. Continuous work and a diversity of methods working toward the same target will improve general awareness and expand the acceptance of legally based traffic safety actions in the long run. For this reason, it is very important that the quality of the educational countermeasures are constantly evaluated based on the views of the target groups and their theoretical quality.

There are also some limitations. Despite legally based funding, resources are still rather meager. Furthermore, authorities are currently under enormous pressure in their core duties. This limits the amount of traffic safety work they can do. In that sense, the current conditions serve to underscore the importance of a legally based organization dedicated to road safety.

## 2 Main actors in the field of traffic safety in Finland

### 2.1 The Ministry of Transport and Communications

Traffic safety work in Finland is operated by many different organizations. The main actor is the Ministry of Transport and Communication, which gives guidelines to other actors on preparing legislation and providing funding.

### 2.2 Police

The Finnish police are under the jurisdiction of the Ministry of Interior, but the Road Traffic Act comes from the legislation prepared by the Ministry of Transport and Communications. The police are responsible for traffic surveillance, the management of driver licenses, and some other items. At the beginning of 2014, the separate traffic police was terminated, and traffic surveillance was integrated into the general police organization.

### 2.3 Finnish Transport Safety Agency

The Finnish Transport Safety Agency is a government agency operating under the Ministry of Transport and Communications. It operates in all areas of transportation: maritime, aviation, rail, and road. It issues permits, regulations, approvals, and decisions and prepares legal rules regarding the transportation sector. It also arranges examinations and informs the public of transportation-related choices. The Finnish Transport Safety Agency also covers traffic safety campaigning in cooperation with other organizations.

### 2.4 Finnish Transport Agency

The Finnish Transport Agency, a government agency operating under the Ministry of Transport and Communications, is responsible for the infrastructure of traffic systems. It maintains the government's road and rail networks as well as the waterways. It also implements road projects and plans, designs, maintains, and constructs railroads and waterways. Furthermore, it directs road maintenance operations of regional centers (the local offices of the Finnish Transport Agency). It also has the responsibility to control and develop traffic management in the government's traffic lanes and waterways.

### 2.5 Liikenneturva - The Finnish Road Safety Council

Liikenneturva -The Finnish Road Safety Council is a legally based, national, central organization for volunteer traffic safety work. It has 56 member associations. The Finnish Road Safety Council's operations are financed with funds collected via the traffic safety component of motor insurance fees. The annual funding level is determined by the Ministry of Social Affairs and Health. The Finnish Road Safety Council influences the values, attitudes, and traffic behavior of Finnish citizens in hopes of contributing to greater traffic safety awareness and respect for safety in society. It is the only organization in Finland designed expressly to improve road safety. Its main methods include supporting traffic education and training, campaigning, and establishing a media presence. Furthermore, the Finnish Road Safety Council cooperates with authorities such as governmental ministries, the police, and main offices operating in the field of road traffic.

## 2.6 The Finnish Motor Insurers' Centre

The Finnish Motor Insurers' Centre is responsible for investigating road and terrain accidents, as provided by law. It is responsible for upholding, organizing, and planning investigation activities for road accident investigation teams. The Motor Insurers' Centre also organizes training for accident investigation teams, coordinates the use of investigation results, and produces information services, focusing mainly on producing information and data on road accidents. The data produced by traffic accident investigation teams and statistics on traffic damages compensated for by motor liability insurance play essential roles in the planning of the Finnish traffic safety work. Information from the Motor Insurers' Centre is available and widely used in developing training methods and scientific studies.

## 2.7 Driving schools

Driving schools in Finland are typically small, private enterprises that offer driver education in accordance with official curricula for different license classes. The minimum amounts of training are regulated by law, and the content of the training programs is described in the curricula approved by the Finnish Transport Safety Agency. Most driving schools are members of Finnish Driving School Association.

## 2.8 Finnish road safety facts

- 5.3 million inhabitants
- 5.8 million registered vehicles, including trailers
- 254 traffic-related deaths in 2013 (unconfirmed)
- 4.8 deaths per 100,000 inhabitants

# 3 Traffic education for parents: From before childbirth to age 3

The Finnish Road Safety Council's role is to increase traffic safety and to support safe behavior among all road users. Road safety education starts in maternity clinics, where future parents get information concerning the safe transportation of children in vehicles. It would be impossible for the Finnish Road Safety Council to train all parents directly because of the limited resources available. Thus, the council focuses on providing maternity clinic staff with the necessary information and tools to deliver the information to parents. Normally, future parents are very interested in finding out the best solutions for their future roles as parents and their responsibilities for their children's safety.

## 3.1 Practical procedures

About 50% of the Finnish Road Safety Council employees are located in small offices around the country. There is also a network of part-time trainers (traffic instructors, teachers, and police, etc.) who do training sessions and other work for the Finnish Road Safety Council. The council contacts maternity training clinics and set up training sessions for their staff members.

**A regional employee or part-time trainer from the Finnish Road Safety Council then meets the maternity clinic staff for a training session. The topics are:**

- Characteristics of small children as passengers and in collisions
- Safe transportation of children in cars: Principles and risk factors
- Correct use of child restraints: How to do it right
- Legislation concerning the transportation of children
- Questions and answers

The Finnish Road Safety Council has a variety of materials to be used in the training sessions and also to be given to parents by the maternity clinic staff. The training sessions make use of pictures, videos, slides, and written material. For maternity clinic staff, the Finnish Road Safety Council has made an informative leaflet outlining basic child transportation principles and knowledge. Trainers also use real child restraints to demonstrate correct use.

## 3.2 Evaluation results

### 3.2.1 Training sessions

Each training session is evaluated by the corresponding participants. No summary of the evaluations is done. The common impression is that the participants are usually very pleased with the sessions.

### 3.2.2 Video material

A questionnaire for maternity clinic staff members assesses how satisfied the staff members are with the video material content and usefulness in their work.

- Material content 4.36 (on a scale of 1 to 5)
- Usability of the material 3.69 (on a scale of 1 to 5)

One problem is the limited amounts of time the maternity clinic staff members have to work with, an issue that becomes apparent in the usability score. 97.9% of the answerers recommended the video material for their colleagues.

The information leaflet for parents has not been evaluated for some time, but it is regularly updated when new editions are printed.

### 3.2.3 Links

Video and animation material: <http://www.youtube.com/user/Liikenneturva/videos>

Written material (web): <http://www.liikenneturva.fi/fi/liikenteessa/autoilijat/lapsi-autossa>

## 4 Traffic education for children (through age 7): Project "Child in Traffic"

One of the main goals of the Finnish Road Safety Council is to support basic road safety education in Finland. In addition to official education systems, families also have a central role in road safety education for children. The Finnish Road Safety Council supports families' efforts by providing material and advice to parents.

The "Child in Traffic" material consists of a guidebook for parents and a workbook for children. The content of the parent's guide, co-developed by day care professionals, is based on research on the age-related cognitive abilities of children in learning traffic behavior. The guidebook is divided into a "general" part and age-specific parts. The workbook, meanwhile, applies the ideas from the parent's guidebook and encourages parent-child interaction when discussing traffic behavior.



Figure 1. Pictures of the parent's guidebook and children's workbook

**The content of the parent's guidebook:**

- Basic knowledge of children's abilities to learn traffic behavior
- Clear instructions for fostering basic road safety
- Practical examples of how to behave safely in real traffic
- Age-specific tasks and issues

**The content of the children's workbook:**

- Simple drawing tasks with identification and observation tasks
- Stories from traffic situations
- Activities focusing on the correct use of bicycle helmets
- Characteristics of a safe play areas

Targeting children from the ages of 4 to 7, the material is provided free of charge at compulsory 4th-year health checks. Kindergartens can also order materials free of charge. The material is simple to use and does not require special training.

The material has been evaluated by the health care professionals who deliver it to parents and by parents of small children, as well. On average, respondents gave the content of the brochure a 4.7 on a scale of 1 to 5, showing strong support for the material covered in the brochure; of all respondents, 99% thought the content was excellent or good. 78% of the respondents considered the brochure very useful, and 87% said that they would rather use a paper brochure instead of a digital version. In the free answer section, many respondents were appreciative of the brochure's colorful layout and ease of use.

## 5 Supporting traffic safety education in elementary schools: The "Traffic Went to a Network" project

In principle, traffic safety education in schools follows the official curricula. However, the official primary school education curriculum does not define the specific content to be used or minimum amount of lessons to be given. In practice, the quantity and quality of traffic safety education depends on the motivation and expertise of individual schools and teachers. To support the work done in schools, the Finnish Road Safety Council, EHYT (an association for substance abuse prevention), and the Finnish National Board of Education arrange for supplementary teacher education nationwide. The idea is to provide practical, up-to-date methods and encourage teachers to give traffic safety education. The "Traffic Went to a Network" project began in 2010. Through 2014, the project provided about 850 primary and secondary school teachers with one-day training, including instruction in the theoretical and practical bases of traffic safety education and experimentation with practical and interactive learning methods. These sessions separate primary and secondary school teachers into groups, where participants work on content

tailored to specific age groups. The participation is voluntary and free of charge, with organizers even compensating participants for their travel expenses.

The main effective components of this supplementary teacher education effort are active participation and verification of learning methods. The content and methods are aligned with the specific learning needs of the corresponding pupils.

#### **Examples of topics and learning methods**

- Interactive lessons about attitudes in traffic and the causes of traffic fatalities among children and teens
- Real-life social simulation: "Should I accept a ride with a drunk driver?"
- Revealing social illusions concerning traffic behavior with a reflective questionnaire
- Practical demonstrations of the effectiveness of pedestrian reflectors and bicycle helmets
- Analysis of real-life accident stories

The project is evaluated by feedback questionnaires given just after each session and six months thereafter. The evaluations of the project content, methods, and usability have been highly positive, as has the feedback received six months after each training session. Respondents were asked to evaluate the effectiveness of the training day on a scale of 1 to 5, where 5 was the highest grade. The average score for the effectiveness of the training was 4.5. The respondents were most satisfied with the usability of the methods presented during training, which had an average score of 4.7. The feedback given at the end of each training day was also highly positive. All the respondents (100%) said that they would recommend the one-day training session to their colleagues. The respondents evaluated the content of the day, the methods used, and the usability of the content on a scale of 1 to 5. The responses averaged 4.7 for the whole day, a level that can be considered very high.

## **6 Compulsory education for moped riders**

The popularity of mopeds (a type of very light motorcycle with a maximum speed limited to 45 km/h and a licensing age of 15) has increased rapidly over the last decade. The amount of registered mopeds has tripled, and the amount of personal injuries has followed suit. About two-thirds of all moped injuries happen to young men and one-third to young women. Moped riding is popular mostly among teenagers, who do the majority of their riding for fun. Typical accidents include collisions in intersections and single accidents.

In 2011, Finland introduced a compulsory basic training program based on legislative changes and followed by the implementation of a curriculum.

#### **Key components of training for a two-wheel moped**

- 6 hours of theory
  - Typical rider-related risks and countermeasures
  - Typical risks in traffic and countermeasures
  - Moped operations
  - Rider equipment
  - Riding in intersections (2 hours)
- 3 hours of driving in traffic (one mandatory hour for vehicle handling)
- Theory test
- Handling test

The implementation of the compulsory training has ended up limiting moped riding and producing an even bigger reduction in accidents. The number of new moped licenses issued has declined by about 25%, but personal injuries have fallen by around 30% among young men and 50% among young women.

**Table 1.** Moped licenses issued, moped riders injured, and moped riders killed, 2009-2013:

Year	Moped licenses issued per year	Number of registered mopeds	Number of riders injured per year	Number of riders killed per year
2009	43,019	239,754	1,124	11
2010	40,386	259,889	988	9
2011	39,020	278,856	1,111	10
2012	30,575	293,051	752	7
2013	25,633 **	300,312 *	703	4

\* At the end of September 2013 \*\* At the end of November 2013

## 7 Upgrading licenses for higher-power motorcycles through education

The European Commission has adopted a system under which motorcycle riders can proceed gradually to licenses for higher-powered motorcycles with lowered age limits. For a person who does not go through the step-by-step system, training and test requirements are higher.

**Table 2.** Finnish motorcycle driving license classes are based on the European Commission legislation:

Class	Engine power	Licensing age	Special issues
A1	11 kW	16	Always training and examination
A2	35 kW	18	If a candidate has A1 license, 7 hours of training is required
A	Unlimited	20 or 24*	If a candidate has A2 license, 7 hours training is required

\* Obtaining an A-class driving license at the age of 20 requires the driver to have had a valid A2 license for a minimum of 2 years. If the driver has no previous motorcycle driving license, the regimen consists of 12 hours of theory, 9 hours of driving, and an examination.

\*\* The AM class of mopeds is not included in here because it is considered a separate vehicle type in Finland

This text focuses on the 7 hours of training required for upgrading an A1 driving license to an A2 license and upgrading an A2 driving license to the A class. The basic elements of the training are theory education (2 hours) and driving education (5 hours), but the specific content of the programs differs: upgrading from A1 to A2 concentrates on driving in densely populated areas, whereas upgrading from A2 to A concentrates on motorcycling as a hobby and motorcycle traveling.

### The content of classroom education for upgrading from A1 to A2

- Goals, content, and methods of training
- Countermeasures for typical risks
- Participant experiences
- Moving on to a more powerful motorcycle
- Riding gear
- Active and passive safety
- Anticipatory driving
- Compensating for internal risks and group effects
- Self-control

#### **The content of driving lessons for upgrading from A1 to A2**

- Familiarizing participants with A2-class motorcycles
- Basic maneuvering and motorcycle control
- Evaluation and self-evaluation of riding in varying urban environments
- Interaction with other road users
- Group riding (if possible)
- Speed adaptation and possible problems
- Safe distances and lane riding
- Demonstrations and experiments

#### **The content of classroom education for upgrading from A2 to A**

- Countermeasures for external risks
- Participant experiences
- Moving on to a more powerful motorcycle
- Motorcycling as a hobby and motorcycle traveling
- Trip planning and navigation
- Anticipatory driving
- Compensating for internal risks and group effects
- Self-control

#### **The content of driving lessons for upgrading from A2 to A**

- Familiarizing participants with A-class motorcycle
- Basic maneuvering
- Evaluation and self-evaluation of riding in various urban and rural environments
- Group riding (if possible)
- Demonstrations and experiments
- Trip and route planning
- Speed and distance evaluation and practice
- Riding on winding roads and gravel

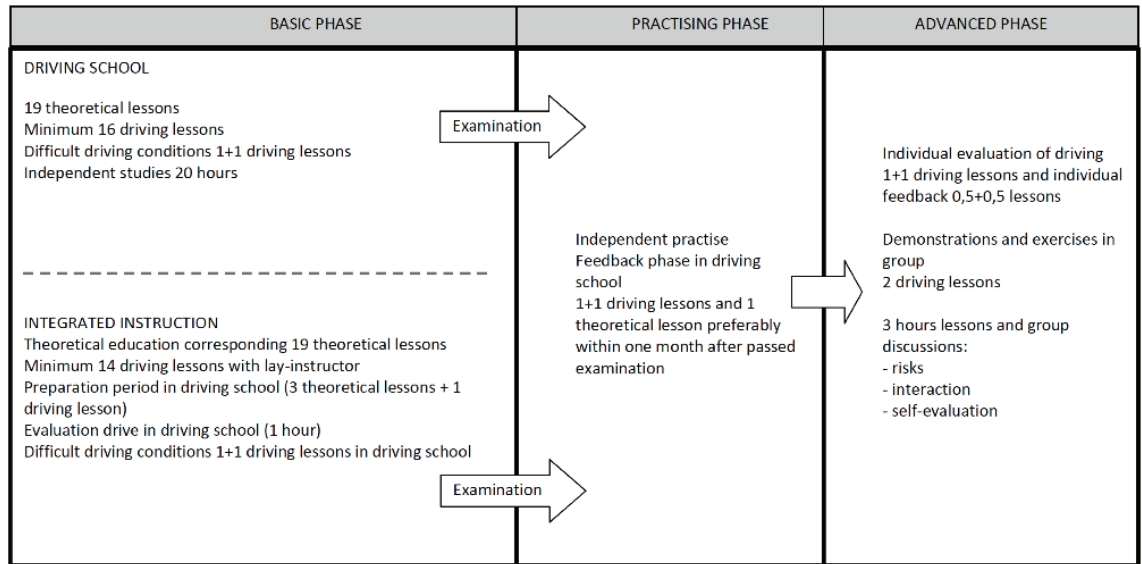
As the new system was implemented on January 19, there are no evaluation results currently available.

## **8 Compulsory driving school instruction for private instructors and learners for driving license category B**

Traditionally, there have been two main ways of getting training for a category B (passenger car/van) driving license: driving school instruction and private instruction. About 85% of all candidates have chosen driving school and 15% private instruction. For a long time, drivers-to-be were not able to combine these two training types. Although combining the two has been permitted in recent years, the practice has not been very popular. The problem with private instruction has been lower pass rates in theoretical and practical tests. Furthermore, future drivers need a large amount of training before passing their tests. Private instruction allows for ample exercise time, which creates a significant advantage, but private instructors do not always know what to teach or how to teach it. There are gaps in the possibilities of mediating knowledge and attitudes in all levels of driving behavior. Driver education should cover all levels of driver behavior, from basic vehicle handling to personal tendencies (Hatakka et al., 2002).



The renewal of the whole driver education system (structure, amount, and methods, etc.) in Finland, which began in 2011 and ended in 2013, integrated private and professional instruction. The professional system remained (with some changes), but the traditional private instruction system came to an end. The new option was called "integrated instruction," an idea that aimed to combine the strengths of both systems: professional, goal-oriented guidance from professionals and the considerable amounts of practice time with private instructors (Basic, 2003). One goal of the renewal was also to encourage drivers who felt that they were in need of professional support to start with private instruction.



**Figure 2.** The structure of Finnish driver education for driving license category B

A driver obtains his or her permanent driving license after completing all three phases. .

### 8.1 The problems with the launch of integrated instruction

The integrated instruction model was implemented on January 19, 2013, together with other renewals of the driver education system. However, the integrated instruction model was criticized for raising the costs of private instruction and creating availability problems. The Automobile and Touring Club of Finland was especially critical toward the renewal and the development of the system. Heated debates filled the media, and the Ministry of Transport received disapproving feedback from citizens. Obviously, the contrast between the new system and the traditional Finnish private instruction construct was too sharp. Before the renewal, after all, private instruction was controlled only by a logbook.

Despite the well-founded research behind the renewal, the Ministry of Transport decided to terminate the integrated instruction system less than one year after its implementation, leaving no time for a proper evaluation. The client feedback collected by driving schools showed fairly good customer satisfaction, however. The majority of customers saw the training as a useful tool, but there was also a very critical minority. In the end, the earlier form of private instruction made its return at the beginning of 2014. The structure of professional instruction remains, but there is also strong discussion on the need for obligatory driver education.

## 9 Särmänä liikenteessä: Stay Sharp in Traffic

The Finnish Defence Forces have a long tradition of campaigning for safety. “Stay Sharp in Traffic” started as a traffic safety campaign uniting the Finnish Defence Forces, the Soldiers’ Home Association, and the Central Organization for Traffic Safety in Finland. The campaign originally included a presentation about a young man who was seriously injured in an alcohol-related road accident while he was on leave. Military canteens were decorated with campaign materials, and some other activities were also arranged in varying forms. Stay Sharp in Traffic activities have become an official part of military recruit training since 2009, counting about 30,000 young men and women among its participants.

The campaign led to the development of a totally new form of training. Recruits attend a group discussion led by their squad corporals. A squad consists typically of 12 men and the corporal, who receives structured, printed instructions for implementing the group session. Traffic safety trainers also give the corporals extra ideas on how to lead discussions. Altogether, discussions include five topics and reflective tasks.

- A discussion, done in pairs, concerning the advantages of using public transportation instead of private cars when traveling on leave and back to the barracks
- A small group discussion to address drowsiness and other risks connected with traffic when returning to barracks after leave
- A personal reflection on how participants would feel if they had to tell their mothers that they were caught drinking and driving the previous night; this is a method known as “anticipated regret” (Van der Pligt, 1996).
- A reflection on risks connected with the situation described in the following story: A group of recruits is getting ready to go on leave. They are in a big hurry and on their way to a liquor shop. The story includes elements on peer pressure and seat belt use. Discussion is done in half squads.
- A personal reflection on personal risks; participants first write down the three most probable risks in personal traffic behavior and then figure out how to cope with those risks. After finding coping strategies, recruits sign the paper and put it in their pocket.

The idea is a simple, structured discussion session with an element of peer education. Finland enforces compulsory military service for all men and allows voluntary military service for women. Corporals, who are in the later phases of their training, likely derive valuable experience from leading their sessions; in fact, leading a Stay Sharp in Traffic discussion is now a part of the corporal management portfolio. Furthermore, without use of corporals, small-group discussions would be impossible because of a lack of trainer resources.

Feedback was collected from a representative sample of 1,000 recruits and 174 corporals. According to the feedback study, the recruits evaluated the functionality of the tasks between 3.2 and 3.8 on a scale of 1 to 5. Corporals evaluated the tasks a little more highly. The recruits’ overall evaluations of the activeness of discussion, ideas, and the role of corporals were very high, varying from 3.7 to 4.1. Respondents rated the program’s potential effects on personal driving behavior at 2.9 and effects on passenger behavior at 3.0 on a scale of 1 to 5. From the free responses on the feedback questionnaire, it was apparent that a vast majority of respondents liked the sessions and reflected on their behavior and risks during the program.

## 10 “The Red Chalk”: A traffic safety campaign for secondary schools

“The Red Chalk,” a traffic safety campaign for secondary schools, aims to increase the students’ understanding of the risks and consequences of accidents and to encourage

safe behavior. The campaign grew out of the idea of one regional rescue department. The Finnish Road Safety Council handled the final planning and evaluations, and local police departments and schools participated in the organization. The campaign has some elements in common with the Safe Drive Stay Alive program in the United Kingdom, but operates on a considerably lower budget.

The campaign consists of a road show and a discussion. Local secondary school students are gathered in a large auditorium for a relatively calm, subdued show with peaceful music. It starts with a dramatized film of a serious accident in which three young people are killed and two are seriously injured. A rescue service worker, paramedic, and/or firefighter give a short live talk on their experiences at accident sites and their feelings about them. Also in the presentation are a short video of an interview with a mother who has lost her child and a video of a young man telling the story of his accident. A police officer also gives a talk on his personal experiences at accident sites. What set this program apart are the post-presentation discussions in school classes. The teachers receive guidelines on various exercises and questions to lead the discussion.

Feedback was collected from students and teachers. The students evaluated the campaign very positively, giving it a 4.2 on a scale of 1 to 5. Furthermore, they rated the potential effects on their behavior as a driver or passenger at around 4 on a scale of 1 to 5. The responses to the open questions on the questionnaire revealed that students had a very strong impression of the presentation, one that led the respondents to reflect on their personal behavior and how rapidly life can change. For them, the possibility of an accident became more concrete. The in-class discussions garnered positive evaluations, as well. Comments on classroom discussion tended to be less emotional. However, some schools had difficulties arranging their classroom discussions. The project group has decided to improve that situation by offering better information and motivating the teachers more effectively.

Considering its remarkable performance and encouraging evaluation results since the pilot campaign in the spring of 2013, the program is now slated for national implementation.

## 11 Traffic safety work in communities and cities

The Finnish Road Safety Council is constantly trying to find new channels to deliver road safety information and training to Finnish citizens. One important channel is community and city personnel who have connections with a variety of people, such as maternity clinic staff, parental advisory staff, kindergarten and day care staff, teachers, youth workers, traffic engineers, police, rescue department staff, and senior care personnel. The safety (or road safety) work done in a city or a community is often scattered, which means that improving the traffic safety work in communities and cities relies heavily on traffic safety boards. The idea is to gather all relevant participants from different areas together.

### **How the Finnish Road Safety Council works to support cities and communities**

- Participates in and drives the creation of local road safety plans
- Participates in traffic safety board meetings
- Provides free training for community/city staff
- Provides materials and gives advice on the use of materials
- Provides traffic safety training for workplaces

### Statistics on traffic safety work in Finnish communities and cities

#### a) Traditional framework

- 158 communities/cities; 49% of the total
- 60% of the Finnish population
- Active traffic safety board and valid traffic safety plan
- Activities ongoing annually
- The Finnish Road Safety Council plays an active role

#### b) Road safety plans under preparation

- 39 communities/cities; 12% of the total
- 17% of the population
- Active traffic safety board
- The Finnish Road Safety Council plays an active role

#### c) The Finnish Road Safety Council working in communities without the Road Safety Committee

- 63 communities/cities; 20% of the total
- 17% of the population
- The Finnish Road Safety Council provides services like training and campaigns

#### d) No activity in the community/city by the Finnish Road Safety Council

- 61 communities/cities; 19% of the total
- 5% of the population

The activities in communities and cities are typically organized in cooperation with many stakeholders.

## 12 Look Shiny: A campaign for promoting the use of pedestrian reflectors

Each year, there are approximately 35 pedestrian fatalities and 550 pedestrian injuries on Finnish roads. A pedestrian's risk of an accident is increased by not wearing a reflector tag in the dark, slippery road conditions, and alcohol consumption. One out of six pedestrian victims suffering physical injuries is a child. People aged 64 and above are also a high-risk group.

The law states that pedestrians have to wear appropriate reflectors when using roads in the dark, but these provisions do not stipulate any specific sanctions. Reflector tags must also be certified by the CE. Despite the legal requirements to use them, only half of all pedestrians—in a densely populated area or a sparsely populated area—wear reflector tags. This 50% reflector tag usage rate and the reflector law are both actually the fruits of long-running efforts that have involved campaigning and education; for example, the Finnish Road Safety Council has been doing reflector campaigning for over 30 years. Annual observations of reflector tag usage have shown a steady increase in usage over the last two decades.

The Finnish Road Safety Council has established a "Look Shiny: Reflector tag day," a special day that falls on the first of October every year. The purpose of the day is to inform more people of why pedestrians need to use reflector tags and how drivers have a hard time seeing pedestrians without reflector tags in dark driving conditions in both city and rural areas. Reflector tag day is supported by an information campaign on reflector usage rates in bigger cities.

In 2013, the Finnish Road Safety Council also organized a special high-class reflector tag event for member organizations and interest groups. The aim was to support the overall in a cooperative framework. Around 160 people in leading positions participated, including people from government ministries, offices, associations, companies, and other stakeholders. Feedback on the reflector tag event was collected via an online questionnaire after the event. The participants were asked to evaluate the event and give open feedback. The results were highly positive, with 86% of the respondents saying that the event was highly successful and 14% calling the event "quite successful." The average evaluation of the event as a whole was 3.6 on a scale of 1 to 4. In the open feedback section, the respondents thanked the sponsors for creating an easy, pleasant atmosphere and a well-organized event. The respondents also indicated that the reflector tag catwalk was very successful and informative.

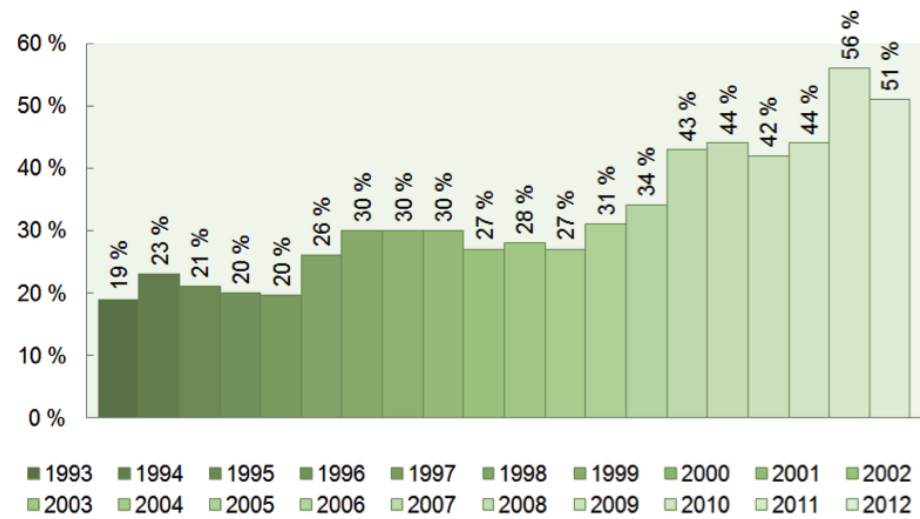


Figure 3. The use of reflector tags in environments with streetlights

### 13 Itella: A case study in voluntary training for work-related driving

Road traffic is the biggest cause of accidental deaths at work in Finland, accounting for approximately half of all work-related fatalities. Traffic-related injuries are also more costly than injuries in other work environments.

The Itella (Finnish mail) project used a discussion group method to improve traffic safety among Finnish postal van drivers. The aim was to reduce crashes and boost fuel economy by promoting better driving behavior.

The discussion method, which has its roots in classical social psychological experiments on behavior modification, has been used in different kinds of experiments aimed at influencing behavior. Studies have shown that group discussions change attitudes more efficiently than lectures or information meetings, for example. The first evidence comes from Kurt Lewin’s wartime experiments. He was able to show that housewives used more non-scarce (non-rationed) meats (kidneys and hearts, etc.) in their cooking after a free group discussion. Traditional lectures, however, had no effect on usage. Later, several studies indicated similar results around the world. In Japan, Misumi reported major improvements in the safety of bus drivers, shipyard employees, and shipyard crane drivers after a group discussion. Swedish research during the 1990s, meanwhile, detailed how a large telephone company divided its drivers into four test groups (the driver training group, the campaign group, the bonus group, and the group discussion group) and one control group

in an experiment designed to reduce accidents. The results indicated that the number of accidents decreased significantly in the driver training and group discussion groups but not in the bonus group or the campaign group. Cost calculations showed that the group discussion method was the most cost-effective approach to reducing accidents.

**13.1 The method**

In the first round of discussions, the postal van drivers talked about various problems that they encountered on the job. The goal of the session was to identify problems—not solutions. The group of trainers, consisting of the company’s human resource manager and professionals in the fields of traffic safety and the behavioral sciences, made notes of the issues that came up. The second round of discussions focused on the problems raised in the first round. The groups were asked to find solutions to the problems, write them down, and submit them to the trainers. The third session was about whether the drivers had any success in improving the situation and getting around possible obstacles.

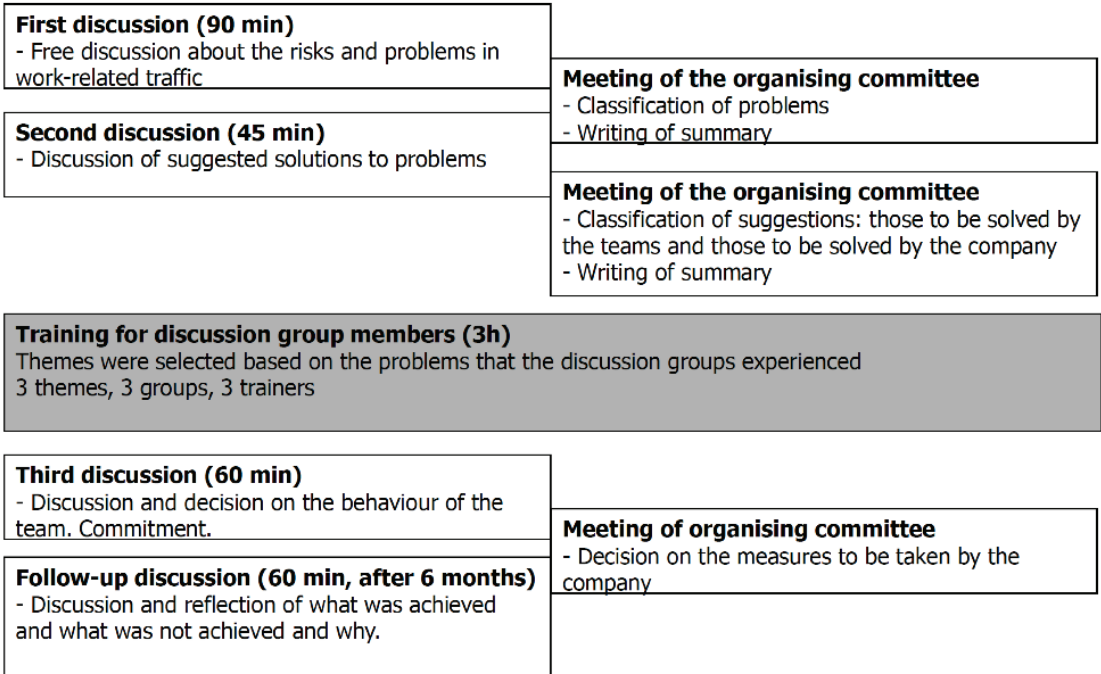


Figure 4. Flow chart of the discussion method

**13.2 Results**

In this training experiment, the discussion group demonstrated a 67% reduction in crashes and a minor reduction in fuel consumption (Salminen, 2013). All types of crashes (even minimal) were included. Some effects outside the target scope were also reported; for example, the experiment also improved the cleaning and servicing of the vehicles as well as crash reporting. In one of the working groups that took a slightly different approach, the project resulted in a marked increase in the number of collisions reported.

**14 Post-licensing voluntary rider education: What can be learned from fatal motorcycle accidents?**

Motorcycling in Nordic countries is mostly a hobby. Motorists drive almost exclusively for fun. This also means that the challenges in educating motorcycle riders are somewhat

different from the issues facing education for car drivers. For motorcyclists, the biggest risks are associated with being unprotected, taking risks, and pursuing other motives such as sensation seeking.

The popularity of motorcycling has increased rapidly in Finland during the last decade. The amount of registered motorcycles has tripled, and the number of fatal accidents has increased from an average of 8 to 16 fatalities per year in the 1990s to 20 to 30 fatalities per year in the 2000s. Motorcycling has also become more popular among middle-aged people, a segment of the population that accounts for a significant share of all accidents. Many motorcycle riders are members of motorcycle clubs, which sometimes take the initiative to conduct voluntary post-licensing training conducted. The Finnish Road Safety Council developed materials and learning methods for motorcycle clubs to help their members understand the biggest accident risks and find coping strategies accordingly.

**Objectives:**

- That participants reflect on their driving and possible associated risks with the help of accident stories
- That the learning situation supports the participants' understanding of the ways in which the choices and the driving behavior of a motorcyclist influence safety on various levels
- That the learning situation broadens the perspective of the driver from looking at actual traffic situations and control of the vehicle to the higher levels of the driver behavior hierarchy (Hatakka et. al., 2003)

#### 14.1 The materials

The development of the materials started with reading carefully through the accident investigation team reports of all 72 of the fatal motorcycle accidents that occurred in Finland from 2004 to 2006.

**Content analysis resulted in five accident types:**

- 1) Single accidents at normal speed (approx. 25%)
- 2) Drunk-riding accidents (loss of control/collision) (approx. 24%)
- 3) Proper operation resulting in a real accident (approx. 22%)
- 4) Extreme deviation from normal traffic (approx. 15%)
- 5) Deviation from normal traffic (e.g. speeding) (approx. 13%)

All the relevant information was collected in a table (to be used later to support the use of the materials), and a more detailed text version was made. One example from each of the five accident groups was chosen for use as a case story that included a description of the nature of the trip, the road conditions, and the motorist. These case stories describe the risk situations and the collisions in detail and describe the personal injuries to show the parts of the body where the respective fatal injuries occurred. After every story, there is a short text on the risk factors present in the corresponding accident and several questions for further reflection. The materials used in the coaching session are available in PDF format from this link: <http://www.liikenneturva.fi/sites/default/files/materialit/Koulutus/mpopas.pdf>

#### 14.2 The coaching session

The coaching session process is carried out at a meeting of the motorcycle club and facilitated by the club trainer.

- 1) The group (from 6 to 20 members in size) familiarizes itself with the cases (in the learning materials) and selects the most interesting one for further work and discussion.
- 2) The participants are divided into small groups or pairs.

- 3) The trainer reads the accident story and shows a sketch of the accident to all participants. The sketch and the story illustrate the course of the accident as seen through the eyes of an outsider.
- 4) Each group/pair gets two questions.  
 "What kind of choices could the driver have made in order to prevent the accident or the fatality?"  
 "What are three things that the driver should have done differently?"  
 The groups and pairs answer the questions on three levels:  
 Long before the accident: Three important things  
 Just before driving and while driving: Three important things  
 In the crisis situation just before the collision: Three important things  
 The participants write each point on an individual sheet of paper and color-code the papers to help group them into answers for the three time points.
- 5) The papers are grouped on the wall to form a timeline, with the "Long before the accident" group on the left and the crisis situation on the right.
- 6) The trainer offers general starting questions:  
 "What does this look like?"  
 "What thoughts does this raise?"  
 These questions prompt conversation.
- 7) The conversation continues with two themes:  
 "How could the club take advantage of these thoughts?"  
 "How could you take advantage of these thoughts in your own lives?"
- 8) Each participant chooses one thing that is significant for him or her (something that they will learn/adopt) and tells the others why.

The materials have been evaluated by users, who were asked to give comments and recommendations to improve it. On a scale of 1 to 5, respondents gave the content a 4.2, the attractiveness of the content a 4.6, and visual appearance a 4.1. The coaching sessions have also scored high marks overall. A group of insurance company executive guests who cited motorcycling as a hobby (N=50) rated the coaching session at 4.3 on a scale of 1 to 5. Half of the respondents gave the session the highest possible grade, and 33% gave it the second-highest grade. The free response answers were filled with words of gratitude praising the well-organized day and informative content. Many respondents have suggested that the real merit of the sessions is that they focus on the real risks of motorcycling phenomena. Participants like the fact that they are not "preached to" but rather free to discuss and determine solutions in a group setting. Motorcycle club trainers also appreciate the fact that they can do coaching sessions virtually anywhere, even during winter, and combine the sessions with other training elements.

## 15 A web-based self-evaluation tool for senior drivers

In the near future, the aging of the Finnish population will have a significant effect on the national society and traffic system. At the end of the 1990s, one of every seven Finns was 65 years old or older; in the year 2025, however, one of every four Finns will have crossed that particular milestone. In rural areas and in the small towns, population numbers are falling and average ages are climbing considerably faster than in growth centers. Despite the driving-related risks often associated with aging, elderly drivers are generally good at adapting their driving to age-related changes when they are aware of them. Thus, a self-evaluation tool for elderly drivers has been created to improve awareness of possible problems and support personal decision making.



The tool is available in print and web-based versions. The self-evaluation test comprises 27 questions concerning driving health, age-related factors, and risk countermeasures in traffic. The users evaluate their vision, physical fitness, cognitive abilities, and driving in various traffic situations. The last 12 questions then focus on the need for further medical checks. The print version has been delivered by the Vehicle Administration Centre to every Finnish citizen needing to renew his or her driving license at the age of 70, although organizational changes have disrupted the delivery process. The Finnish Road Safety Council is trying to find other measures for delivering the paper version.

The web-based version, meanwhile, gives the self-evaluators summaries of their answers and personally tailored instructions for coping with risks in the future. It also includes a tool for gathering feedback from elderly drivers. Most of the results have been very positive, but some users have also given poor evaluations. According to the feedback collected, respondents gave the test an average score of 3.2 on a scale of 1 to 4, with 84% of the respondents indicating that the test helped them evaluate themselves as drivers. Users also suggested that the test is informative. 75% of the respondents thought the written feedback gave them advice on driving safety, and 78% thought the test encouraged them to continue driving.

The web-based evaluation tool is available from this link:

<http://extrat.liikenneturva.fi/kuljettajanitsearviointi/>

## 16 Compulsory additional training for professional drivers: Safety-oriented driving

Under European Union Directive 2003/59/EC and the national law of professional truck and bus driver's professional competence, professional truck and bus drivers are required to take 5 days of training in a 5-year period to maintain their professional licenses. However, the education systems in European countries vary considerably: some countries have only a few different training curricula for supplementary training, but Finland is currently home to 670 different curricula. In addition to programs for heavy vehicle drivers, there is also obligatory supplementary training for taxi drivers, but not for drivers of other vehicles such as vans in commercial traffic.

The Finnish system makes it possible to have training days tailored to the specific needs of the transportation companies involved. All curricula have to be accredited by the Finnish Transport Safety Agency. The only requirement is that at least one day (7 hours) of the five training days every five years has to deal with safety-oriented driving.

In the 1980s, the Finnish Road Safety Council developed a 20-hour anticipatory driving course for the drivers of trucks and buses. Thus, there was already a foundation of content and trainers suitable for safety-oriented driving in place when mandatory supplementary training went into effect. The Finnish Road Safety Council's anticipatory driving program and training for trainers were quite prominent and had an excellent reputation, which made it possible to make safety-oriented training a compulsory part of the mandatory training package.

Nowadays, the Finnish Road Safety Council arranges two special training weeks for future trainers of professional drivers. The participants are typically traffic instructors, supervisors of logistics, military personnel, and commercial training providers. After the training, the participants are allowed to use the Finnish Road Safety Council's materials and the registered trademark of REAK®. Working independently in their own organizations, the trainers provide instruction under the supervision of the Finnish Transport Safety Agency.

To comply with the purpose of mandatory supplementary training, the Finnish Road Safety Council modified the original anticipatory driving course to consist of four 7-hour modules and one module with condensed content. All three days are accepted as parts of the supplementary training program.

**The training modules are:**

- Anticipatory driving: Theory, practical demonstrations, and on-track experiments
- Anticipatory driving: Safety margins in different situations
- Anticipatory driving: Driving in traffic
- Anticipatory driving: The driver's condition

An ongoing research project is examining at the content of the supplementary training modules currently available, but evaluation results have yet to emerge. The training for trainers provided by the Finnish Road Safety Council is evaluated by the participants, who typically rate the training at between 4.2 and 4.7 on a scale of 1 to 5. In addition to the Finnish Road Safety Council's curricula, there is also a variety of other curricula that meet the requirements governing training for safety-oriented driving. These other programs tend to conform closely to the Finnish Road Safety Council's program.

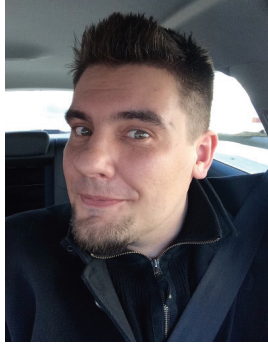
**Facts about supplementary training for professional heavy vehicle drivers in Finland**

- About 340 active training providers
- Training sessions are typically done in groups of under 25 participants
- About 400,000 training days have been completed since September 2008
- Most popular training programs are anticipatory driving (mandatory) and different qualification courses
- Driver health-related courses are gaining popularity

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## Author Profile



### Antero Lammi

Licentiate of education and traffic instructor, Education manager at Finnish Road Safety Council

Born in Pori, Finland, in 1977, Antero Lammi has been working in the field of traffic safety education for 15 years. From 2001 to 2006, he worked at driving schools in the Turku region and studied adult education at the University of Turku. Since obtaining his master's degree, he has served in various capacities, including performing research work at the University of Turku, training traffic instructors, planning and running a traffic safety-related television show, handling fatal accident investigations, and consulting on traffic safety. Since 2008, Lammi has been working as an education manager for the Finnish Road Safety Council. In the summer of 2014, Lammi also became an official Licentiate of Education. His special interests are social phenomena in traffic, learning traffic behavior, and active learning methods.



### Mika Hatakka

PhD, Psychologist

Born in Turku, Finland, in 1960, Mika Hatakka received his PhD in 1998 with a dissertation on young drivers, attitudes, and self-evaluations. He is also a trained work supervisor, organizational supervisor, and process consultant. Hatakka began his career as a behavioral science expert for Finnish road accident investigation teams in 1984 and then moved on to Turku University, where he taught in the department of psychology from 1986 to 2005. His research on traffic psychology included projects and themes ranging from evaluations of road accident trends to the development and evaluation of driver education, evaluation of the Finnish Rail safety culture, and projects on driver education for the European Union (BASIC, Andrea, and Advanced). Hatakka was active in teaching, especially on the topics of social psychology and group dynamics. After leaving his university position, Hatakka served as a development manager for the Finnish Road Safety Council in 2006 and 2007, concentrating mainly on training and education. Since 2008, he has acted as a freelance consultant. His freelance projects have brought him together with the Finnish Road Safety Council, the Finnish Driving School Association, training institutes for traffic instructors, Daimler (on the development of the Mercedes Benz Driving Academy), and the Finnish National Traffic Safety Agency. Hatakka has also been a behavioral science expert for the Finnish Accident Investigation Authority since 2009. Currently, he participates in training programs as an investigation group leader and accident site investigator. Since 2014, Hatakka has been the chairman of the board at Research and Training Humaani Ltd.