

# Road safety 2005

Policy for improving road safety in Finnish National Road Administration



Helsinki 1997

Finnish National  
Road Administration

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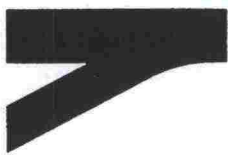
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## ROAD SAFETY 2005; POLICY FOR IMPROVING ROAD SAFETY IN FINNISH NATIONAL ROAD ADMINISTRATION

Road Safety 2005 describes Finnra's operating principles and objectives for road safety improvement. A separate publication will contain a road safety program of measures needed to reach these objectives.

Road Safety 2005 together with other policies provides guidelines for planning Finnra's activity. This document was compiled on the basis of the present organization, but it takes changes in the organization and activities into consideration. In the future, the road administration will be responsible for improving road safety.

The road safety policy has been compiled by a team of experts which has also heard representatives from interest groups. The executive team included representatives from the Ministry of Transport and Communications, the central administration and the regions. The team was chaired by Director Jukka Isotalo.

Finnra's road safety improvement policy was reviewed by the management of Finnra on August 28, 1997, and by the board on September 1, 1997.

Director General

Lasse Weckström

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## **Preface**

Finnra has defined its policy for improving road safety to ensure successful improvement and development of safety in the future, also.

Decisions in principle made by the Council of State in 1993 and 1997 and their related programs of measures to be implemented are among the most important bases for road safety improvement. The 1993 decision in principle requires the number of traffic fatalities to be cut in half from 1989 to 2000. To reach this objective, the Ministry of Transport and Communication has set annual road safety goals for Finnra. The objective for 2005 set by the 1997 decision in principle is to continue reducing the number of accidents resulting in serious injury as rapidly as in the 1990's, and also to reach the safety level of Sweden and Norway. This means the number of fatalities per year would be less than 250 in 2005.

The safety of road traffic is determined by the combined effect of many factors: in addition to road management, these factors include traffic volume trends, integration of land use and traffic, traffic control and enforcement, traffic behavior, improved motor vehicle safety and use of safety equipment and accessories. Besides seeing to road safety on public roads, Finnra also participates in cooperative road safety work, thus influencing road safety development through various different factors.

Road safety 2005 is one partial strategy of road management. It also depicts the road safety viewpoint in relation to other objectives and activities, as nearly all aspects of road management affect road safety. Road management is being developed to better take into consideration the effects different conditions and objectives have on measures that increase the safety of pedestrians, bicyclists and motor vehicle drivers. Safety is also better taken into consideration through quality control.

In the future it will be more and more challenging to achieve good results in road safety improvement, because the least expensive structural measures have already been implemented as a result of tight financing, and not many sites remain where they can be applied. Domestic and international research and development are continuously searching for new, inexpensive measures.

Helsinki, September 2, 1997

Jukka Isotalo  
Director

## GENERAL BASIS FOR ROAD SAFETY IMPROVEMENT

### Introduction

Finnra is responsible for the management of public roads and the development of road traffic conditions as well as related services. By developing road traffic, Finnra contributes to offer a good basis for the welfare of the population and business, and for sustainable utilization of the environment. Road safety is one of the primary objectives of road management, but it is also a broader social objective (Council of State 1993 and 1997 decisions in principle). By nature, road safety work is preventive work performed by the authorities to improve the safety of the public.

To improve road safety it is necessary to influence the location of land use and activities, national and regional transportation systems, traffic surroundings of public roads and travel on public roads. In improving travel safety, it is important to simultaneously use as many methods as possible and to integrate the requirements of road safety with other objectives. Different surroundings place different requirements on road safety and its improvement, and the methods that are available vary. The views of the public and interest groups are taken into consideration when methods are chosen.

### General policy

Road safety now needs to be improved in a new situation. As a result of decades of successful work where, unsafeness on public roads is no longer concentrated in certain "black spots," but accident distribution coincides with traffic volume. Unsafeness and safety need to be viewed more broadly as characteristics related to road types, road surroundings and people's living environments in general.

Different-class roads in different surroundings (road types) differ from each other with respect to safety; this difference can be depicted with the help of accident risk<sup>1</sup> and accident density<sup>2</sup>. Combining the average risk per road type with the accidents that have occurred in a given site gives the most reliable estimate of the accident risk of that site. The distribution of accidents on the road network, or accident density, indicates places where improvement will give the most efficient results.

Based on accident risk and accident density estimates, safety improvement measures should be focused as follows:

- It is advantageous to focus measures requiring investment on sites that result in the most accident savings. Above all, these sites include busy sections of built-up area and main roads - key figures such as density of accidents resulting in personal injury and risk of death can be used. The

1) relationship between accidents and traffic volume

2) relationship between accidents and kilometers of road

choice of implemented measures depends on cost and other road management objectives that are to be supported at the same time.

- Minor measures that improve road safety, such as traffic control methods, are applicable in reducing accident risk everywhere on the road network. Speed control is being developed in built-up areas and villages according to inhabitation. These measures are also used to solve road safety problems while waiting for larger investments.
- Factors that clearly are dangerous are eliminated quickly.

Because only a very small part of the road network is affected by yearly investments, maintenance measures, and winter maintenance measures in particular, are significant from the standpoint of safety. Likewise, Finnra strives to promote safe driving habits with the help of new traffic management methods, such as variable traffic control systems and up-to-date traffic information.

### **Policy on built-up area roads**

A safe living environment is the basis for road safety objectives in built-up areas. This includes improving the status of pedestrian and bicycle traffic, in particular. This is reached by reducing the need for car traffic, reducing driving speeds and improving pedestrian and bicycle traffic arrangements.

### **Policy on main roads**

In places where existing speed limits are to be preserved (80 - 100 - 120 km/h speed limits outside intersections), main road safety can be improved using structural methods, such as softening the road surroundings, private road arrangements, pedestrian and bicycle traffic arrangements and intersection improvements. Similar structural measures should also be used on other busy roads. More efficient winter maintenance and traffic management on main roads are also being looked into. Cooperation with other transportation and road safety agencies is needed to reduce head-on collisions, in particular.

### **Policy on the lower-class road network**

Speed limits on roads governed by the general 80 km/h speed limit are being developed to take roadside inhabitation into consideration better. Road predictability is also important, and it can be improved by means of traffic signs and visual methods. Structural measures that improve road safety can be advantageously implemented in conjunction with other activity, such as road structure improvement.

### **Policy follow-up**

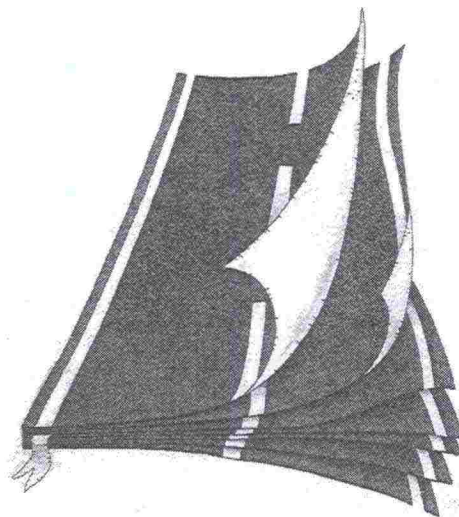
Road safety improvement measures and their effects are monitored on both national and local levels.



## ***I FINNRA'S PRINCIPLES OF OPERATION FOR IMPROVING ROAD SAFETY***

Finnra has a social responsibility to promote road safety as part of a national cooperative effort. Finnra is committed to the following principles of operation with the objective of improving and developing road safety.

- 1 Finnra shall actively work to improve the safety of national, regional and local transportation systems.
- 2 Finnra shall commit itself to the goals of road safety improvement defined by society, using available resources in the best possible manner to realize them.-
- 3 Finnra shall promote the safety of travel and transport in all conditions on public roads in both urban and sparsely populated areas.
- 4 Finnra shall search for and implement measures that will decrease traffic fatalities and other serious injuries, in particular, in cooperation with other parties involved in traffic and road safety work.
- 5 In developing its organization and operation, Finnra shall improve the public's possibility of participating and ensure the quality of road safety in the product purchasing and production operations of road management.
- 6 Finnra shall keep its road safety know-how up to date and publicize road safety information, both independently and in cooperation with other agencies.



## ***II FINNRA'S ROAD SAFETY GOALS***

The general principles of operation that direct the improvement and development of road safety have been defined more specifically by assigning one or more goals related to each principle for the year 2005.

The objective is to develop operation, but also to ensure continued utilization of methods of operation that have proved successful.

It is important identify the demands of road safety and link them to Finnra's other goals. This happens during road management and project planning. Ultimately, only by adapting road district strategies and programs to local problems is it possible to determine which road safety improvement measures result in a safer road network. The main methods of reaching the goals set for 2005 are defined in a separate road safety program.

The goals related to the principles of operation concerning road safety improvement are presented on the following pages.

## 1 SAFETY OF THE TRANSPORTATION SYSTEM

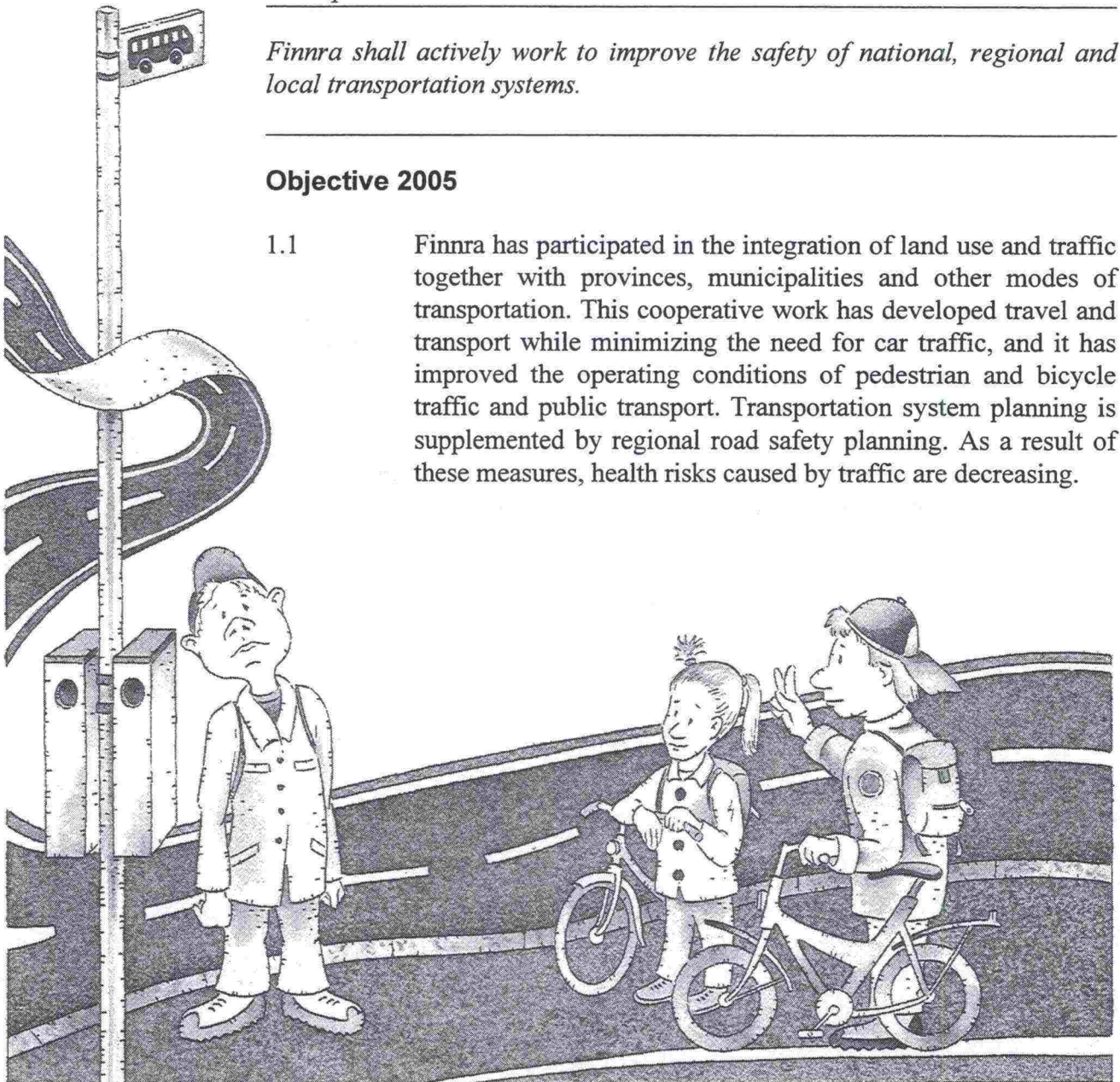
Transportation system planning examines the various transportation networks and the links between them, as well as the integration of land use and traffic. This way the whole transportation system - including the public roads - is examined as an entirety. By nature, transportation system planning is integrative planning among authorities in different sectors, and it realizes democratic decisions and international agreements. Planning requires extensive cooperation between various authorities and their support of common development goals, such as promoting road safety through land use planning. Finnra is also responsible for planning and related cooperative work - different agencies are responsible for realization.

### *Principle 1*

*Finnra shall actively work to improve the safety of national, regional and local transportation systems.*

### **Objective 2005**

- 1.1 Finnra has participated in the integration of land use and traffic together with provinces, municipalities and other modes of transportation. This cooperative work has developed travel and transport while minimizing the need for car traffic, and it has improved the operating conditions of pedestrian and bicycle traffic and public transport. Transportation system planning is supplemented by regional road safety planning. As a result of these measures, health risks caused by traffic are decreasing.



## 2 COMMITMENT TO THE ROAD SAFETY OBJECTIVE

Society's endeavor to improve road safety is apparent in a Council of State decision in principle concerning road road safety improvement. The Ministry of Transport and Communications sets annual safety goals for Finnra in conjunction with the state budget. Economical and efficient realization of these goals requires an understanding of regional differences and the ability to fit together the various demands placed on road management.

### *Principle 2*

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*Finnra shall commit itself to the goals of road safety improvement defined by society, using available resources in the best possible manner to realize them.*

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### **Objectives 2005**

- 2.1 Finnra has included the safety goals set by the Ministry of Transport and Communications and its own road safety strategies in national road management programs and operational control.
- 2.2 The road districts have compiled regional strategies for solving safety problems and included the strategies in regional road management programs.
- 2.3 The requirements of road safety are known. Conflicts between road safety and other goals are handled using methods that suit different situations and conditions.

### 3 QUALITY OF SAFETY OF PUBLIC ROADS

Finnra provides road users with roads and adjoining areas that support safe traffic behavior. This is done by classifying the road network, providing levels of service suitable for traffic on roads in different classes, providing uniform levels of quality and safety along sections of roadway, and maintaining the quality of individual traffic and structural solutions. Quality of road safety also includes preventing errors made by road users and minimizing the consequences of errors. The "error tolerance" of roads in accident situations can be increased by softening and shaping the surroundings.

#### *Principle 3*

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*Finnra shall promote the safety of travel and transport in all conditions on public roads in both urban and sparsely populated areas.*

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#### **Objectives for roads in built-up areas 2005**

- 3.1 Finnra has worked in cooperation with municipalities to maintain and improve a road network hierarchy in built-up areas that is good from the standpoint of the transportation system. Speed limits have been adjusted to accommodate built-up areas.
- 3.2 Finnra has collaborated with municipalities in promoting built-up areas with safe, healthy milieus for inhabitants and vulnerable road users.

#### **Objectives for roads in sparsely populated areas 2005**

- 3.3 The road network, its level of maintenance and speed limits together allow for traffic that is safe, functional and environmentally aware. Emphasis has been placed on keeping the risk for personal injury accidents low, especially on the main road network.
- 3.4 Networks which are as safe and continuous as possible have been set aside for vulnerable road users.

## 4 LONG-TERM WORK TO PREVENT THE MOST SERIOUS ACCIDENTS

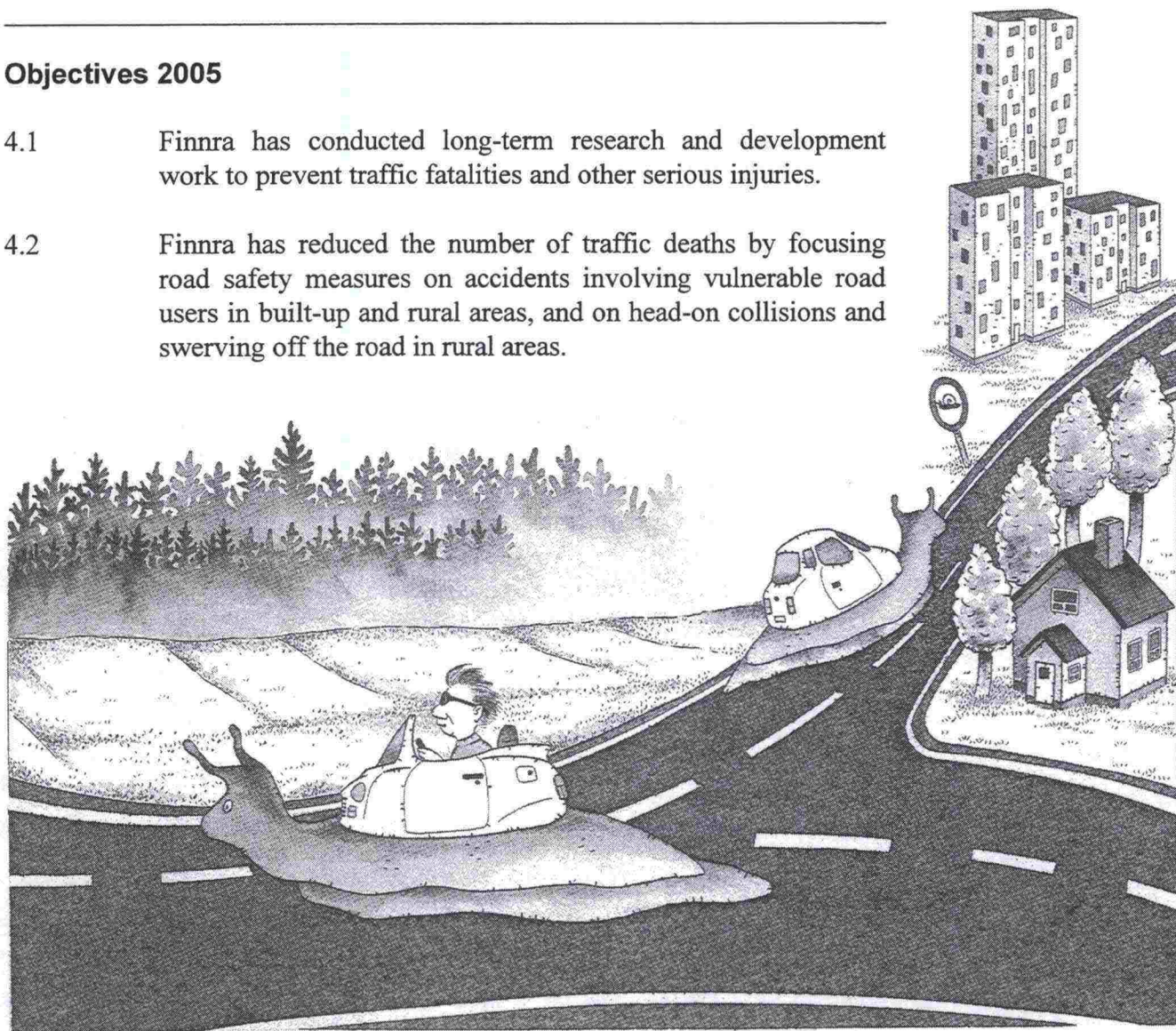
Special attention has been focused on the most serious accidents, as well as on the development and implementation of methods for preventing them. Because reliable information is not presently available on serious injuries on public roads, attention will initially be focused on traffic fatalities. Three quarters of traffic deaths result from accidents involving pedestrians and bicycles in built-up and rural areas, and from head-on collisions and swerving off the road in rural areas.

### *Principle 4*

*Finnra shall search for and implement measures that will decrease traffic fatalities and other serious injuries, in particular, in cooperation with other parties involved in traffic and road safety work.*

### Objectives 2005

- 4.1 Finnra has conducted long-term research and development work to prevent traffic fatalities and other serious injuries.
- 4.2 Finnra has reduced the number of traffic deaths by focusing road safety measures on accidents involving vulnerable road users in built-up and rural areas, and on head-on collisions and swerving off the road in rural areas.



## 5 PUBLIC PARTICIPATION AND ROAD MANAGEMENT QUALITY CONTROL

Road management and production need to arrange opportunities where the public is able to participate and provide channels for feedback. Road safety requirements related to road management products and their producers need to be clarified and it must be verified that the requirements are taken into consideration when the products are purchased.

### *Principle 5*

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*In developing its organization and operation, Finnra shall improve the public's possibility of participating and ensure the quality of road safety in the product purchasing and production operations of road management.*

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### **Objectives 2005**

- 5.1 Finnra has functional, established procedures for detecting road safety problems and for responding to feedback from the public.
- 5.2 Purchasing has defined road safety requirements for products, and the requirements are followed. Planning, construction and maintenance quality control takes road safety into consideration. Producers must incorporate road safety into the quality systems of their products.

## 6 ROAD SAFETY AWARENESS

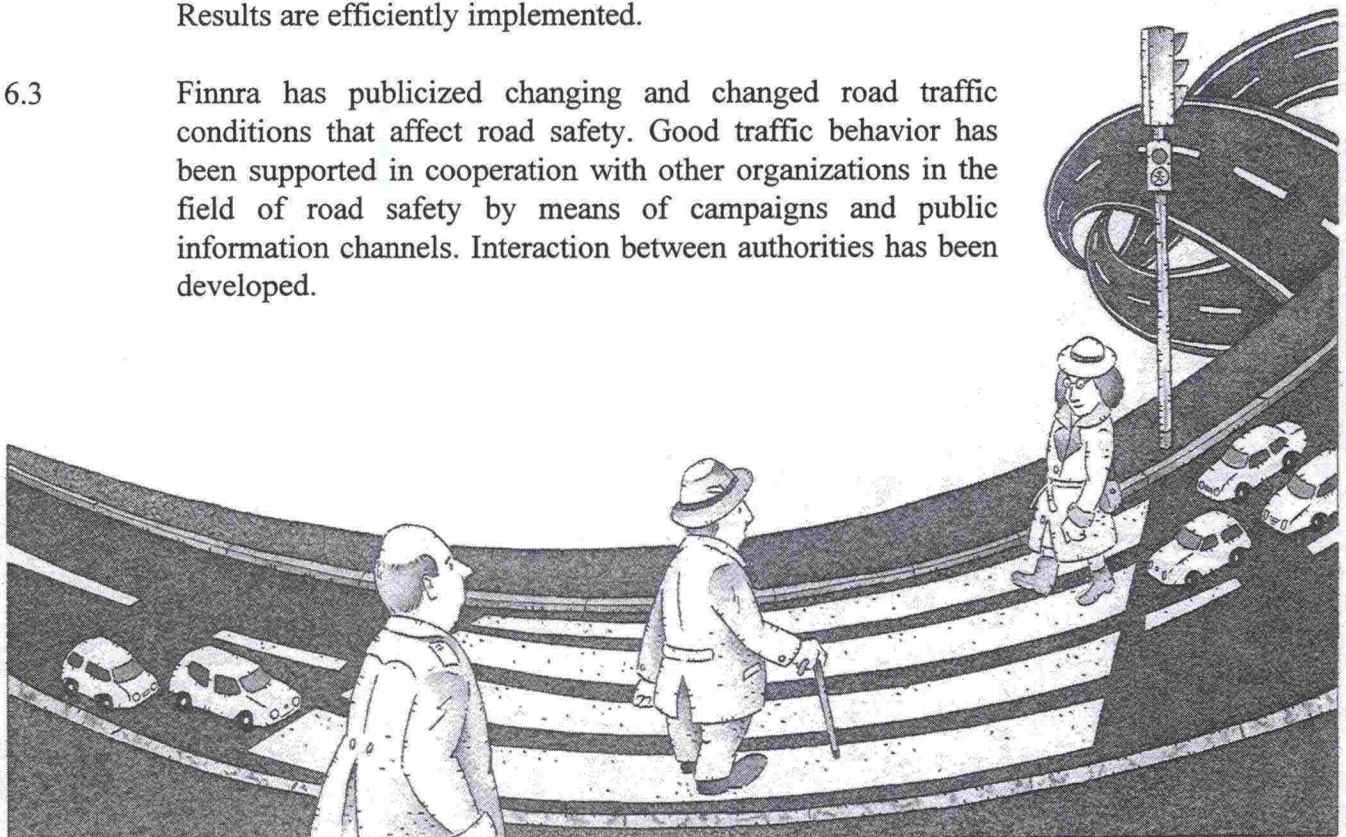
Research and development activity continuously introduces new road safety information which should be implemented, because road management measures and the spread of related information influence the mobility and traffic behavior of road users.

### *Principle 6*

*Finnra shall keep its road safety know-how up to date and publicize road safety information, both independently and in cooperation with other agencies.*

### Objectives 2005

- 6.1 Finnra has provided its employees training in road safety and supplied them with sufficient, up-to-date road safety information. Employees are responsible for developing their road safety know-how and for incorporating road safety in their own work.
- 6.2 Finnra has focused its research and development of road safety on the main safety problems and development needs, and has made use of current domestic and foreign developments. Results are efficiently implemented.
- 6.3 Finnra has publicized changing and changed road traffic conditions that affect road safety. Good traffic behavior has been supported in cooperation with other organizations in the field of road safety by means of campaigns and public information channels. Interaction between authorities has been developed.





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