



**Annual Report 2008
Road Safety Cameras**

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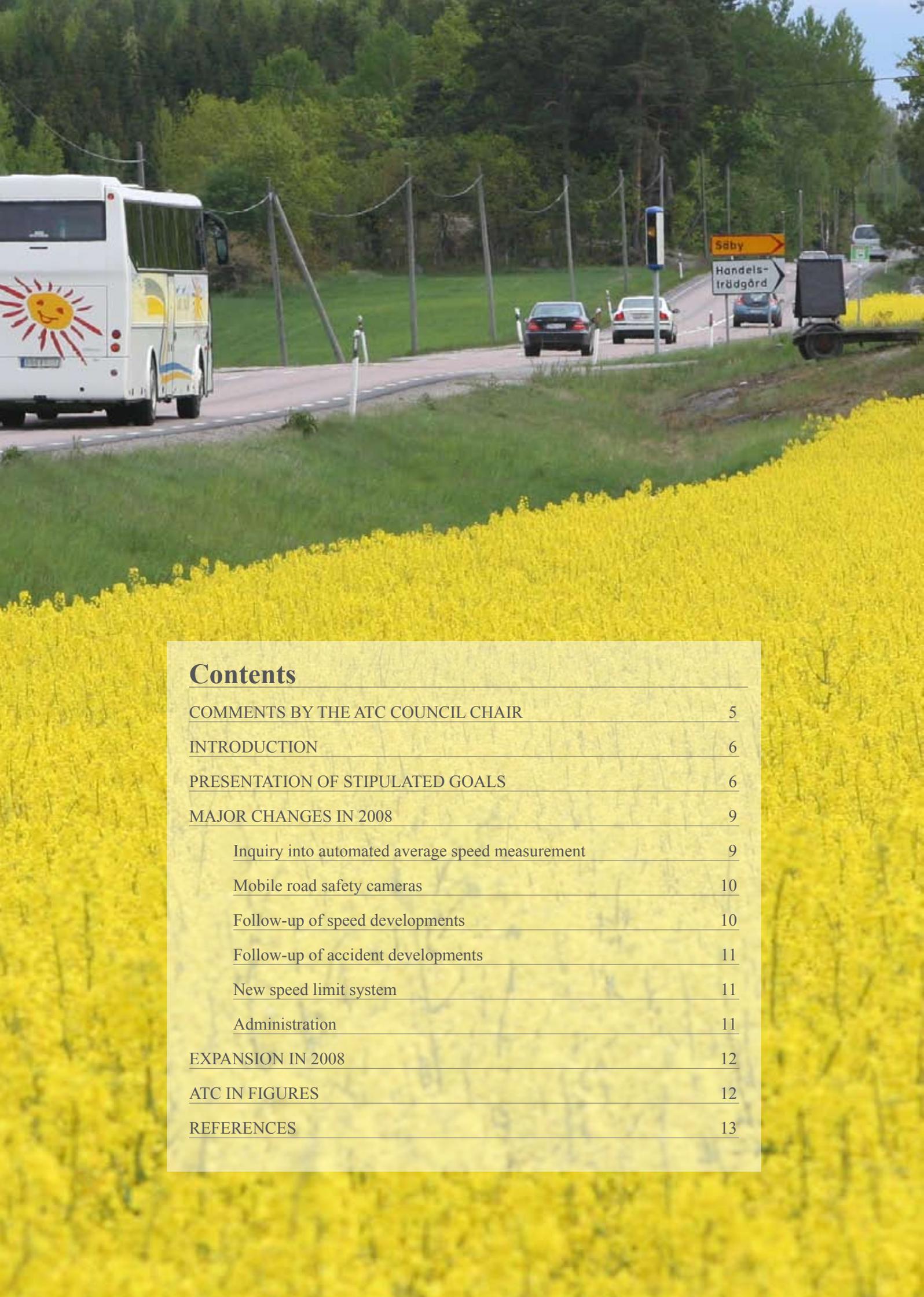
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Contents

COMMENTS BY THE ATC COUNCIL CHAIR	5
INTRODUCTION	6
PRESENTATION OF STIPULATED GOALS	6
MAJOR CHANGES IN 2008	9
<u>Inquiry into automated average speed measurement</u>	9
<u>Mobile road safety cameras</u>	10
<u>Follow-up of speed developments</u>	10
<u>Follow-up of accident developments</u>	11
<u>New speed limit system</u>	11
<u>Administration</u>	11
EXPANSION IN 2008	12
ATC IN FIGURES	12
REFERENCES	13

Automatic Traffic Control (ATC) is a system for automated speed monitoring using road safety cameras. The aim of road safety cameras is to reduce the average speed on our most hazardous stretches of road and as a result to reduce the number of fatalities and serious injuries. The system using road safety cameras, the ATC system, is managed by the Swedish Road Administration (SRA) and the Swedish National Police Board.

A joint cooperative body exists between the SRA and National Police Board for the road safety camera system, called the ATC Council. The Council is to promote the efficient management of the ATC system and to have an advisory role towards each respective authority.

Comments by the ATC Council chair

The year has been characterised by many successful road safety measures, which clearly show positive effects with significantly fewer people killed or seriously injured in traffic.

Work at the ATC Council has focused on ensuring that the system for speed surveillance using road safety cameras is utilised and developed in the best possible way to increase road safety.

During the year the Council has examined several common issues and decisions about the development, expansion and follow-up of the efficacy of road safety cameras.

Some focus areas during the year

- The joint preliminary study to highlight the situation for automated average speed measurement of vehicles on the road (average speed ATC) as a possible further development of the existing ATC system (single point ATC).
- An inquiry into opportunities for a further expansion of fixed road safety cameras. The inquiry found that the system can be expanded by up to 100 new road safety cameras in 2009.
- Monitoring the impact on speeds and accidents on roads equipped with road safety cameras. This follow-up found that the system has had a positive impact. Average speeds have fallen and fewer road users exceed the speed limit.

Work flow has increased compared with 2007 and has during the year been on a level with the planned capacity of 230 000 cases per year. A total 210 000 cases were received by the National Police Board's investigation unit in 2008.

The introduction of a new speed limit system on the national road network meant access to cameras for activation on this road network was slightly lower during short periods in the autumn. Cameras on the remaining road network could however be activated to a greater extent.

Road safety cameras have during the year received significant attention in the press, media and among road users. Issues concerning accessibility, case statistics, and the impact of road safety cameras have been other important items on the agenda.

During the year we have also improved reporting on our websites, www.polisen.se and www.vv.se.

Last, but not least, the annual SRA road safety survey found that road users still have a high degree of confidence in road safety cameras.

Lena Tysk
Chair of the ATC Council

Introduction

Automatic Traffic Control (ATC) is a system for automated speed monitoring using road safety cameras. The cameras are fitted on stretches of road and at locations where there is a substantial risk of accidents and where speeds prior to the erection of road safety cameras were high. The system using road safety cameras, the ATC system, is managed by the SRA and the Swedish National Police Board.

The common and overall goal of road safety cameras is to reduce the average speed on our most hazardous stretches of road and as a result to reduce the number of fatalities and serious injuries.

A joint cooperative body exists between the SRA and National Police Board for the road safety camera system, called the ATC Council. The Council is to promote the efficient management of the ATC system and to have an advisory role towards each respective authority.

The ATC Council studies various issues linked to the ATC system, in areas where it is important that both authorities act together.

Areas that are normally discussed by the ATC Council include

- Follow-up/accessibility to road safety cameras and related systems
- Common technical management issues
- Expansion
- Development
- Information

The following representatives were members of the ATC Council in 2008

Lena Tysk	Chair	National Police Board
Mattias Andersson		National Police Board
Anders Drugge		National Police Board
Sven-Olov Hansson		National Police Board
Åsa Ersson		SRA, from August 2008
Håkan Gelin		SRA
Claes Tingvall		SRA
Kenneth Wåhlberg		SRA, until August 2008
Ulf Carlsson	Co-opted	External consultant

Presentation of stipulated goals

The common and overall goal for the system with road safety cameras in Sweden is to reduce the average speed on our most hazardous stretches of road and as a result to reduce the number of fatalities and serious injuries.

The ATC Council has for 2008 set common goals for the ATC system, see page 6-8. Goal achievement is reported for each separate goal.

GOAL 1 – Reduction in average speed

The number of fatalities and serious injuries is to fall on roads equipped with road safety cameras compared with equivalent roads without cameras through a reduction in average speed by at least 5 per cent on stretches of road with road safety cameras.

Goal achievement

Pre and post studies on a selection of roads show that average speeds have fallen by about 4.3 per cent. Material in the study includes 39 stretches of road.

The goal is considered not to have been achieved.¹

GOAL 2 – The proportion of vehicles exceeding the reporting speed limit

The proportion of vehicles that exceed the applicable reporting speed limit (the highest permitted speed + 5 km/h) for speeding at road safety cameras is not to exceed the percentage levels stipulated below at the following speed limits.

Permitted speed km/h	Percentage levels
50	5
70	3
90 and above	1

Goal achievement

In 2008 the proportion of vehicles that have exceeded the applicable reporting speed limit (the highest permitted speed + 5 km/h) has been:

Permitted speed km/h	Percentage levels
50	5
70	4
90 and above	1

The goal is considered to have been partially achieved as the proportion of vehicles that exceeded applicable reporting speed limits at 50 km/h and 90 km/h achieved the goal, while the proportion of vehicles exceeded the reporting speed limit at 70 km/h exceeded the goal.²

GOAL 3 – Public confidence in the ATC system

To maintain or increase public confidence in the ATC system through information and a reliable application of the system.

Goal achievement

Between 2007 and 2008 public confidence in road safety cameras increased from 71.6 per cent positive in 2007 to 73.4 per cent positive in 2008.

The goal is considered to have been achieved.³

Note 1 SRA reporting of speed changes, SRA Publication 2009:9

Note 2 Report from the SRA database for road data from ATC stations

Note 3 Results from the 2007 Road Safety Survey, SRA Publication 2007:95
Results from the 2008 Road Safety Survey, SRA Publication 2008:114

GOAL 4A – Accessibility for activating stretches of road with road safety cameras in both directions is to amount to at least 90 per cent.

Goal achievement

In 2008 at least 90 per cent of stretches of road have been available for activation.

The goal is considered to have been achieved.⁴

GOAL 4B – Accessibility for activating road safety cameras is to amount to at least 90 per cent.

Goal achievement

In 2008 the proportion of road safety cameras that have been available for activation has varied between 70 and 80 per cent. The main reason the goal has not been achieved has been the introduction of a new speed limit system which during the final quarter 2008 has impacted both the marking and legal basis of about 40 per cent of all road safety cameras.

The goal is considered not to have been achieved.⁵

To achieve the goal, changes are to be implemented to working methods in the administrative and service organisations.

GOAL 5 – Investigative capacity – Cases received

The number of cases received by the Police investigation unit is to be at least 230 000 cases during the year.

Goal achievement

A total 210 000 cases were received by the Police investigation unit in 2008. During the latter part of 2008 a new speed limit system was introduced in Sweden. This has influenced the number of received cases. During the period October to November up to 40 per cent of cameras in Sweden were impacted by changes linked to the new speed limit system. This poorer accessibility to cameras available for activation led to a reduction in the inflow of cases during the period.

The goal is considered not to have been achieved.

GOAL 6 – The average investigation duration for a case is not to exceed 20 minutes.

Goal achievement

The average investigation duration for a case was about 23 minutes in 2008.

Average investigation duration has during the year fallen from 30 minutes to 23 minutes. The processing time is primarily influenced by long response times in system support and by manual factors in the investigative process.

The goal is considered not to have been achieved.

For the goal to be achieved in the future computer support in investigative activities must be further improved and greater efficiency introduced in processing cases.

Note 4 and 5 Accessibility has been measured using regular communication control.

GOAL 7 – Proportion of prosecuted cases

The proportion of cases where a preliminary investigation and prosecution is instigated or the case is referred to a prosecutor is to amount to at least 50 per cent of the total number of cases received. This means that 50 per cent of all registered infringements are to lead to fines for the driver of the vehicle in question.

Goal achievement

In 2008 the central investigation unit at the National Police Board issued about 60 000 fines for speeding violations. This is equivalent to about 30 per cent of the number of cases received.

Some reasons that the proportion of cases resulting in prosecution is lower than the goal were that the identity of the driver could not be established after an inquiry into the infringement and that photographs have not been sufficiently detailed to start a preliminary investigation.

The goal is considered not to have been achieved.

An analysis is to be carried out into the technical and legal situation for the system to study if changes to these conditions could lead to a higher proportion of prosecutions for received cases.

GOAL A – Other important societal goals

To contribute to other important societal goals within the framework of the overall objective.

Goal achievement

By reducing average speeds on the road network using road safety cameras, the proportion of carbon dioxide emissions is lower on this road network compared with other road networks.

The 868 road safety cameras that have been erected before 2008 are estimated to have reduced carbon dioxide emissions in 2008 by about 23 100 tonnes per year.

The 100 cameras erected during 2008 are estimated to have reduced carbon dioxide emissions by a further 2 300 tonnes per year.

The goal is considered to have been achieved.⁶

Major events in 2008

Inquiry into automated average speed measurement

The SRA and National Police Board have carried out a joint preliminary study to highlight conditions for automated average speed measurement of vehicles on the road (average speed ATC) as a possible development of the existing ATC system (single point ATC).

The preliminary investigation has studied opportunities, risks, assessed costs and the impact of a possible implementation in Sweden and also studied solutions and collected experiences from other countries that use average speed ATC.

The preliminary study has recommended not to continue at the current time with average speed ATC in Sweden, mainly because of practical obstacles and because the estimated cost and expected benefits are not justifiable. The SRA and National Police Board are therefore, based on the current situation, not planning to develop the road safety camera system in this direction.

The Council has recommended the SRA and National Police Board to review and further develop the use and technology in the current mobile and fixed system of road safety cameras.

Note 6 The SRA's general model for estimating carbon dioxide emissions has been used.



Mobile road safety cameras

Fifteen mobile road safety cameras were delivered to the police authorities during the first half 2008. Eighteen officers have received the necessary training to operate the mobile cameras.

Nineteen police authorities are working with mobile cameras, the new trailers and existing buses. These mobile cameras can be used at location where it has previously been very difficult safely to monitor traffic at high speed.

Some 8 per cent (17 479 cases) of all received cases to the central investigation unit were from mobile road safety cameras.

Follow-up of speed developments

Vectura AB (former SRA Consulting Services) has on behalf of the SRA conducted a follow-up study of speed developments on roads equipped with road safety cameras. The study has used pre and post measurements of speeds on stretches of road that have been fitted with road safety cameras.

The results show that:

- Average speed fell near cameras by about 12 per cent on stretches of road with speed limits of 50 km/h and 70 km/h. On 90 km/h roads speeds dropped by about 7 per cent.
- The proportion of speeding violations at cameras fell by about 55 per cent on stretches of road with a 50 km/h speed limit. On roads with 70 km/h and 90 km/h, the proportion of violations fell by more than 70 per cent.

Follow-up of accident developments

The Swedish National Road and Transport Research Institute (VTI) has on behalf of the SRA carried out a follow-up study of accident developments on roads equipped with road safety cameras. This was conducted as a pre-and-post study and as a with-and-without study. The results were the same for both methods. The studies were based on 1 800 kilometres of road.

The results show that:

- The number of fatalities fell by 25-30 per cent, equivalent to 13 people per year.
- The total number of fatalities and serious injuries (FSI) fell by 20 per cent, equivalent to 48 people per year.

With the expansion of the road safety camera system, the potential by year-end 2008 is estimated at 20 fewer road fatalities per year and 70 fewer fatalities and serious injuries per year.



New speed limit system

During 2008 the SRA has introduced a new speed limit system that means previous speed limits have been supplemented with 40, 60, 80, 100 and 120 km/h.

The implementation of this system has also meant that up to 40 per cent of road safety cameras have not been fully activated. During autumn 2008 changes have taken place in road markings and legal conditions. This has to some extent influenced the number of cases received by the Police investigation unit.

The introduction of new speed limits has impacted statistics retrieved from the database where information is stored about the number of passing vehicles and their speeds.

Administration

The system for cases has in 2008 been further developed with improved functionality for processing cases that are not for investigation, system-generated queries and in automated processing of cases in decisions to issue, finalise and archive fines.

Routines and working methods have been developed within the authorities and between the National Police Board's investigation unit and the SRA's ATC administration.

Quality assurance activities have been implemented during the year. These have included additional improvements to functions in the SRA computer system for monitoring time synchronisation between real time and stated time in cases during the transfer between different systems.

During the year, new regulations for signposting road safety cameras have been applied to new stretches of road with cameras. This means there is an information road sign with a camera symbol before each new road safety camera. The SRA is planning to gradually change the road signs in a similar way for existing cameras. This change is to be introduced in accordance with VVFS 2007:305.



Example of a road sign for road safety cameras on new stretches of road in 2008

The SRA has during the year transferred to a new reference system for registering coordinates, SWEREF 99, for the geographical position of cameras.

The transfer of driving licence images, which has previously taken place from the SRA Traffic Registry, is from 1 January 2009 to take place from the newly formed Swedish Transport Agency.

The Police investigation unit in Kiruna has employed ten investigators and four preliminary investigation managers. The unit currently comprises 66 people.

Expansion in 2008

During 2008, 22 stretches of road and 109 road safety cameras have been added to the system.

Stretches of road	Type of camera	Number of road safety cameras	
		1 January 08	31 December 08
Fixed stretches/projects	New type	142	164
Fixed measurement points	New type	868	977
Fixed stretches/projects	Old type	4	2
Fixed measurement points	Old type	25	18
Mobile road safety cameras	Buses	11	11
Mobile road safety cameras	Trailers – new type	0	15
Mobile road safety cameras	Trailers – old type	5	0

ATC in figures

Cases received in 2008 ⁷	210 000 cases
Preliminary investigation started	87 000 cases
Preliminary investigation not started	115 000 cases
Cases closed	25 000 cases
Fines issued ⁸	62 500 fines
Reported to prosecutor	5 600 cases
Cases under investigation	28 000 cases
Average time spent on reported cases	32 days/case
Inflow capacity for cases at the investigation unit	19 000 cases/month

References

- I. Results from the SRA Road Safety Survey 2008, SRA Publication 2008:114.
- II. Impact of automated road safety control on speed and road safety, SRA Publication 2009:9.
- III. Preliminary study report on the conditions for automated average speed measurement of vehicles on the road (average speed ATC).
- IV. SRA regulations for road signs and other devices, VVFS 2007:305.

Note 7 The number of cases has been rounded to nearest 100.

Note 8 The number of cases that have resulted in the issue of fines is lower than the number of received cases. This is partly as it has not been possible to identify the driver after an inquiry into the violation and that photographs have not been sufficiently detailed to start a preliminary investigation.

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