

When winning counts....

*Traffic law enforcement and road safety targets for the year 2000*

D-96-9

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Leidschendam, 1996

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## Report documentation

Number: D-96-9  
Title: When winning counts...  
Subtitle: Traffic law enforcement and road safety targets for the year 2000  
Author(s): Fred Wegman & Charles Goldenbeld  
Client: This research was funded by the Dutch Ministry of Transport and Public Works .

Keywords: Enforcement (law), police, policy, traffic, safety, decision process, long term, Netherlands.

Contents of the project: This paper tries to demonstrate that traffic law enforcement must play a key role in reaching the government's road safety targets for the year 2000, and that it can do so. SWOV is therefore arguing in favour of a political discussion on the subject, to set goals, to agree on what resources to use and to decide what to do if these resources should prove inadequate.

Number of pages: 21 pp.  
Price: Dfl. 17,50  
Published by: SWOV, Leidschendam, 1996

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## Summary

The Dutch government has set the following quantitative targets for road safety: a 25 per cent reduction in the number of road deaths and injuries by the year 2000 (compared with 1985 levels). In order to bring these road safety targets within reach in the short term, it is argued that large-scale police surveillance is essential.

A review of the current state of affairs with regard to police surveillance in the Netherlands indicates that a nation-wide, structured approach has not been realised, or even in some ways been approached. Some of the difficulties in setting up such an approach are discussed.

One condition for a successful approach is the availability of knowledge concerning the operating process and the effects of police surveillance. It is argued that this knowledge is available, and that it is a matter of translating this knowledge into the specific Dutch context. Taking up this challenge, SWOV sketches the outlines of a proposal for a nationwide program of police surveillance that is estimated to save 180 lives a year.



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## 1. Introduction

The Dutch government has set the following quantitative targets for road safety: a 25 per cent reduction in the number of road deaths and injuries by the year 2000 (compared with 1985 levels) and a further reduction of 50 per cent and 40 per cent respectively by the year 2010 (compared with 1986 levels). Various indicators suggest that road safety in The Netherlands is not showing any significant signs of improvement. According to the SWOV Institute for Road Safety Research, it is now no longer certain that the aforesaid targets will be met (SWOV, 1995). Since 1991, there has been almost no reduction in the annual number of road deaths. Moreover, the fatality rate reduction indicator, which has been used for decades, has come to a standstill. In a recent report entitled *Setting a New Course*, SWOV has formulated a large number of recommendations for ways of bringing the government's targets back within reach (SWOV, 1996). In doing so, SWOV endorses the guiding principle underlying the 1996 Multi-Year Programme on Road Safety 1996-2000 (*Planning for Action*), which is to try to implement an agreed two-pronged road safety policy. This policy consists of a) the 'spearhead strategy' (focusing on drink-driving, speeding, seatbelts and crash helmets, hazardous situations, heavy traffic, bicycles and motorcycles) and b) consolidated efforts to develop a sustainably safe traffic system. A sustainably safe traffic system is one in which the road infrastructure has been adapted to the limitations of human capacity through proper road design, in which vehicles are technically equipped to simplify driving and to give all possible protection to vulnerable human beings, and in which road-users have been properly educated, informed, and, where necessary, deterred from undesirable or dangerous behaviour (SWOV, 1993).

The preventive approach, i.e. the creation of sustainably safe traffic systems, will eventually reduce the need for police surveillance of road behaviour. Unfortunately, this ideal situation will not be achieved in the next five to 10 years. The existing road infrastructure still gives road-users plenty of scope to commit errors, either deliberately or unintentionally. Traffic regulations are by no means regarded as self-evident by all road-users in all situations, and public awareness of some of the major traffic rules is frankly lamentable. For this reason, police surveillance of traffic behaviour will continue to be one of the most important instruments for meeting the government's road safety targets, in conjunction with improvements in the road infrastructure and awareness-raising and communications activities. It is even possible that within a period of five to six years, traffic law enforcement may become more effective even than education, awareness-raising initiatives or improvements in the road infrastructure as a means of bringing road-user behaviour back in line with the government's targets. Traffic law enforcement, and more specifically police surveillance, is one of the ways in which a government can clearly show the public its determination to improve road safety. Traffic surveillance is also regarded as being able to yield effective results in the short term. Of course, if surveillance is to be genuinely effective, it will need to be carried out far more intensively than it is at present. If police surveillance is to be given the chance to make a real difference, the available manpower must be focused as effectively as possible on improving road safety, and resources must be provided to broaden their

deployment. In other words, police surveillance and traffic law enforcement will require greater investments. The various authorities responsible for administering police surveillance (the police themselves, the public prosecution service, the ministers responsible for the police and public prosecution service and the Road Safety Minister) must recognise the crucial role which traffic law enforcement can play in improving road safety. They will also need to be able to conclude agreements allowing the police to perform this role.

This paper will try to show that traffic law enforcement must play a key role in reaching the government's road safety targets for the year 2000, and that it can do so. SWOV is therefore arguing in favour of a political discussion on the subject, to set goals, to agree on what resources to use and to decide what to do if these resources should prove inadequate. A discussion on the subject has been avoided for far too long. The SWOV's contribution to this discussion is to give an overview of the possible resources which might be required to meet these targets. 'Resources' are here taken to mean the anchoring of police surveillance in policy, the extent of the surveillance operations, the way they are organised, their quality and so on. There is little need to add that it is also crucial to follow up on traffic violations, in view of what is known about the positive effects of the 'tit for tat' strategy.

## 2. Traffic law enforcement in The Netherlands: not yet a success story

Police surveillance of traffic behaviour in The Netherlands in recent years cannot be described as a success story, as indicated in several quarters. One such quarter was the second evaluation conference on the *Guidelines for Traffic Law Enforcement* in Beekbergen on 18 May 1995. This conference reported a number of problems in implementing Selective Enforcement Surveillance projects, notably:

- Traffic surveillance is given low priority by the police themselves, by the judiciary and by the government;
- Cooperation and coordination between the various parties is poor;
- Lack of resources;
- Insufficient know-how.

A stocktaking exercise within the police force has also yielded a predominantly gloomy picture (Vissers, Zeilstra and Fokkema, 1995):

- The regional corps estimate that since the reorganisation of the Dutch police, the deployment of manpower on traffic surveillance has fallen by 30 per cent;
- The reorganisation has also resulted in a decline in the number of specialist traffic officers to around a third of their former strength;
- The goals for traffic work in the regional policy plans are formulated in such a way that they cannot be used to give adequate 'directional guidance' to individual officers in the various departments and basic units.

The discussion paper published in 1995 by the Dutch Road Safety Council outlines the problem in a series of points:

- Despite the increase in bookings for traffic offenses, the public has not noticed a greater police presence on behalf of road safety;
- The decline in the number of traffic specialists in the police force has weakened the focus on road safety problems. Yet traffic surveillance is a skill which cannot properly be carried out without specialist know-how.
- Traffic surveillance, and road safety in particular, are rarely discussed in the tripartite consultations between the chief constable, local mayors and the senior public prosecutor. The issue of road safety is usually subordinated to other issues, such as the need to combat crime.
- Due to their fragmented nature, local and regional initiatives have not had sufficient impact on the public.
- The public has a false impression of certain aspects of police work. If road-users believe that financial gain rather than safety is the motivating force behind police surveillance, this could compromise the credibility of police surveillance as a whole.

In the meantime, there has been no further decline in drink-driving (following a reduction by half during the 1980s), the wearing of seatbelts has fallen again slightly in recent years, and the speed limit on a most all types of road in The Netherlands is being broken by many drivers. In summary, police monitoring of traffic offenses is being carried out in an incidental, project-based way. This is not to say that some of these



operations are not recording isolated successes. However, there is as yet no structural nationwide enforcement of serious traffic violations. Both the efficiency and effectiveness of such enforcement would benefit if police controls of major traffic offenses were to be tackled in a more nationwide, structured way, thereby guaranteeing regularity and continuity over longer periods.

Why, then, has there been no large-scale nationwide approach to traffic law enforcement up till now? Clearly, this is directly linked to priorities set by and for the police. The police are often criticised for spending too much time and resources on traffic-related activities rather than too little. This would seem to reflect a deliberate political choice. Yet a parliamentary debate on road safety in 1995 showed that the majority of MPs did not in fact feel that enough was being done to tackle traffic infringements. However, these viewpoints do not yet appear to have been translated into practice. It will be interesting to see what statements are made during the parliamentary debate on road safety in relation to the 1996 Multi-Year Programme on Road Safety.

Other reasons are also put forward for the lack of a national approach. In the past, traffic surveillance was always discussed as a whole. And indeed, it is so broad and complex a subject that it is almost impossible to direct at national level, except in terms of capacity regulation. As a result, the attempts made by policy-makers to encourage more police surveillance at national level are therefore often little more than purely quantitative exercises in capacity regulation. But as pointed out in the Dutch Road Safety Council's discussion paper, an increase in the number of bookings for traffic offenses is not a correct indicator of the way police surveillance is perceived by the public. Quantitative capacity regulation alone will not suffice, since it does not provide sufficient guarantees for an improvement in road safety. There are no signs of a structured discussion within the police force on the quality and quantity of traffic surveillance in relation to prevailing problems (in this case road safety).

A third reason why a national approach to traffic surveillance has been difficult to organise is the absence of formal consultations between the main parties involved: the public prosecution service, the police themselves, the corps managers, the police ministry and the Road Safety Minister. Under the new Police Act, the policy-based management of the Dutch police force is organised in such a way as to leave no room for intervention at centralised level. This is a major problem for the Road Safety Minister. Or, as a police representative once put it: 'The Road Safety Minister has to effectively wait in a lay-by to see if he or she can persuade a police car that's on its way to maintaining public order and fighting crime to make a diversion towards road safety.'

Another much heard explanation for the lack of a structured approach to traffic surveillance is that with the exception of an - admittedly large - group of highly motivated officers, traffic surveillance within the police force is given relatively low priority. 'You won't find career seekers working on traffic,' is a well known saying. In view of all these factors, the situation will not be easy to improve. But if things are to go forward, it is absolutely essential for police and road safety representatives in The Netherlands to formally discuss how they can assist one another. The Ministry of Justice should also put forward its own policy-based directives governing traffic surveillance, given that the public prosecution service also has a crucial role to play. The *Guidelines for Traffic Law Enforcement*,

published in 1993, reflects the public prosecution service's increased focus on policy-based management of the police, and this ties in well with our present argument.

If the government's road safety targets are to be met, an improved and increased level of police surveillance throughout the country is an absolute necessity. Yet in recent years, the climate has not been exactly conducive to a fruitful discussion on this topic. However, now that developments in road safety do not seem to be getting us any closer to those goals and there appear to be no alternatives in the short term to improving police surveillance (and given that there is also room for substantial improvement of police surveillance in The Netherlands), it is now more likely that such discussions will bear fruit.

### 3. Current knowledge concerning police surveillance

A great deal is already known about police surveillance of traffic. To avoid any misunderstandings, it is first important to distinguish between three concepts. These are:

- traffic management
- police surveillance
- traffic law enforcement

'Police surveillance' is the actual work of monitoring traffic infringements. The concept of 'traffic management' covers both monitoring of infringements and general traffic surveillance. It also includes police activities relating to registration, the issuing of advice and education and information activities. 'Enforcement' covers the entire penal procedure designed to persuade road-users to behave safely and to obey traffic laws and regulations: i.e. surveillance, the process of law and the imposition of penalties.

These three concepts are obviously closely interrelated. Police surveillance is both a link in the overall process of traffic law enforcement and at the same time part of the overall process of traffic management. Consequently, the effectiveness of police surveillance cannot be seen in isolation from developments within the police force itself, or from the way in which the police work together with other parties involved in the traffic law enforcement chain.

#### 3.1. *Current knowledge concerning the underlying principles of traffic surveillance*

The overall preventive effects of police surveillance are generally greater if the subjective risk of the offender being caught are higher, if the penalty is more severe, if the certainty of punishment is increased, and if the penalty is imposed more rapidly.

Each of these elements constitutes a link in the enforcement chain. The most important link is the subjective likelihood of the offender being caught, in other words, the personal perception on the part of the road-user of his or her chances of being caught while infringing a traffic regulation. The level of punishment, the certainty of being punished and the speed with which the punishment is meted out will do little to prevent traffic infringements if the perceived risk of being caught remains very small.

The key principle underlying effective police surveillance is to increase the perceived risk of detection, no matter what type of road behaviour is being targeted. This can be achieved in several ways:

- ensuring that police surveillance is combined with adequate publicity;
- highly visible police surveillance;
- an unpredictable pattern of random controls;
- selective controls at times and in locations where there is a good chance of catching offenders and where traffic offences are known to be a causal factor in accidents;
- controls which are difficult to avoid;
- continued surveillance.

It is important to obtain an effective mix of these strategies. If publicity is not followed up quickly with police surveillance in practice, the effect will

be counterproductive, as shown by the attempts to enforce alcohol laws in The Netherlands during the early 1970s. Public information campaigns lose their credibility if road-users do not register increased police surveillance with their own eyes. Highly visible road checks which only apprehend a small number of offenders are mainly useful in alerting a wider public to increased vigilance, and should be supplemented by controls with a better chance of apprehending offenders. Finally, the police will need to continue these surveillance efforts for some years to come if they are to effect a permanent change of behaviour among road-users. A degree of moderate ongoing surveillance will therefore be required once the period of intensive surveillance has come to an end.

### 3.2. Current knowledge concerning the effects of surveillance in time

There is enough scientific knowledge and practical experience concerning the effectiveness of traffic surveillance to justify an extensive deployment of the police and judicial authorities to improve road safety. This is not the place for a detailed overview of this knowledge, but the attached bibliography provides a wide range of significant examples which have proved reasonably effective (e.g. Zaal, 1995). We have chosen one example from The Netherlands to illustrate our argument.

The effectiveness of police surveillance differs for each type of road behaviour. Regular monitoring of seatbelt use over a period of two to three months, accompanied by the appropriate publicity campaigns, can achieve a more than 20 per cent rise in seatbelt use. This effect can be maintained for over a year (Gundy, 1986). Regular police checks on drink-driving over a longer period of two to three months, with regular weekend checks at different locations, can lead to a decrease in relatively high levels of drink-driving (over 10 per cent of traffic violators). This effect can be maintained at a lower level (of e.g. four to five per cent of traffic infringements) for several months. Further reductions in drink-driving would probably require the police to check at least one in every five or six licence-holders. Nevertheless, there are indications that this high level of surveillance could be achieved using existing police capacity (Mathijssen, 1996).

Using police surveillance to discourage speeding is one of the most difficult of all tasks, far more difficult even than trying to dissuade people from drink-driving or to encourage seatbelt use. It is far less easy to achieve results in this area, also in the long term. The following surveillance strategies only appear to yield moderate results which are limited both in time and space:

- highly visible stationary speed checks
- highly visible motorised speed checks
- non-visible radar speed checks
- radar monitoring combined with highly visible checks in which drivers are stopped by the police (Goldenbeld, 1993).

There have been three recent developments in speed monitoring by the Dutch police. These are: trajectory controls, automated speed enforcement devices, and speed violation variable surveillance. In the case of speed violation variable surveillance, the intensity of surveillance is based on the proportion of offenders caught in a particular location or situation. Of these three developments, automated speed enforcement devices (largely based on car number plate registrations, with a feedback of information

downstream from the control point) have been the most extensively evaluated. In 1991, trials were carried out using this type of speed check on roads with an 80 kilometre per hour speed limit in four provinces: Overijssel, Noord-Brabant, Gelderland and Utrecht. In 1994, these trials were repeated in Noord-Brabant and Overijssel, and new trials were carried out on 80 kilometre per hour roads in the provinces of Friesland and Flevoland. The provisional cost-benefit ratio of this type of surveillance appears to be quite favourable (Oei and Polak, 1992). However, the system's susceptibility to vandalism and the level of public acceptance to which it gives rise still have to be evaluated.

In summary, it can be concluded on the basis of current general knowledge concerning police surveillance of, and compliance with, traffic regulations that surveillance of traffic behaviour is an effective instrument for preventing traffic accidents, as long as the mix of elements (publicity campaigns, selectivity, visibility and continuity) is effectively applied.

The general short-term effects of different methods of police surveillance are well-known. However, not enough is yet known about how to maintain changes in behaviour over the longer term with a minimal deployment of resources. Almost no experiments have been carried out in The Netherlands on large-scale police surveillance exercises over a more extensive period of one or more years. Similar experiments have, however, been conducted in other countries. The results obtained abroad could therefore be used to make forecasts for The Netherlands. Successful large-scale police surveillance has, for example, been carried out in Australia, which has done a great deal of pioneering work in the field of large-scale traffic surveillance, with considerable success (Cameron et al, 1994). Large-scale speed checks carried out as part of an extensive publicity campaign in the national media, together with a random breath-testing programme, has led to a 30 per cent or so reduction in road casualties within just a few years. Another example is Canada, where a successful programme (the National Occupant Restraint Programme NORP) has gradually increased seatbelt use to over 90 per cent of the population (Grant et al., 1991).

It is now a matter of translating the available knowledge into the Dutch context in such a way as to achieve a substantial increase in the subjective likelihood of being caught, backed up by a substantial increase in the actual chances of offenders being caught and prosecuted. Publicity campaigns would therefore primarily need to be aimed at obtaining public support for this 'large scale approach'. They should then be targeted at increasing public fears of being caught infringing traffic laws. The ultimate aim of the scheme is to persuade road-users to obey traffic regulations - in particular those relating to drink-driving, speeding, and seatbelt and helmet use - thereby substantially reducing the number of road casualties. These efforts will probably need to be kept up for several years. The intervening period could then be used to develop a sustainably safe traffic system, which, once it was in place, could substantially reduce the need for police surveillance.

## 4. Traffic law enforcement and road safety targets

### 4.1. Conducting effective discussions

Police surveillance of traffic is a complex issue. This complexity is due to the fact that police surveillance is indissolubly linked to developments within the police force itself (reorganisations, management, priorities, know-how) and to the way in which the police in The Netherlands are currently managed. More specifically, the complexity resides in:

- the cooperation and coordination required between different organisations (local authorities, the police, the public prosecution service, public information providers), in which there are other interests at stake besides road safety;
- the need to organise effective and efficient police surveillance for each type of traffic offence.

Furthermore, there is the difficulty of weighing up the effectiveness of police surveillance against other potential improvements in the traffic infrastructure and education, a process which it is often difficult to rationally back up. Unfortunately, in practice, there is a tendency to shift responsibility onto others: the police claim that local and regional authorities should tackle the problem first, whereas these authorities believe that the police should be the first to act.

Yet precisely because the issue is so complex, it is vital that discussions are structured as clearly as possible and also kept as specific and simple as possible. The only yardstick used should be the question whether the Dutch police and judiciary have, or are being given, sufficient opportunities to contribute to the meeting of road safety targets, compared to the contribution being made by infrastructural measures and education campaigns.

It is therefore inevitable that we will have to seek solutions beyond our existing framework, if we are to bring surveillance up to its required and thus substantially higher level.

Seen in these terms, the 'Discussion Paper on the Problems regarding Traffic Law Enforcement', which was published in December 1995 by the Dutch Road Safety Council, is too non-specific and general in its recommendations. SWOV largely endorses the paper's description of the problem, but feels that the approach outlined does not offer an adequate solution for reaching the desired road safety targets. What is most important, after all, is to bring the government's road safety targets within reach in the short term. In other words, meeting the targets is more important than how they are met. It is winning that counts.

The Council's report takes rather too idealistic a view of the organisation of police surveillance. For example, it totally rejects any possibility of allowing financial gain to influence the setting of priorities. Yet if this viewpoint results in insufficient resources being available for police surveillance, as now appears to be the case, and these resources cannot be produced from within existing budgets, the question remains as to how to finance them. It therefore becomes logical to finance or cofinance surveillance, or at any rate the investments required for an adequate level of surveillance, using revenue from traffic fines. An alternative possibility is

the extensive application of relatively low-cost computerised speed checks. This also makes the current views on so-called 'administrative fines', as announced in the 1996 Multi-Year Programme on Road Safety, extremely interesting and worthy of serious consideration.

An interesting parallel to this is the attitude of car drivers to the pricing measures designed to reduce car use. Research has shown that drivers are opposed to such measures. Yet 'pricing measures are accepted by drivers if they can see that the revenue from these measures is being used for traffic improvements (for example, if revenue from road-pricing is used to improve public transport) (Traffic Test, 1992). If some of the revenue from police checks are used for recognisable and publicly acceptable ends (such as promoting road safety), this would probably avoid negative attitudes towards this aspect of police surveillance.

In SWOV's opinion, the two most important questions for a meaningful discussion are as follows:

- What relatively short term measures can be taken to move closer to the road safety targets envisaged for the year 2000, and in what ways can traffic law enforcement assist this objective?
- What longer term measures are required to maintain and improve the quality of enforcement and in what quantity?

#### 4.1.1. *Short-term measures: 1996-2000*

The question we must ask ourselves is how, in the short term, traffic law enforcement and police surveillance as a part of it, can help to achieve the road safety targets for the year 2000 and 2010. Clearly, the existing strategy of Selective Police Enforcement will not be sufficient. It is too fragmented, offers too little guarantee of continuity, and is not broad enough in scope. Police surveillance of traffic can only help to bring these targets closer through a large-scale nationwide approach to surveillance which is subsequently maintained over a period of several years.

When making the necessary choices, it is important at all times to uphold the effectiveness of police surveillance. To begin with, it would seem to be important to choose a limited number of spearhead sectors: e.g. drink-driving, speed (including for mopeds) and seatbelt use. A specifically targeted strategy should be devised for each type of traffic violation; this strategy must be intelligent and it must be developed and implemented from a proper understanding of the prevailing situation. It could be helpful to draw on the experience gained in other countries, such as Australia and Canada, but it must be understood that these experiences cannot simply be copied wholesale.

The guiding principles underlying the Dutch approach could be to devise and implement a single strategy which is readily comprehensible to the public (extensive traffic checks throughout the country). This strategy could make use of existing knowledge (top-down management) while leaving enough scope for detailed interpretation by local and regional police forces (for example, within the overall guidelines, the police could select their own times, locations and which types of traffic behaviour to monitor). The strategy developed should be translated into qualitative and quantitative terms (for example, by holding at least three checks in each municipality and by making allowances for unpredictable behaviour). Publicity back-up and monitoring and evaluations of traffic law enforcement programmes should be carried out by independent organisations. Finally, the strategy

chosen should leave enough room for adjustments based on the results obtained, in the light of the targets set. The traffic surveillance carried out by the Dutch police should be brought under the overall 'umbrella' of this nationwide strategy.

The following ideas are an example of a model for a national approach to police surveillance, which can be developed and implemented at local and regional level:

1. In each police region, specific agreements can be made about what behavioral changes (within the priority areas of drink-driving, speed reduction and seatbelt use) will be targeted by police surveillance and public information during an agreed period. These agreements would fix a *specific minimum level of deployment* for each police corps: e.g. at least three reasonably large monthly traffic checks in each municipality. If these levels of deployment are found to be adequate in the light of the agreements made, the surveillance operations can be continued. If, however, deployment levels are not having the desired effect, additional agreements will need to be made.
2. To assist a more flexible deployment of manpower, *flying traffic police squads* can be formed in all police regions (and in the Dutch Motorway Police).
3. A national management unit can be set up to issue information about the surveillance operation. The aim of this unit will be to enlist public support for the strategy and to publicise it with a view to increasing road-users' subjective chances of being caught infringing a traffic regulation.
4. Recommendations can be formulated on the best way of conducting traffic checks, based on the knowledge gained from research and practical experience.
5. The police corps themselves will retain some freedom to choose how they wish to carry out the work of surveillance. They will therefore be able to select their own times and locations and to specify how many officers to deploy, depending on their own perceptions of the prevailing situation. *Combined or integrated checks* (e.g. drink-driving plus seatbelt use, or speed plus seatbelt use) should be given preference, but the police corps are free to depart from this principle if they wish to.
6. To assist the surveillance programme, an organisational structure (including road safety coordinators) can be set up to oversee all the surveillance activities and to offer help in overcoming practical problems (holidays, sick leave, shortage of manpower).
7. A single central notification point can be established in each police region to monitor and register all the police checks carried out. It can compile overviews of these checks which can then be resubmitted to local police corps. The centralised notification point will also primarily provide coordination and technical assistance to ensure the smooth implementation of regional surveillance operations.



8. The results of at least one monthly traffic surveillance check will be recorded on an ongoing basis and sent to a single central notification point. This notification point will keep a record of all the police checks and all the effects measured during the checks. These results will be evaluated by one independent organisation, such as SWOV.
9. One organisation (e.g. the Dutch Road Safety Organisation VVN) will assume responsibility for providing all the publicity back-up and supervision for the police surveillance operation. Publicity for the operation will be conducted via the national media (television, national newspapers) and the regional media (regional newspapers and radio stations). For example, regional newspapers could publish monthly results of traffic checks in all cities in the region or province concerned.
10. At the end of each year, an evaluation can be carried out and its results discussed at the national 'Traffic Law Enforcement Conference'. These results could be used to determine the broad strategy for the coming year.

SWOV estimates that a surveillance programme of this kind could achieve the following results in the period leading up to the year 2000:

- An increase in the percentage of drivers and front-seat passengers wearing seatbelts (inside and outside built-up areas) to 90 per cent. This could be achieved by the police stopping and checking cars and making sure that every road-user they come in contact with is wearing a seatbelt;
- A reduction by one-third in the number of road casualties due to drink-driving. This could be achieved by an intensive police operation of stopping and checking cars and applying a proven method (random breath testing);
- Roughly a 5 per cent reduction in road casualties, achieved by issuing fines following the photographing of license plates (using speed cameras) belonging to cars that are speeding or driving inappropriately.

It is estimated that these programmes will reduce the number of road deaths by 180 a year. Seen in the context of the government's road safety targets for the year 2000, it is clear that traffic law enforcement (police surveillance using automated enforcement devices, publicity as an integral component and effective legal sanctions) can make a very real contribution to bringing them closer.

Recent calculations estimate that around NLG 180 million is currently spent on monitoring and prosecuting road-users for traffic offenses (Muizelaar et al., 1995). SWOV has calculated that to bring about a large-scale surveillance programme, this amount will need to be roughly quadrupled to around NLG 800 million per year. Of course this programme will increase the revenues from fines. We hope that this information will be deemed sufficiently interesting and attractive to bring the work of enforcement and surveillance up to the required level.

#### 4.1.2. *Long-term measures: 2000-2010*

The two-pronged policy on road safety assumes that in the long-term, the second prong - the creation of a sustainably safe traffic system - will be

effective. This could mean that traffic law enforcement could be carried out less intensively than during the first few years of the scheme. Obviously this would only apply if another approach were to prove successful, thereby making traffic law enforcement redundant. An outlook of this kind is more likely to persuade the police and judicial authorities to make the necessary efforts than if the operation were to be open-ended. Another very important factor affecting the future of the operation is the question of how large a role telematics applications are likely to play in the long term, particularly with regard to controlling speeding. At present, it is difficult to imagine that in the future, stopping cars to test for drink-driving and seatbelt use will no longer be necessary, but it is reasonable to assume that the scope of such checks could be reduced.

Strategies to reduce speeding will probably have to choose between the following three systems, each of which can be applied nationwide:

- a. variable speed restricting or adapting devices in passenger cars;
- b. speed infringement detectors in passenger cars;
- c. large-scale use of automated surveillance systems.

Each of these systems will have different implications for the role of the police in the system of speed control. Public debate concerning this type of technocratic control method still needs to be held. However, it would be most unwise simply to do nothing with regard to increasing surveillance or making infrastructural improvements, in the expectation that telematics applications will ultimately provide the answer. There are two reasons for this: firstly, we have hardly any idea as yet what contribution telematics applications are likely to make, and secondly, these applications will only be effective over the longer term (between 10 to 15 years at the earliest).

## 5. Conclusions and recommendations

In order to bring the government's road safety targets back within reach in the short term (i.e. minus 25% by the year 2000 compared to 1985), large-scale police surveillance is essential. There are no other known policy measures which could yield a similar large-scale effect in the short term. Both the quality and quantity of police surveillance need to be improved. Examples from other countries have shown how these improvements could be made. It is recommended that surveillance be concentrated on three areas: drink-driving, the wearing of seatbelts and persuading drivers to keep to the speed limits. Provisional estimates suggest that some 180 road deaths could be avoided in the year 2000 if traffic law enforcement and in particular traffic surveillance are substantially intensified. This intensification will need to be introduced on a gradual basis, and it is recommended that this should be done using the results that have been achieved so far.

There will need to be a substantial increase in the perceived risk of being caught, backed up by a substantial increase in the actual chances of being caught and prosecuted. The publicity surrounding these increased controls will also need to be intensified. It is anticipated that police surveillance will have to be maintained over a period of several years, and it must also be made a structural part of police work. Police surveillance should be coordinated by a centralised unit which should take decisions on, say, choice of topic, timing, campaign strategies and similar areas. The police corps remain responsible for implementation in a given context. It is recommended that a road safety calendar be (re)introduced.

After the year 2000, police surveillance can be gradually relaxed if a sustainably safe traffic system is being gradually introduced. This development is more relevant to behaviour relating to speed than to drink-driving and seatbelt use.

In conclusion, then, traffic law enforcement and as part of that police surveillance of traffic behaviour will need to 'set a new course' if it is genuinely to be able to contribute to meeting the government's road safety targets.

## References

- Cameron, M. Newstead, S. & Vu kan, P. (1994). *Analysis of reductions in Victorian road casualties, 1989 to 1992*. Proceedings 17th ARRB Conference, Part 5, p. 165-182.
- Goldenbeld, C. (1993). *Traffic law enforcement in The Netherlands* [Dutch]. SWOV report R-93-66. Netherlands Institute for Road Safety Research SWOV, Leidschendam.
- Goldenbeld, C. (1996). *Police surveillance of traffic behaviour in the Netherlands: knowledge and lack of knowledge*. In: F.J.J.M. Steyvers & P.G.M. Miltenburg (eds), *Behavioural influencing in Traffic and Transport Policy* [Dutch]. VSC, Groningen.
- Grant, B.A., Wilson, R.J. & Dussault, C. (1991). *Increasing the use of seatbelts through selective enforcement programmes*. In: Koornstra, M.J. & Christensen, J. (eds), *Enforcement and rewarding: strategies and effects*. Proceedings of the International Road Safety Symposium, Copenhagen, Denmark, 1991.
- Gundy, C. (1986). *The effects of a combination of police surveillance and information on the use of seatbelts* [Dutch]. SWOV report R-86-26. Netherlands Institute for Road Safety Research SWOV, Leidschendam.
- Ministry of Transport, Public Works and Water Management (1996). *Multi-Year Programme on Road Safety 1996-2000. Planning for Action*. Ministry of Transport, Public Works and Water Management, The Hague.
- Mathijssen, M.P.M., 1996, *Drink-driving in The Netherlands, 1994-1995* [Dutch]. SWOV report R-96-17. Netherlands Institute for Road Safety Research SWOV, Leidschendam.
- Oei, H.L. & Polak, P.H. (1992). *The effects of automatic warning and monitoring systems for speed and accidents; Results of an evaluation study in four provinces* [Dutch]. SWOV report R-92-23. Netherlands Institute for Road Safety Research SWOV, Leidschendam.
- SWOV (1995). *An appraisal of road safety. Development of road safety up to 1994 in the light of the targets for the years 2000 and 2010* [Dutch]. SWOV report R-95-53. Netherlands Institute for Road Safety Research SWOV, Leidschendam.
- SWOV (1996). *Steering a new course. Discussion paper on policy initiatives to bring the road safety targets back within reach* [Dutch]. SWOV report R-96-5. Netherlands Institute for Road Safety Research SWOV, Leidschendam.
- Dutch Road Safety Council (1995). *Discussion paper on the Problems Surrounding Traffic Law Enforcement* [Dutch]. Dutch Road Safety Council, The Hague.

Traffic Test (1992). *SVV survey* [Dutch]. Traffic Test report TT92-64. Traffic Test B.V., Veenendaal.

Vissers, J. Zeilstra, M. & J. Fokkema (1995). *Police traffic work following the reorganisation; Account of a stocktaking exercise* [Dutch]. Traffic Test report TT95-60. Traffic Test B.V., Veenendaal.

Zaal, D. (1994). *Traffic law enforcement: a review of the literature*. Report no. 50. Monash University Accident Research Centre, Victoria, Australia.