

Police Enforcement: Theory and Practice

Contribution to 'The 23rd European Transport Forum', 11-15 September 1995, Warwick, England

D-95-22
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Leidschendam, 1995
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Report documentation

Number: D-95-22
Title: Police enforcement: theory and practice
Subtitle: Contribution to 'The 23rd European Transport Forum', 11-15 September 1995, Warwick, England
Author(s): Dr. Ch. Goldenbeld
Client: This research was funded by the Dutch Ministry of Transport and Public Works.

Keywords: Police, enforcement (law), safety, efficiency, accident prevention, Netherlands.

Contents of the project: Based on Dutch research in the last fifteen years, an overview is presented of how the general ground rules for effective police enforcement have been operationalized in optimal strategies of enforcement. In respect of four spearheads of national traffic policy, exemplary strategies of enforcement are described.

Number of pages: 20
Price: f 15,-
Published by: SWOV, Leidschendam, 1995

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Summary

The general ground rules for effective police enforcement are known (publicity preceding and during enforcement operations, unpredictability of controls, a selective mix of visible and less visible controls, continuity over time). Based on Dutch research in the last fifteen years, an overview is presented of how these ground rules have been operationalized in optimal strategies of enforcement. In respect of four spearheads of national traffic policy (drinking and driving, speeding, seat belt use and behaviour of young moped riders), exemplary strategies of enforcement are described.

The development and testing of these strategies has been done in conformance with the simple rule that these strategies should not require a police input that is above the conventional input planned for enforcement projects.

The strategy of enforcement of drinking and driving is based on a carefully selected mix of general and specific deterrence activities. The strategy of enforcement of speeding relies on automated enforcement operations on specially selected stretches of road, preferably within a larger network of interconnected roads. The speed checkpoints themselves are rotated among different locations, and each passing motorist is given feed-back that his speed has been checked. An alternative to this automated strategy makes use of the tactic of obtrusively stopping motorists in combination with radar controls. The notion underlying the alternative strategy is to make the level of intensity of police enforcement dependent upon the proportion of speeding vehicles. The strategies of enforcement of seat belt use and the control of traffic violations by young moped riders emphasize persuasive and educative activities of police as a complement to the direct enforcement operations.

The described strategies represent a model of how police ideally should operate, but they cannot be taken as a general description of actual enforcement strategies. There are some important barriers between ideal and actual police operations. A number of these barriers derive from the professional culture of the police, and have to do with how policemen - at both upper and lower levels - view their profession and their own identity.

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1. Introduction

Since the early 1970s, road safety in the Netherlands has improved considerably. While in 1972, 3,264 road fatalities were recorded, by 1991 this number had fallen to 1,281, despite the fact that over the same period, the degree of mobility had increased over five times. In recent years, the annual number of road fatalities has ceased to drop sharply and now seems to hover round some 1300 road accident fatalities a year. The Dutch Government has formulated an ambitious road safety target: 25% fewer road accident casualties in the year 2000 with respect to the number in 1985 (1,385). To achieve this ambitious target, much attention has been given to the development of a specific road safety philosophy: 'sustainable safety'. A sustainable safe traffic system has 'an infrastructure that is adapted to the limitations of human capacity through proper road design, vehicles fitted with ways to simplify the tasks of man and constructed to protect the vulnerable human being as effectively as possible, and a road user who is adequately educated, informed and, where necessary, controlled.' (SWOV, 1993, p. 4).

According to this view, police enforcement of traffic violations will hardly be necessary under the new traffic regime. Unfortunately, this ideal situation is certainly not attainable within the next few years. The current Dutch road system still offers the road user ample 'opportunity' to knowingly or unknowingly commit traffic offences. Therefore, in the near future, police enforcement will remain one of the most important instruments to improve road user behaviour, in addition to engineering measures, education and publicity.

The study of police enforcement should inform us how the police can use their scarce resources to improve or guarantee road safety. This article describes specifically developed strategies of police enforcement with respect to four spearheads of road safety policy: drinking and driving, speeding, seat belt use and young moped riders. Separate attention has been given to some issues directly relating to police organization and police motivation.

2. Theory

Since the early 1980s, a number of Dutch traffic enforcement projects have been evaluated by research. A review of these projects has summarized the main findings and given recommendations for enforcement operations (Goldenbeld, 1993). On the basis of this review, an official traffic enforcement guidebook was published that explains the different aspects of an enforcement project (problem analysis, planning, performance, intermediate feed-back, evaluation). The strategies which are presented in this article also originate from this review.

Police enforcement of traffic laws is intended to influence the behaviour of road users in such a way that their risk of becoming involved in an accident or causing an accident decreases. It is generally accepted that traffic law enforcement influences driving behaviour through two processes: general deterrence and specific deterrence. General deterrence can be described as the impact of the threat of legal punishment on the public at large, while specific deterrence can be seen as the impact of actual legal punishment on those who have been apprehended. Thus, general deterrence results from a perception of the public that traffic laws are enforced and that a risk of detection and punishment exists when traffic laws are violated (Armour, 1984). Specific deterrence arises from actual experiences with detection, prosecution and punishment of convicted offenders.

The general assumptions underlying enforcement are:

1. Police enforcement should primarily be aimed at general deterrence.
2. The enforcement strategy should be a mix of general and specific deterrence activities.
3. General deterrence is first and foremost achieved by increasing the subjective risk of apprehension.

These assumptions have led to the following ground rules of enforcement. Police enforcement of traffic rules should be:

- accompanied by publicity, specifically aimed at increasing the subjective risk of detection;
- unpredictable ;
- directed at times and locations that simultaneously maximize the chance of detection of actual offenders and maximize the scale of feed-back to potential offenders;
- a mix of highly visible and less visible enforcement activities;
- continuous over a longer period of time.

In short, police enforcement is aimed at the behaviour modification of road users and deterrence is seen as the central influence process.

However, besides deterring the road users from committing violations, the police may also exert influence on the behaviour of road users by:

1. Setting the right example in traffic,
2. Informing the public about police policy in matters of road safety and the reasons behind specific police activities;
3. Paying attention to complaints or suggestions about road safety;
4. Informal communication with road users;

5. Practical or symbolic support of actions or activities of other road safety organizations;
6. Substitution of traditional punishment by alternative sanctions that may appeal to the public and encourage them to change their attitude.

Several of these points hint at the important role of good and informal relations between police and public. The 'hidden agenda' of many police decisions about involvement in traffic campaigns concerns relations with the general public. Expectations of how the public will react to enforcement activities often play a pivotal role in the minds of police decision-makers. Undoubtedly, social acceptance of an enforcement campaign can support and enhance its safety effects; through publicity and through steps 1 to 6 listed above, the police can take responsibility for improving this acceptance.

3. Strategies of enforcement

In this section, strategies of enforcement are described with respect to four spearheads of national road safety policy: drinking and driving, speeding, seat belt use and young moped riders. Each strategy constitutes a set of recommendations that describes an exemplary type of enforcement operation. The actual police enforcement operations that are carried out in the Netherlands are sometimes a far cry from these recommendations, due to various practical barriers. These practical barriers and the keys to successful police enforcement are discussed in the closing section.

3.1. Drinking and Driving

Introduction

In the Netherlands the legal alcohol limit is set at 50 mg alcohol/100 ml blood. A reliable indicator of the overall incidence of drink-driving in the Netherlands is provided by roadside surveys of drivers' BACs. These data are obtained from police checkpoints at which drivers of all randomly stopped vehicles are breathalysed. In 1994, 6.1% percent of male drivers and 1.8% of female drivers had BACs over 50mg/100ml. The largest proportion of offenders was found among the group of male drivers aged between 35 and 50.

In the Netherlands, police enforcement of drinking and driving has seen some important improvements over the years (Noordzij, 1983):

1. Gradual introduction of electronic breath testing equipment (to replace chemical test tubes) after 1984;
2. Replacement of blood testing by evidential breath testing after 1987;
3. Gradual transition from selective to random breath testing since 1985;
4. Change in enforcement strategy from large static teams to smaller, mobile ones since 1986.

Together with anti-alcohol campaigns and changes in consumer patterns (non-alcoholic beers), these improvements in enforcement strategy have contributed to the decline in drinking and driving between 1970 and 1991. In that period, the proportion of drivers with a BAC above the legal limit steadily decreased from 15% to under 4%. However, since 1992, drinking and driving is on the rise again: 4.0% offenders in 1992, 4.2% in 1993 and 4.9% in 1994. The increase in drinking and driving was associated with a decline in police enforcement, as a result of an ongoing reorganization process within the police departments.

Strategy

The lessons from past national research into drinking and driving have culminated in a clear strategy to deter drinking and driving. In a general sense, the strategy is intended to convey the message that all drivers, irrespective of age, sex, race or status, may be stopped by the police for a breath test. If stopped, the certainty is 100% that they will be tested for the use of alcohol. If the result of the test is positive, the certainty is 100% that they will be taken to the police station for further testing that will serve as legal evidence for prosecution. The point is to impress upon

every driver that he cannot do very much to avoid controls, except to trust on luck; if he has drunk, a test by the police will inevitably lead to prosecution.

The strategy can be summarized in the following points:

1. Extensive publicity surrounding increased police enforcement, specifically aimed at increasing the subjective risk of detection, improving knowledge of the legal limit and legal sanctions and informing the public about the developments concerning driving under the influence.
2. Inside publicity informing the police officers of the results of the controls.
3. In general, controls by small investigation teams of 2 to 4 policemen with separate teams for the transport of suspects to the station.
4. Stopping drivers at random, all of whom have to undergo a breath test (random breath testing).
5. Very conspicuous controls at places and times with a high traffic volume and a small number of offenders. During the enforcement day, the first enforcement phase (often the late afternoon hours) is characterized by highly visible policing operations and lower testing rates on high volume traffic routes, several hours before known high drinking times. The objective of this first phase is to convey a strong message to potential drink drivers when they most require that message (i.e. before they drink and drive), viz. that enforcement is active and that if they decide to drink and drive, then there is a high risk of detection.
6. Unobtrusive controls at places and times with a low traffic volume and a large proportion of offenders; these controls are often done by somewhat larger teams of 10 to 12 policemen. This second phase of the enforcement day is characterized by high testing rates and less visible enforcement activities which are undertaken during times of known high alcohol consumption. Testing occurs in numerous locations, but limited to only a short period of time at each location. The emphasis is on creating both general and specific deterrence through high testing and detection rates, accompanied by less visible, frequently moving enforcement operations to increase the unpredictability of enforcement and make it difficult for drink drivers to avoid testing checkpoints if they have been informed about their location by friends.
7. Continuity of enforcement, at least once a week.

This strategy provides an example of the way in which strategic planning techniques can be used to result in an efficient utilisation of resources whilst allowing a high level of deterrence to be maintained. In hours of known low alcohol consumption, the level of resources (including associated costs) allocated to alcohol enforcement activities - while not excessive (2-4 testing officers) - is highly visible, thus creating general deterrence. In hours of known high alcohol consumption, when the

percentage of drink drivers in traffic is greatest, the level of enforcement is increased (10 or more testing officers divided into smaller teams to increase exposure), with the emphasis being on the detection and deterrence of drink drivers through both specific and general deterrence mechanisms.

3.2. Speeding

Introduction

In the Netherlands, the general speed limit on motorways is 120 km/h. Motorways of lesser quality or with intense traffic flows are subject to a reduced speed limit of 100 km/h. The general speed limit on other rural roads is 80 km/h. The general speed limit on urban roads is 50 km/h, while residential areas are subject to a limit of 30 km/h. Violations of speed limits are common on all types of roads. For instance, speed measurements on two-lane rural roads show that 40-60% of passenger cars exceed the speed limit of 80 km/h.

Road safety experts agree on the strong relationship between speed and accidents. A road accident can be described as the outcome of a process, a chain of consecutive links of causal events. While driving speed may not necessarily be the main causal factor, it will in most cases be one of the links in this chain. Accidents can be prevented and the severity of accident outcomes can be reduced by breaking the chain at one or more of the links. This seems to indicate that, from the point of view of allocating scarce police resources, it may well be justified to place considerable emphasis on speed limit enforcement.

Strategy 1: Automated police enforcement

Dutch and international research has shown that the effects of traditional (non-automated) methods of speed enforcement are limited in time and space. Automation of enforcement seems to be a cost-effective solution to optimize police resources in this area.

In the Netherlands, several experiences have been gained with the following strategy:

1. Extensive publicity surrounding the enforcement activity. This publicity makes use of billboards along roads and of local and national media.
2. Automated enforcement along specially selected stretches of roads. These road segments are selected on the basis of speed and accident statistics that indicate that a gain in road safety is possible on these roads.
3. Preferably, the selected stretches of road are part of a larger network of interconnected roads in the same area, so that a wide scale of operations and associated high chance of detection are suggested to the frequent drivers on these roads.
4. Installation of fixed signs showing 'Max. speed 80 km/h'.
5. Exclusive use of inconspicuous radar and camera, to be moved after 2 hours of enforcement to another location.
6. Feedback information given to all passing vehicles downstream of the enforcement site showing the message 'Your speed has been checked. Police.'

7. A high frequency of 10 to 20 speed checks per road segment per year, each lasting several hours (two/three hours).
8. A planning of speed checks in such a way that they are unpredictable for road users.

The implementation of this strategy on four two-lane rural roads was evaluated (summarized in Oei, 1994). The total number of accidents (lethal, injury, damage only) on the four experimental roads had been reduced from 150 to 81 (reduction 46%). The total number of accidents on four control roads was reduced from 284 to 237 (reduction 17%). Taking into account this last reduction in the estimation of the effect of the automated enforcement system, this yields a 35% decrease. A cost-benefit calculation showed that the benefits outweighed the costs almost threefold (however, the costs of the police were not taken into account). One of the roads in this experiment was subject to a long-term evaluation covering the years 1991 to 1994 (Oei, Van Minnen & Goldenbeld, 1995). It was found that from the start of the automated enforcement in 1991 up till 1994, the results were very stable: the percentage of speeders increased only slightly from 11% to 16% and the achieved reduction in accidents in 1991 remained at the same level in later years.

The 'road network version' of this strategy is currently being implemented in three Dutch provinces in the Netherlands. For the province of Friesland, some preliminary results are known (Oei and Goldenbeld, 1995). For various reasons, only 40-50% of the planned police hours were actually deployed. Despite this drawback, the enforcement strategy has resulted in reductions of average speeds on rural roads of 5 to 6 km/hr. Evaluation of accident reduction has not yet been possible.

Strategy 2: Obtrusively stopping offenders

Automatization of the enforcement task is one strategy to maximize available policing resources. Another strategy is to make the level of enforcement dependent upon the degree of speed violations. This strategy has been documented by De Waard & Rooijers (1994).

In a three-month experiment, the following optimization strategy was used for enforcement of speeding on highways.

1. During the experiment, police speed enforcement was undertaken on four work-days per week, between 10.00 a.m. and 03.00 a.m.
2. Unobtrusive radar checks (speed cameras) were combined with obtrusively holding up offenders (actually stopping offending drivers).
3. The optimization strategy required that the intensity of stopping speed violators was systematically related to the percentage of offenders. It was agreed that the police should take care that the percentage of offenders (defined as those who drove over 130 km/hour on highways with a 120 km/h limit) did not exceed a 6% tolerance level.
4. The actual stopping of offenders was varied in a number of steps: stopping of every sixth, tenth, twelfth or twenty-fifth offender, or not stopping offenders at all (sending home mailed warrants only). If the percentage of offenders in a particular week was below 6%, the intensity of enforcement was lowered one step the next week. When

the intensity of offending returned above the 6% level, the frequency of holding up offenders was increased one step again.

In the first week of the experiment, every sixth offender was stopped. In the second week, the stopping of every 10th offender was sufficient to prevent the number of drivers exceeding the 6% tolerance level. In the last five weeks of the experiment, a limited effort - stopping every 25th offender - was sufficient to return the percentage of offenders to a level below the tolerance limit. Equally important was the fact that resources were indeed spared. In the first three weeks of the experiment, teams of 8, 6 or 4 police officers had to be present at the enforcement location. In the other 9 weeks, 1 to 3 police officers tended to be sufficient. Clearly, there are some limitations to this strategy. First, obtrusively stopping speed offenders can often be done safely on highways but not on provincial roads. Second, the strategy requires very flexible planning from the police, which may be difficult to continue in the long run.

3.3. Seat Belt Use

Introduction

In the Netherlands, the presence of seat belts became a legal requirement in 1971. The law that made the wearing of seat belts compulsory was enacted on the first of June, 1975. Since April 1, 1992, the wearing of seat belts in the back is also mandatory. In the 1980s, the use of seat belts stabilized, with percentages hovering around 67% outside built-up areas and around 49% inside built-up areas. The last few years have seen a slight increase in these percentages. According to government plans, at least 90% of drivers and passengers should be wearing seat belts by the year 2000. In general, seat belts are least frequently worn within built-up areas and least frequently used by male drivers under the age of 25.

In the Netherlands, the enforcement of seat belt laws is rare. In a well-conducted study, Gundy (1988) evaluated the effects of a seat belt campaign in the province of Friesland. The enforcement campaign, which began in September, 1984, was conducted over a period of two months, involving 2,800 hours of surveillance and the testing of 40,000 motorists. The campaign was extensively covered by local media and included demonstrations of cars dropped from a height of 10 metres and collision simulators, and was widely supported by local chapters of the Dutch Road Safety Organization (VVN). Total costs were estimated to be about Dfl. 200,000 or about Dfl. 0.33 per capita. A total of 28,688 observations of driver seat-belt use were made over 5 measurement waves and divided about equally between the province Friesland and the control area West Friesland, where no campaign was held.

Interestingly, only about 1% of total police surveillance capacity for this two-month period was actually deployed, about 12% of what was actually budgeted. Despite this drawback, the campaign achieved good results.

The Frisian campaign resulted at its conclusion in an improvement of about 25 percentage points for locations both inside and outside the built-up area. Even one year after the end of the campaign, an improvement of 15 percentage points above base rate was maintained. By comparison, the

control area of West Friesland showed only a small improvement in wearing rates.

Though police input into the campaign was far below the originally planned capacity, the Frisian police got their message across among a large target group of motorists. A written survey among motorists showed that 54% of the Frisian respondents had heard about police enforcement of seat belt laws during the campaign, 62% were of the opinion that there was more enforcement and 67% thought that the chance of being checked by the police was higher. The base rate before the campaign hovered around 5%. In the control area, the base rate for these questions was also about 5% before the campaign and about 15% of those respondents answered positively to these questions during the campaign.

A simple cost/benefit analysis was conducted, which indicated that an enforcement/publicity campaign based on the Frisian model should be quite cost-effective. It was calculated that a campaign costing three times as much as the Frisian campaign and achieving an improvement of 15 percentage points in seat belt use for one year would about break even.

Once again, the question may be raised as to how the cost-effectiveness of police enforcement in this area may be optimized. According to Zaal, "the simplest and most effective approach to increasing seat belt usage rates is to integrate seat belt enforcement operations with other policing activities" (Zaal, 1994, p. 126). An experiment with an integrated enforcement strategy in the subarea around the city of Leiden was evaluated by the SWOV (Mathijssen, 1993). According to a planned strategy, police officers were to combine alcohol and speed controls with testing for seat belt use. If drivers violated more than one rule, the police were to fine them for each separate traffic offence.

However, the study showed that police personnel were very reluctant to combine alcohol and speed controls with testing for seat belt use. During the experiment, only 228 fines for non-seat belt use were given to the 3,515 drivers who were stopped for speeding, and only 49 fines for non-seat belt use were given to drivers who were stopped for breath testing for alcohol.

The police gave the following arguments for refusing to sanction non-seat belt use of speed or alcohol offenders:

- the fine for speeding alone should be punishment enough for a speed offender who does not wear a seat belt;
- a car driver who does not use a seat belt does not endanger the lives of others;
- testing for alcohol at nightly hours makes correct identification of seat belt use difficult;
- the police themselves often do not use a seat belt!

The attitude often adopted by the police is that if road users are aware of the risks associated with non seat belt usage and still make the decision not to wear a seat belt, then they are only putting themselves at risk and are not affecting the safety of other road users.

Informal conversations with police officers suggest that this group does not have to be convinced of the potential safety and cost benefits of

higher wearing rates. Police officers may easily confirm these arguments on a general level and yet persevere in their personal reluctance to pay any professional attention to seat belt use. The key to changing police motivation in this respect may be special educational programs for police officers that confront their biases in this area. An alternative solution may be found in the reward structure of the organization. For instance, it is known² that the Australian traffic police divisions can be especially motivated to achieve successful enforcement of seat belt use (or other violations) because of 'performance pay', or because new funding or resources depend upon the success of the particular program.

Strategy

1. The enforcement of seat belt use should take place during a period of at least two months. After this period, the enforcement activities can be decreased to a low minimum level.
2. In the first two weeks of enforcement, some large, clearly visible controls, paired with publicity, should focus the attention of the public on the new police campaign. Hence, the aim of these controls is not so much the detection of offenders as to send a message to the public that the police is starting a new enforcement campaign.
3. It is advisable that, during the first two weeks of the campaign, the police issue warning tickets and spread information letters. Good contacts with the public may enhance the social acceptance of police efforts in this area, and hence support its effects.
4. During the enforcement campaign, regular counts of seat belt use on different locations within and outside built-up areas should be used as an input to guide further enforcement activities.
5. Enforcement of seat belt use requires less manpower, planning and equipment than enforcement of drink-driving and speeding. Therefore, enforcement of seat belt use can be planned in general surveillance time. This introduces an element flexibility of in planning that should be used to enhance motivation and to achieve better results, and should not result in arbitrariness.
6. Special attention should be paid to motivate police officers to carry out the enforcement activities.

3.4. Young Moped Riders

Introduction

The moped was introduced in the Netherlands in the 1950s as a bicycle with a light auxiliary motor. However, soon the moped developed into a category of its own, emulating more the model of a motorcycle, rather than that of a bike. In 1975, the wearing of a helmet was made compulsory for moped riders by act of law. In that same year, the concept of a bike with a light auxiliary motor was revived in the new legal vehicle category, the so-called 'snorfiets'. 'Snorfietsen' are low-powered two-wheelers with a legally permitted maximum speed of 25 km/hr; riders do not have to wear a helmet. Since the early 1990s, the interest of young people for this vehicle has considerably increased at the cost of the interest for the traditional moped. This rise of interest has been ascribed to the dashing modern looks of these vehicles, the freedom to ride them without a helmet and the ease with which the engine power can be boosted.

In the Netherlands, no specific instruction or training is required to drive moped. A new law which will come into effect as of January 1, 1995, will require a proficiency certificate for mopeds, for which riders must pass a theoretical exam. It is expected that as an unintended result of this law, many youngsters will turn from riding mopeds to riding 'snorfietsen', for which no certificate is required.

Of all the traffic casualties treated in Dutch hospitals, about one sixth is involved in an accident on a moped or a 'snorfiets'. Most of these are male youngsters aged between 15 and 25. The accident rate per distance travelled is several times higher for young moped riders than for any other group of road users.

For the sake of simplicity, we will only use the term 'moped' in the rest of this section, thereby referring to both mopeds and 'snorfietsen'. In several road safety projects in the Netherlands, police have tried to change the attitudes and behaviours of young moped riders (Goldenbeld, 1993). In the light of the youth and level of maturity of this group of offenders, the police have often complemented their roles as enforcers with the roles of instructor and educator.

Strategy

1. An approach to the road hazard associated with specific groups of young moped riders should not confine itself to direct enforcement activities, but should have a communicative or educative component. Police should attempt to cooperate with schools, youth clubs and driving schools.
2. The direct enforcement activities should be preceded by a warning period with strong persuasive messages.
3. The moped riders are stopped for specific traffic violations. Enforcement activities combine technical inspections of the vehicle and the helmet with checks that the helmet is worn correctly. Technical disassembly of the motor on the street often has great impact on this impressionable target group.
4. Particularly in the first two weeks of the enforcement campaign, large teams of police officers are needed to handle all offenders and to conduct all the necessary vehicle inspections. After this initial 'hectic' period, the enforcement may shift to checks with smaller teams at varying locations.
5. Instead of traditional 'fines', alternative sanctions (e.g. the obligation to follow a moped course) may have added educational and publicity value.

4. Practice of police enforcement

Over the past twenty years, our knowledge about the principles of effective police enforcement has increased considerably. Of course, some important questions remain to be answered. A thorough cost-benefit analysis comparing different strategies of the same violation, or comparing strategies directed towards different violations, is probably the most pressing point on our research agenda. To perform such a study, it would be necessary to agree on standards to measure and compare police intensity in different national regions, and - on a larger scale - in various international regions.

In practice, Dutch police enforcement has contributed its share in reducing the total death toll, but it would be somewhat presumptuous to speak of a 'success story'. A number of good and effective enforcement projects do not belie the fact that, in general, police enforcement of traffic offences has been scarce, has sometimes been badly organized and has recently been on the decline. Notably, the Dutch increase in driving and drinking in 1994 has been attributed to this recent decline.

In the Netherlands, police enforcement is most often part of a road safety project in which several agents participate: local government, road authority, police. The study of processes in the police organization itself has led to some insight in barriers and facilitators in enforcement projects.

Three important barriers to successful police enforcement derive from the professional culture of the Dutch police, which may lead to a biased perception and a lack of motivation with respect to traffic enforcement (Wesemann, 1994):

1. The first barrier is due to the fact that police management often attaches greater priority to counteracting 'ordinary crimes' and enforcing regulations for the protection of the environment.
2. The second barrier to enforcement activities relates to the way the police view their prime task, and how they measure the results of their efforts. They tend to view their task as the pursuit and apprehension of law offenders.
3. The third barrier is connected with the motivation of police to choose this profession. One of the major incentives is the high degree of autonomy that is given to the man/woman on the beat when performing his/her duties. If police management prescribes very detailed strategies for traffic enforcement, this would probably be regarded as an encroachment on his/her own responsibility by the person in the field; consequently, such directives would excite a lot of criticism and resistance.

Another set of barriers to successful enforcement projects has to do with organizational complications. With a few local exceptions, the Dutch police organization has no separate traffic branch. Three recurrent organizational problems are:

1. Scarcity of financial and material resources:

In the Netherlands, scarcity of resources will always be the background to any decisions regarding traffic enforcement. However, this scarcity should not become a routine argument against any involvement in traffic enforcement.

2. Uneven distribution of adequate information or knowledge:
In general, Dutch police officers are 'generalists' rather than 'specialists', working on different projects: e.g. environment projects, shoplifting projects, youth projects, traffic projects or drug user projects. Of course, there are a number of traffic specialists in the police organization, but they are distributed unevenly through the organization and are sometimes not even involved in traffic projects.
3. Poor communication between the different sections within the police department:
In several enforcement projects, planned capacity has not been realized, due to poor communication between planners and police in the field. It has been recommended that the police in the field are involved at an early stage of a project and are asked to cooperate on aspects of the enforcement plan. Further advice has been that the total enforcement plan leaves some room for manoeuvre to the individual policeman.

The best countermeasure to overcome these barriers is continued demonstrations of effective enforcement that have persuasive appeal. Therefore, we now turn our attention to the keys to successful enforcement: joint problem-solving, productive cooperation, realistic aims, inside publicity and feedback and regular evaluation.

Joint problem-solving

A proper problem analysis should be the first step in any enforcement project. Accident statistics may give the impression that a certain road constitutes a 'safety problem'. However, the exact nature of the problem should be investigated before any far-reaching decisions concerning police input are taken. For particular 'problem roads', it may well be the case that not speeding in itself, but specific manoeuvres such as overtaking, turning left etc. account for a large proportion of accidents. In that case, the decision to enforce the speed limit on those roads may not be well-considered. If road design intrinsically induces road users to drive at high speeds, then engineering solutions should be considered.

The decision to allocate scarce police resources to improve road safety should preferably be based on a joint focusing by different parties on the problem of road safety. A road safety problem may always be viewed from different perspectives. Different parties with different knowledge and views may fruitfully complement each other and thereby avoid one-sided or biased solutions.

The police, as the alert 'eyes and ears' of society, should make its own active contribution to this problem-solving phase. A possible outcome of such a problem-solving exercise may be that police enforcement is not the most suitable instrument.

An important condition for joint problem solving is that the parties involved (police, road authority, local government) take time to analyze the local road safety problem and to inform each other about recent

results or developments in this area. If parties have different views on any matters, time should be taken to find out what exactly constitutes common ground and what are the points of disagreement. A hastily cooked-up compromise often results in the worst possible solution.

Productive cooperation

Before and during enforcement, the police have to cooperate with the other parties involved. It has often been said that the problem of productive cooperation is 'getting the right people together at the right time'. An important condition for effective cooperation is that each of the parties takes upon itself a well-described task for part of the project. After the problem orientation phase, decisions about a campaign and an enforcement strategy should be made. Clearly, a requirement for this is that the participants have the specific know-how for this and are authorized to make budget and policy decisions for the project.

Clearly described and realistic aims

A project should have a clearly described aim, such as bringing about an increase in the seat belt use of drivers by 15 percentage points. A precisely formulated, realistic aim directs the attention to the methods and intensities of enforcement to be used, motivates the police personnel on the street and enables a clear evaluation of the project.

Inside publicity

The police personnel who carry out actual enforcement operations on the streets should be involved in the project at a very early stage. Special education or information programs may be called for if low motivation of police personnel is to be expected. Furthermore, police personnel should preferably be informed about the different aspects of the project, they should receive regular feed-back about the effects of their efforts and, ideally, they should have some flexibility as to the planning of their enforcement operations. Police officers will presumably be more motivated to give their best efforts if they have some input into the planning process of the total strategy. Of course, this element of flexibility of planning should not interfere with the general principles of effectiveness to which the enforcement strategy should conform.

Evaluation

An effect evaluation is necessary to determine how effective the enforcement has been and whether the aim has been realized. A process evaluation is necessary to establish whether planned activities have been carried out and whether coordination has been effective. In the light of practical considerations, it cannot be expected that every evaluation conforms to strict research criteria (e.g. use of preliminary and follow-up measures, statistics of 'matched' control area). Often, evaluations have to be fairly straightforward and be limited to incomplete and/or simple statistics. Nonetheless, even simple, straightforward evaluations usually do have a clear instructive value and often save time for the next project.

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