

Progress in the field of urban traffic law enforcement

Contribution to 'The International Conference Strategic Highway Research Program (SHRP) and Traffic Safety on Two Continents' 22 September 1995, Praque, The Czech Republic

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1. Introduction

Police enforcement is a necessary element in road safety policy. In the Netherlands and elsewhere many studies have been conducted on the effects of enforcement. Most of these were small scale studies of a practical nature, with limited room for the generalisation of results. Recently two reviews of studies on police enforcement were published (Goldenbeld, 1993; Zaal, 1994). On the basis of these reviews, some more general conclusions can be drawn on the effectiveness of enforcement strategies (Goldenbeld, in press).

2. Elements of effective enforcement

One of the key elements of success is publicity in advance of enforcement activities. The public must know what to expect from the police in order to anticipate and avoid being caught. In the course of the enforcement activities, the public must again be made aware of this by means of highly visible enforcement and repeated publicity to prove that there is a real chance of being caught.

Given the limited resources of the police, enforcement has to be directed at target times and locations. But within these limits, enforcement should be random. In other words, the public must get the impression that they are unable to predict and thus avoid detection by minimal, temporary changes in their behaviour.

In many of the Dutch studies use was made of manpower that was available on a regular basis. By applying the elements just mentioned, better effects were obtained with the same, low level of enforcement as with more traditional enforcement strategies.

3. Context of police enforcement

Police enforcement is part of an approach to road safety based on legislation with rules on how to behave (or not to behave) in traffic. When a new rule is introduced, an old one is changed or found to be violated on a large scale, the question is how much and for how long enforcement is needed to obtain a sufficient level of compliance. As a matter of fact, some rules need more enforcement than is practical for the police, others hardly need any enforcement at all. In general, compliance with a rule can be reached by successively addressing groups of road users which are on a continuous scale of willingness to comply.

Without a rule there will always be a group of road users who already comply with the (intended) rule, either because they feel this is the right thing to do, or because they do not feel the need for other behaviour. A first step to compliance is to introduce a formal rule. Based on the authority of the government, this may be reason enough for some road users to comply, as long as the rule does not interfere with personal interests. For others, public information is needed to explain why compliance with this rule is in the interest of road safety. These road users are convinced by argument and for them the threat of a sanction is irrelevant. However, more road users will be convinced of the need to comply if a violation is sanctioned. They just want to stay out of trouble. Actual enforcement is not yet necessary as long as it is realised that the police is able and willing to enforce the rule if they have to. A next group of road users will need proof of actual enforcement before they are willing to change their behaviour and comply. For some, even this is not sufficient and enforcement has to be more threatening. This can be done by making the enforcement unpredictable as mentioned before. This leaves a group of road users with a strong interest to violate the rule who can only be made to comply by more enforcement. It looks as if this is a group of road users who will repeatedly test if the level of enforcement is really as high as they are made to believe or if they can predict when and where to expect actual enforcement activities. What is now left is a hard core of road users who seem to be immune to the threat of being caught and sanctioned.

The size of the different groups of road users can be estimated on the basis of a population survey (e.g. Noordzij, 1992). This will tell if it is necessary to have actual enforcement to obtain a desired level of compliance. All this does not answer the question of how much enforcement is needed. But it is clear that the level of enforcement depends on the steps that have already been taken to obtain compliance with a traffic rule. Increasing the level of enforcement is not likely to be effective as long as earlier steps have not been taken carefully. To be more specific: increased enforcement will not be very effective if it has not been made unpredictable or this is not well known to the public. Anyway, the effect of enforcement will be minimal if the public is not informed and partly convinced of the safety benefits of the traffic rule under consideration.

4. Priorities for urban enforcement

The large number of traffic rules poses the question on which rules to concentrate enforcement activities. Ideally, this selection of rules should be based on exact knowledge of the frequency of violations and their relation with accidents as well as on the relation between enforcement and violations. This is not the present state of knowledge. Only for some rules there is empirical proof of a relation between violations and accidents and only for some of these an estimate can be made of the savings of accidents if violations were prevented. These are rules referring to the well known problems of drinking, not wearing seat belts and speeding. These are not exclusively problems of urban traffic safety. However, drinking and not wearing belts is more frequent in urban areas. Enforcement of these rules may be concentrated on urban roads, since most trips on rural roads begin and end on urban roads anyway and since this is more practical. Speeding is a problem on all types of road, both urban and rural.

A further selection has to be made on other grounds such as an analysis of statistics on traffic accidents and casualties. In the Netherlands, for this purpose an analysis was made with variables as inside-outside urban area, vehicle type (of casualty and other party) and intersection-road section. Major groups of casualties were found as passenger car occupants, mostly in single vehicle accidents outside urban areas and cyclists and moped riders, mostly inside urban areas at intersections in collisions with cars (Noordzij, 1989). In the latter case, many of the car drivers should have given priority to cyclists and moped riders.

The last step in planning enforcement activities is to select times and places. These are times and places with a high number of violations and/or a high number of accidents.

5. Integrated, urban enforcement projects

Most of the Dutch studies were concerned with police enforcement of one type of violation only, over a relatively short period of time. The next question is if enforcement on a number of rules can be combined and continued over a longer period, or how to implement the elements of effective enforcement as standard enforcement activities. Two studies will be presented of such integrated enforcement projects.

Leyden

In the region of Leyden, all the available manpower for special traffic enforcement, for the whole year of 1990 was programmed. Major features of the program were:

- publicity in advance and at regular intervals during the year;
- selection of concrete goals in terms of a reduction in the proportion of violations of each traffic rule;
- combined enforcement of more than one rule whenever practical;
- highly visible, stationary types of enforcement;
- special facilities to save time with the processing of offenders;
- simple administration for interim evaluation and modification.

In more concrete terms, the program consisted of ca. forty (mostly) weekend nights of enforcement on drinking and driving (in combination with enforcement of the use of seat belts). Seventy days of enforcement on speeding inside as well as outside built up area (in combination with enforcement of the use of seat belts during morning hours, plus on drinking and driving during the evening). Ten days of enforcement of the proper use of helmets by moped riders (in combination with technical checks of moped).

The evaluation of the project (Mathijssen, 1992) showed that much less time was spent on drinking and driving. There were fewer special teams during nights and the police seldom took a breath test of drivers who were stopped for speeding. Roadside surveys did not show a change in drinking. This was not surprising, since random testing had already been in operation in the region the year before and drinking and driving was already at a lower level.

The police were reluctant to enforce seat belt wearing and preferred to give a warning rather than a ticket. Wearing rates were found to be slightly higher during and at the end of the project.

The enforcement of speed limits was very different in practice, because the police were ordered by the district attorney to limit the number of tickets based on photographs (rather than after stopping the driver). Also the number of drivers who were stopped was lower than planned. Even though large numbers of drivers must have seen the police engaged in stopping drivers for speeding, there was very little change in driving speeds.

Little time was spent on moped riders. Tickets were issued for technical and administrative violations, but not for incorrect wearing of the helmet.

Amsterdam

In Amsterdam a campaign was organised to improve the safety of cyclists (Twisk, 1993). The campaign was directed at both car drivers and cyclists by means of enforcement and publicity. The idea behind the campaign was to offer the cyclists safer traffic conditions and in return request safer behaviour by cyclists themselves and justify enforcement. The campaign concentrated on a network of cycle routes. On this network, conditions for cyclists could be improved by changes to the timing of traffic lights and fewer red light and parking violations by car drivers which are dangerous for cyclists. This required enforcement activities directed at car drivers. Safer behaviour by cyclist was requested in terms of fewer red light violations and the use of bicycle lights. Cyclist could avoid a fine by having their bicycle lights repaired or replaced. The campaign was initiated by the traffic police, who had to obtain voluntary cooperation by local police districts.

In practice it proved difficult to obtain this cooperation and to motivate police personnel to direct enforcement activities at cyclists. The campaign caused a lot of publicity, however, the idea of safer behaviour by cyclists in return for safer conditions (and safer behaviour by car drivers) was poorly understood. Much attention was drawn by the option of repairing/replacing bicycle lights to avoid a fine.

The increased enforcement resulted in fewer red light and parking violations by car drivers. It seems that neither car drivers nor cyclists realised that the goal of this was to provide safer conditions for cyclists. The level of red light violations by cyclists did not change, despite increased enforcement. For a very long time cyclists had experienced that the police tolerated their violations and it must have been hard for them to believe this had changed.

6. Motivational and organisational problems

Both studies on integral projects indicate that motivation and organisation of the police form major problems in the realisation of enforcement projects.

Police personnel tend to see the participation in a planned project as a restriction of their autonomy. They seem to prefer detecting violations rather than preventing them and have more interest in serious business as compared to traffic violations or violations by cyclists. Informing and involving police personnel at an early stage of the project is therefore essential.

At both high and low levels of the police organisation there is concern about their relation with the public. Negative reactions will discourage the police from taking action. The reactions of different parts of the public to future police activities can be predicted by surveys and, if necessary, anticipated.

The police have limited resources for traffic enforcement, which is often used as an argument not to engage in planned projects. Dutch police officers are general and have no special experience in traffic enforcement. This means that they need special instruction when participating in a project.

In large scale projects, several levels and units of the police force are involved which do not usually communicate with each other. The communication between them needs special attention. The same applies to other parties outside the police organisation involved in these projects.

7. Conclusions

From all the studies, the elements of effective police enforcement are rather well known: publicity, visibility, target times and places, otherwise random.

If actual enforcement of a traffic rule is necessary, depends on earlier steps to inform and convince the public of the safety benefits of the traffic rule. Increasing the level of enforcement is not very effective if it has not been made unpredictable.

In urban areas, priority can be given to enforcement on drinking and driving, seat belt wearing, speeding and -in the Netherlands- priority to cyclists at intersections.

Informing and motivating police personnel and communication between all parties involved inside and outside the police organisation, are essential for the realisation of large scale enforcement projects.

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