

GAMBIT: Integrated Programme of Road Safety Improvement in Poland

Some observations about the road safety situation in Poland, about the structure of the GAMBIT programme and about programme components

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1. Introduction

Poland, like all Central and East European Countries (CEECs), is faced with the enormous task of implementing political, economic and social changes in converting its centrally controlled planned economy to a market economy. Transport and infrastructure are of vital importance in bringing about these changes and achieving economic growth. Economic growth will lead to increased prosperity and to a rise in the number of private cars owned. Once economic growth is established, this will also result in increased mobility: more transportation of goods, including by road, and higher mileages by private motorists. Unless the road system is expanded and the quality of the existing road system improved, major problems will arise: capacity problems that lead to less efficient use of the infrastructure and hence to economic losses and problems relating to nature and the environment, various difficulties (such as through traffic passing through small towns and villages, city centres congested with cars) and more accidents and casualties.

Fundamental characteristics of the road safety problem in Poland are well described in different reports: first of all in documents of the GAMBIT-project itself (GAMBIT, 1995 and 1996), as well as in a WorldBank report (Gerondeau, et al., 1992) and during a policy seminar on road safety in CEECs in Budapest (WorldBank, 1995).

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2. Road safety: a social and political problem

Road use fairly seldom results in an accident for a road user. For example, on average a road user in the Netherlands gets involved in a fatal accident every 10 000 years. It is understandable that the risk of an accident occurring is virtually of no importance in the daily driving experience of a road user. Looked at in this way, road safety is not a problem. However, because a great many people live in a country and use the roads and because there are a great many streets and junctions, a completely different picture emerges. Viewed collectively, there is indeed a problem. Every year tens of thousands of people die in road accidents in CEECs (compared to 50,000 per year in the EC), including many children and young people. The yearly road toll is about 7000 killed people in Poland. In addition, hundreds of thousands of people are injured in road accidents, which makes heavy demands on the health service as many accident victims are permanently disabled. All this results in substantial economic losses (1 - 2% of the GNP).

In addition to the factual, objective consequences of accidents, road safety has another, more intangible and subjective dimension. Responsible citizens complain to the government about hazardous situations: people drive too fast or a crossing is dangerous. There are parents who are bothered by the feeling that something could happen to their children in traffic. These are objective and subjective aspects of the same problem, a problem that, individually, results in tragedies, a problem that incurs enormous social costs for society as a whole.

Yet road safety does not seem to be perceived as a major social problem; nor is it perceived as a major political problem. If a society does not appear to take road safety seriously, it is extremely difficult to gain public support for road safety measures, either from institutions or from individual citizens and road users. A form of social mobilisation is involved here, the first phases of which are problem identification and problem recognition. Public support based on public awareness is no static concept, but rather a dynamic one. Public support can be created and if it exists one day, it can diminish the next. The result is that 'maintenance' is needed. In addition to establishing an effective organisational structure, achieving public support is one of the first activities that could be carried out within the framework of an (intensified) road safety policy.

Influencing social norms of behaviour in traffic follows naturally from this (Evans, 1991). Hence in the Netherlands, drunk-driving has been reduced not only as a result of more intensive police enforcement, but also because a successful policy has been pursued to reduce the social acceptability of drunk-driving. This campaign fitted in with a more general campaign to discourage people from drinking alcohol ('alcohol ruins more than you think' and 'enjoy, but drink in moderation'). It appears that these forms of behavioural influence are also effective in other areas (smoking, healthy diet, physical exercise) and can be in the field of road safety.

An approach known as social marketing has recently begun to play a part in road safety policy in different countries. It includes phases of analysing the

'market', determining the needs and requirements of the target group, formulating clear objectives, strategies and implementation programmes (OECD, 1993). There is an impression that if this approach had been adopted earlier, certain policy objectives would have been achieved earlier and at lower cost. This conclusion is partly due to the fact that the belief in legislation and subsequently in the enforcement of legislation has diminished. This option does not appear to lead to the objectives set or else would involve prohibitive costs.

This does not mean to say though that no legislation would be required for some issues. There is sufficient evidence (e.g. Wegman, 1992) that legislation and the associated enforcement of legislation has positive effects on behaviour (speed limits, wearing a seat belt etc.). What is in fact meant here is that legislation should not be the start of a journey that leads to a change in behaviour, but rather it should be the end of the journey. Legislation would only be introduced when (a considerable proportion of) road users have seen the sense of changing their behaviour and have demonstrated the desired behaviour to a certain extent. This approach will probably result in less discussion about the content of legislation and in better legislation!

Now that there are signs of regained freedom in CEECs, manifested by an unwillingness to obey traffic regulations etc., it might be interesting not just to react by introducing new and stricter legislation in this area, but to follow this social marketing approach.

3. Road safety: a policy problem

For years countries have had the task of improving road safety and many, if not all countries in the world will make an effort in some way. Politicians and policy-makers in positions of responsibility call road safety a serious social problem yet it does not seem to be taken seriously as a policy problem. The following statements have all been made at some point:

- The yardstick used is inadequate. Accident records are incomplete and those accidents that are recorded occur throughout the entire road system, seemingly unsystematically; there is nothing that can be done about it.
- Road safety measures encounter opposition, especially those that restrict individual freedom.
- The effects of measures are debatable and unknown in advance. With regard to the cause of and remedy for accidents, different opinions are fairly often expressed and it cannot be proved whether these are right or wrong.
- The effects of measures are not subsequently 'measurable'. It often proves difficult to make statistically sound judgements because the effect of measures is often difficult to 'isolate' from other influences and because chance fluctuations can play a major part.
- Central government cannot do everything alone. Tackling the issue of road safety requires effort from many bodies. This means that good collaboration is essential. It is difficult to achieve good collaboration and a lack of it can be demotivating.
- There are doubts about what authorities can do. It is difficult to determine the effects of measures taken by authorities in terms of a reduction in accidents and at first sight the effects are not apparent. As a result of this the view can - mistakenly - take root that a local government policy makes no difference.
- Understanding of road safety problems is not enough, whereby common sense and personal experience as a road user sometimes determine the view of individual policy-makers and politicians. This situation in itself leads to disputes as regards content and policy.
- There is a lack of administrative precedent and experience in implementing measures. Tackling the issue of road safety - particularly where road safety is a facet of other areas of policy - has virtually no administrative precedent.

More than enough reasons for coming to the conclusion that formulating and implementing a road safety policy is no easy task. Quite apart from the 'usual' problems such as inadequate funds and a lack of sufficiently qualified personnel, whose numbers are, moreover, dropping, due to government cuts. In policy and administrative terms the improvement of road safety is a persistent and tricky problem requiring a great deal of inventiveness and decisiveness and involving a real risk of failure. To put it briefly, the improvement of road safety is not a subject for timid administrators who like to play it safe. From this perspective, the GAMBIT-programme can be seen as an important step towards gaining support for an effective and efficient road safety policy in Poland.

4. A National Road safety Plan

A National Road Safety Plan is an important means of getting and keeping this subject on the political agenda. What is more, a plan of this kind can also act as a reference for implementing policy. First and foremost, the plan should include a philosophy about how road safety is to be improved, in the short term and in the longer term. The plan should therefore open up possibilities and indicate frameworks.

A plan is not enough in itself. Conditions must be established that the plan will also be implemented. In the Netherlands, quantitative road safety targets (minus 25% casualties by the year 2000) have proved to be an effective way of seriously monitoring the implementation of a plan and are also a good means of achieving a more effective policy.

Targeted road safety programmes seems to be a promising approach in road safety (OECD, 1994 and Wegman, 1996). A targeted road safety programme is based on a clear target and consists of a set of counter-measures designed to reach the target. Targeted programmes lead, most probably, to safety-consciousness and more motivation and dedication of those who are designing and operating our road transport system using scientific knowledge as much as possible.

In the Netherlands, a great many policy plans have emerged in the past in the area of road safety. Based on this experience, it is advisable to devote some attention to the following 'ten commandments' in a road safety plan:

- raise awareness and support in society and create public acceptance of safety measures;
- integrate with other areas of policy;
- create network of well-educated professionals and interested citizens;
- use know-how when implementing policy;
- check quality of implementation;
- combine long-term strategy with short-term successes;
- start with well-known and simple cost-effective measures;
- reduce chance of human error by increasing predictability in traffic, making traffic more homogeneous, reducing speed and separating road user categories;
- improve vehicle safety;
- improve emergency services and hospital care.

5. Organisation of a road safety policy

A former Dutch Minister, who was responsible for coordinating the road safety policy, once wrote: “As Minister of Transport, Public Works and Water Management, I am responsible for the national road safety policy. I do not shirk this responsibility. However, I would stress once more that a Minister alone can accomplish very little. Road safety is a matter that directly concerns half of the Cabinet, but also, and particularly, administrators of provinces and local authorities, not to mention over 14 million other Dutch people” (Ministry of Transport, Public Works and Water Management, 1987).

The following conclusions were drawn from this:

- attach more importance to coordination within the Cabinet;
- more targeted collaboration by all of the organisations within a province that have a role to play within the context of road safety;
- persuade citizens to obey traffic regulations that are vitally important.

Attaching more importance to coordination within the Cabinet means first and foremost making a statement of political will. A statement of this kind, supported by the Cabinet, legitimises activities relating to harmonising policy in various areas in the context of the improvement of road safety. The ‘competitive position’ of road safety is reinforced by the quantitative terms of reference which have been in existence for some years now: 25% fewer casualties by the year 2000 and before 2010 50% fewer deaths and 40% fewer injuries than in 1985 (Ministry of Transport, Public Works and Water Management, 1991). Dutch Parliament reconfirmed its dedication to reach these targets recently, despite some unfavourable developments in the field of road safety.

Over the years it has proved necessary to have a separate unit within central government where road safety policy is coordinated and specific aspects of the policy can be implemented. Due to the complexity of road safety problems, some countries have opted to house this ‘Road Safety Agency’ within the offices of the Prime Minister (Japan, France). Other countries have brought an unit of this kind within a specialised department, usually the department that is responsible for transport and/or infrastructure. This agency organises (formal) discussions with other ministries. In addition, discussions with other organisations and institutions, that are of relevance to road safety, are very important.

If, in addition to coordination, an unit of this kind is also allocated executive tasks, two risks should be combatted. First of all that other departments within central government (in the field of physical planning for instance, the health care system or the police supervisory organisation etc.) think that, because a road safety unit exists, they can be less involved. It might also happen that the dynamism of the road safety unit takes the initiative away from other bodies.

To summarise, an attractive type of organisation is a separate unit or agency which combines implementation of policy (particularly within the road safety sector, such as driving lessons, road safety campaigns) and

coordination of policy (road safety seen as a facet of other areas of policy). This unit should have sufficient direct access to a Minister in order to be able to aim at an effective policy. The unit has a relatively modest budget to enable policy to be implemented by others based on the idea of 'setting a sprat to catch a mackerel'. In addition to carrying out its own tasks efficiently, the service will lay great emphasis on coordination by facilitating the activities of others, by providing encouragement and by making it attractive for others to contribute to promoting road safety.

Neither one Minister alone nor central government alone will be capable of pursuing an effective road safety policy. These days, there are doubts about a 'makable society', but the view that central government could make a society finds little support any more. Other sections of government and private organisations are vital links. Local and provincial government in every country in the world has a crucial role to play in physical planning and in the construction and maintenance of road infrastructure, where they enjoy a relatively large degree of policy freedom. The more active these administrative layers are, the more knowledge that is available, the higher the budget allocated to improve road safety, the more effective the efforts made in terms of a reduction in the number of road accident casualties. Perhaps this is one of the most important organisational provisos for a successful road safety policy.

Another effective means appears to be to allow private organisations to participate in formulating policy and to involve them in implementing aspects of the policy. What is more, private organisations need to work together and reinforce one another rather than hinder one another. The road safety unit has an important part to play in this process. Private organisations and organised interest groups that are working together must be considered capable of exerting social pressure and creating public support within society. A road safety parliament or a road safety council might be seen as a formal expression of these views.

6. Content of the road safety policy

Since the beginning of the fifties a great many measures have been taken that have resulted in a substantial reduction in the risk of having an accident and have also led to a decline in the annual number of casualties. It seems that for the Netherlands, as well as for other countries, it is not possible to give a satisfactory explanation for the actual development; it is, however, possible to give an expert opinion on the basis of research findings.

6.1. Road users

Safe participation in traffic is complex and is something which has to be learnt. A person who has just obtained a drivers license has a traffic risk of approximately 3 times that of an experienced driver. Safe driving is only possible when drivers have gained practical experience in traffic. Drivers need 100.000 km driving experience before an 'expert level' is reached. Considering the large number of young drivers involved in the total accident problem (in CEECs there is the question of a large influx of novice drivers) a high quality initial driving course combined with the possibility of a provisional drivers license is of great importance.

The first generation of road safety measures in many countries concerned rules: first and foremost a Highway Code that included aspects relevant to road safety. In this context the following can be mentioned: speed limits (50 km/h in built-up areas), alcohol legislation, compulsory wearing of front and rear seat belts etc. The experience in many countries is that legislation is unavoidable, although it is much more important that there is public support within society for a particular law and that the government is seen to be taking its own laws seriously. The latter aspect is apparent from the lengths a government will go to to make the police enforce the law. Furthermore, it has proved useful to consider legislation as one of the elements of a process that leads to a change in behaviour (Wegman, 1992). The weakest link in the whole process determines the degree of effectiveness and a great deal of information can be found in the literature about how to maximise the gain in road safety while minimising the cost. Enforcement should fit into a totality: legislation, education, enforcement and judicial procedures, it should have a permanent character, should have sufficiently high perceived probability of detection, should be directed towards for road safety relevant and clearly visible behaviour (speed limits, drinking and driving, seta belts, crash helmets). Enforcement should be carried out by well trained and motivated police personnel with good equipments.

6.2. Infrastructure

The sixties and seventies saw a great deal of investment in road infrastructure in the Netherlands. This resulted in a considerable expansion of the motorway network and in through traffic being diverted away from built-up areas. Comparison of the fatality rates for various types of roads reveals that the traditional roads (main roads within built-up areas and dual carriageways outside built-up areas, to which all traffic is admitted) are among the most hazardous in the Netherlands. The fact that the proportion of safe types of road (calming areas and especially motorways) in the total

length of infrastructure has increased, and that the proportion of mobility on these roads and streets has increased even more sharply, has certainly contributed to the drop in the fatality rate by some 6 to 7% since 1950.

A large part of the present Dutch road system, however, is still that roads and streets are expected to fulfill several incompatible functions at the same time, where the road user has generally to guess what to expect from the road traffic situation and is presumed to guess what others expect from him, where road users can and do drive at relatively high speeds, where large differences in speed are possible and do in fact occur, and where encounters with other road users coming from different directions are possible (SWOV, 1993). These factors explain the relatively high risks on these roads. There is some talk of a road system that has all the characteristics of gradual adaptations (not geared to one another) of the increase in mobility. There are three principles which, if they were adopted systematically and consistently, would result in a substantial decrease in the number of casualties.

These three safety principles are functional use (preventing unintended use of the infrastructure, related to the function of the road), homogeneous use (preventing large discrepancies in speed, direction and mass at moderate and high speeds) and predictable use (preventing road users from experiencing uncertainty).

If these principles were to be adopted, three functions of the road system would be clearly discernible for the road user: the flow function (rapidly processing with through - long distance - traffic), the distributor function (serves districts and regions with scattered destinations and the access function (making homes and shops along a road or street accessible and at the same time making the street a safe meeting place: residential function). The design of the roads should be adapted to the allotted function; combinations of functions should be excluded as far as possible. It would have been advisable when constructing and expanding the road system to adopt the principles mentioned as strict as possible. For that, a reference plan for the whole infrastructure is needed in which a hierarchically designed road system should be the starting point. Furthermore, design guidelines are needed in which road safety forms an important starting point and where (legal?) steps were taken to prevent deviation from the required design quality.

Now that Poland can expect an increase in mobility and expansion of the infrastructure, it would be advisable to speak out in favour of such an approach instead of acquiring a higher degree of road safety at a later date at a much higher cost, as is the case in highly motorised countries at present.

This does not mean though that no further gain in road safety could be achieved in the short term with infrastructure measures. On the contrary, it is advisable to take low-cost measures in places where many accidents occur. The SWOV has started work on a manual that could be used in CEECs (Slop, 1993). In this manual, knowledge of the so-called 'black spot approach', resulting in low cost engineering measures, in highly motorised countries will be combined with the specific problems in CEECs and the existing expertise in this area.

Furthermore, highly motorised countries have amassed a great deal of knowledge, which at present is termed basic but which has been built up over many years, about the effect of road design, road construction and materials on road safety. Examples include the use of marking and signposting, road surfaces (unevenness) and winter maintenance. From the point of view of harmonisation it is also advisable for Poland to adopt the general course of action of becoming a party to international treaties and conventions in this field.

6.3. Vehicles

Vehicle flaws and defects contribute to the cause of about 19% of the accidents in highly motorised countries. The expectation is that in countries like Poland the percentage will be higher. Defects on brakes account for about the half and tyre defects cause about a quarter of vehicle-defects related accidents. Vehicle inspection could - for safety considerations - be directed towards brakes and tyres. Estimates in the USA show that the 'better vehicles' have led to 15-20% less occupant fatality risk (Evans, 1991).

A target for Poland could be to achieve as soon as possible the 'western quality' in the area of vehicle safety by adopting international (EC) regulations and through an adequate organisation of vehicle inspection.

6.4. Post crash management

Proper treatment of the injuries of road accident casualties is vital to prevent the - unnecessary - death of any injured parties and limit the seriousness of the injuries, thereby minimising the risk of permanent injury. Apart from the human dimension, this also has implications for the economical costs of road accidents. This involves minimising the delay before treatment is administered and making professional help available as quickly as possible. This is an organisational problem (communication systems to enable an accident to be reported quickly, conveying doctors and nursing staff to the scene of the accident, transferring casualties to hospitals and proper treatment). All of this is particularly important for multi-trauma patients. The first hour after an accident is crucial.

In the area of assistance for road accident victims, as a rule the health service infrastructure will have to be used. One telephone number is therefore in operation in the Netherlands to report emergencies. It took an (unnecessarily) long period of time to establish this number because it was replacing existing local and regional systems. Since it may be assumed that a national system is the most efficient, the question arises why it is not immediately adopted. With regard to conveyance by ambulance and the quality of ambulance personnel, it is less a question of organisation and more one of costs and training.

7. Conclusions and recommendations

1. If it is assumed that the recent political and economic changes in Poland result in economic growth, there will be an extra increase in mobility which, unless road safety measures are taken quickly, will lead to a decrease in road safety in Poland. The increase in the number of road accident casualties in recent years proves that this expectation is correct. The number of casualties per 100,000 inhabitants and per 10,000 vehicles is (substantially) higher in Poland than in highly motorised countries.
2. It is realistic to expect that an effective road safety policy in Poland will result in a smaller decrease in road safety, as was the case in highly motorised countries until the beginning of the seventies.
3. With the knowledge that is presently available about the developments in road safety and the effectiveness of measures in highly motorised countries, the approach adopted in these countries could perhaps have been different than was the case in the past. Poland might consider learning from this.
4. Road accidents usually occur as a result of a critical combination of circumstances and seldom have just one cause. There appear to be many opportunities for preventing human error that brings about road accidents (cf. the so-called phase model of the accident process). This could be used as a starting point when formulating a road safety policy. This means that thoughts and arguments with regard to road safety have to play a role in decisions concerning physical planning and urban development, in traffic planning, in policy concerning education, the police and justice system, the health service etc. This calls for integrated road safety programmes and requires the government to be organised in such a way as to reflect these. A unit with the important task of coordinating policy is a vital aspect of this organisation.
5. A politically sanctioned National Road Safety Plan, that is based on the starting points formulated above, is regarded by the entire road safety community as being its 'ownership', can count on the support of (large sections of) the public, is based on a clear analysis of road safety and contains concrete (quantitative) targets, can make a significant contribution to improving road safety. The implementation of this Plan should be monitored and the evaluation results of the monitoring should, if necessary, and in view of the targets to be achieved, lead to additional efforts being made. The final GAMBIT programme could serve as a sound basis for this Polish Road Safety plan.
6. The improvement of road safety should be situated in the long-term perspective of development towards 'sustainable' safe road traffic. Such a long-term perspective (20 years or more) should include concrete short-term goals. Steps should be taken to prevent measures being taken that jeopardise long-term targets: making compromises hinders the achievement of long-term targets and leads to extra costs being incurred. Short-term successes are most welcome. We suggest to publish every

year a 'Annual report on road safety', in which the state of affairs is presented.

7. Based on political will, on a proper organisation and making use of existing knowledge on the most effective and efficient measures, road safety can be improved. The chain is as strong as the weakest link. Improvement of road safety is an organisational and management problem in which the role of the government is crucial. Financial resources - or rather the lack of them - should not so much determine targets, but rather should only affect the speed at which the objectives can be achieved.
8. Active actors (vojvodina's, municipalities, police forces, etc.) are needed and opportunities have to be created to make it attractive for them to pay attention to this policy field. It is recommended to create a network of well-educated professionals, together with interested citizens, peer groups and politicians. In between all key actors (politicians, road safety experts, private organisations, peer groups and press) an understanding has to be conceived and a sort of 'leadership' need to be created and accepted by all actors. This could create problem ownership, partnership and public acceptance of road safety policy and measures. The GAMBIT results have the potential to act as accelerator in this process.

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