ABSTRACT
Poland continues to have the highest number of road deaths per one million population in the European Union, according to a 2012 European Commission report – in 2011 the rate in Poland was 109 fatalities compared to the EU average of 61 killed. Adopted by the government in 2005 Poland’s National Road Safety Programme GAMBIT 2005 was the response to the EU’s 3rd Road Safety Action Programme. Despite extensive road safety efforts, the goal of Programme will not be fully met mainly due to lack of political and operational leadership and poor cooperation between road safety bodies.

Work on a new National Road Safety Programme for the years 2013-2020 began in 2012 and were carried out by the National Road Safety Council. The authors of the paper supported the works, so that new strategy draws on the experience from the previous programme GAMBIT 2005 and addresses the challenges brought by European Union programmes and UN programmes. As a results this strategy follows several key principles like:

– system-based approach to road safety management,
– setting final and interim targets,
– road safety improvement based on “Vision Zero” and “Safe system” with strategic interventions comprising the basic pillars of safety: road safety management, safe road, safe vehicle, safe road users, post crash response,
– focussing on the main road safety problems when identifying the priority interventions,
– integrated approach to the selection of specific measures based on the 3E principle.

The mentioned above approach was implemented in new National Road Safety Programme adopted by the National Road Safety Council in 2013.
1 INTRODUCTION

Poland’s National Road Safety Programme GAMBIT 2005 (MI, 2005) ends in 2013. Adopted by the government in 2005, less than 12 months after accession to the European Union, the programme was Poland’s response to the EU’s 3rd Road Safety Action Programme. It requires EU member states to halve the number of road accident victims during the decade 2001-2010. Forecasts show, however, that despite a significant road safety improvement, this goal will not be fully met. International experts (Wegman, 2007) point out that while Poland’s road safety strategy was developed to the high standards of current knowledge and the EU’s legislation, the delivery has been failing due to a lack of political and operational leadership, poor cooperation between road safety bodies and modest funding. As a consequence, the scale of the interventions is too small to reach strategic proportions.

In 2010 the European Commission published its road safety policy orientations for the years 2011-2020 (EC, 2010). They highlight the need to:

– create a cooperation framework based on the exchange of best practices across the EU;
– adopt a strategy for injuries and first aid to address the need to reduce the number of road injuries, and
– improve the safety of vulnerable road users.

A new target has been adopted which is to halve the annual number of road deaths on EU roads by 2020 compared to 2010. Seven key objectives have been identified:

– improve education and training of road users
– increase enforcement of road rules
– safer road infrastructure
– safer vehicles
– promote the use of modern technology to increase road safety
– improve emergency and post-injuries services
– protect vulnerable road users.

The road safety policy orientations were subsequently reinforced in the White Paper “Roadmap to a single European transport area” (EC, 2011). It sets out ambitious objectives of moving closer to zero fatalities on EU roads by 2050.

In the light of the World Health Organisation report (WHO, 2004), in March 2010 the UN General Assembly adopted a resolution establishing the Decade of Action for Road Safety and the WHO published its global plan (WHO, 2011). The Plan is based on the safe system approach (OECD, International Transport Forum, 2008). It recommends conventional measures in the basic areas of safer roads, safer vehicles and safer road users while recognising the need for road safety management and post-crash responses. In the area of road safety management countries are encouraged to develop national strategies, plans and targets and the necessary road safety capacity and structures as well as a data collection system for research and monitoring. Post-crash response recommendations include longer term rehabilitation for crash victims and a thorough investigation into the crash and the appointment of appropriate emergency bodies. These facts and opinions suggest that there is a need for a revised road safety policy in Poland to prepare for the new challenges set by the EU and UN Decade of Action for Road Safety 2011 – 2020.
2 CURRENT PROGRAMME GAMBIT 2005 – MID-TERM EVALUATION

2.1 GAMBIT 2005 objectives
GAMBIT 2005 follows a long-term vision of “zero fatalities in 2050”, a common and ethically justified target. Tying in with this ambitious vision is the programme’s main goal: to reduce fatalities by 50% in 2013 compared to 2003, i.e. not more than 2800 killed on Polish roads. The main goal is supported by 5 objectives covering 15 groups of priority actions dedicated to the main problems of road safety and risk groups (Table 1).

An evaluation of the progress towards the main goal of Gambit 2005 shows that in 2011 the number of road accident victims exceeded the target by about 22%. However, not all the annual figures were so significantly off target. In 2006 the difference was just a few per cent. 2010, however, became a breakthrough year, with 4,000 road deaths. The “Programme delivery barometer” chart shows (Figure 1) that while the number of fatalities is falling, the process itself is quite uneven.

Table 1: Objectives and groups of priority actions in GAMBIT’2005

<table>
<thead>
<tr>
<th>Objective 1: Build a basis for an effective and long-term road safety policy</th>
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<tbody>
<tr>
<td>1.1 Road safety organisational structures</td>
</tr>
<tr>
<td>Objective 2: Develop safe behaviour of road users</td>
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<tr>
<td>2.1 Speed</td>
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<tr>
<td>Objective 3: Protection of pedestrians, children and cyclists</td>
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<td>3.1 Pedestrians</td>
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<td>Objective 4: Build and maintain a safe road infrastructure</td>
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<td>4.1 Develop control measures</td>
</tr>
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<td>Objective 5: Reduce the severity and consequences of road accidents</td>
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<td>5.1 In-vehicle safety devices</td>
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</table>
The period between 2008 and 2010 recorded the strongest downward trend. Because the implementation of the strategy lacks proper monitoring, it is not quite clear how this positive change came about, whether it was the result of the measures or the consequence of actions taken in previous years. Some of the contributing factors definitely include passive and active safety devices in vehicles and winter weather (frost and snow on the roads cause drivers to significantly reduce speeds and be more careful). Sadly, in 2011 fatalities went up by 7% compared to the previous year. It is estimated that during the seven years of programme delivery, the total reduction in killed has been about six thousand.

As regards the type of roads, most of the road death reduction in the period 2003 – 2010 was recorded on urban roads (36%) with rural and county roads falling behind (27%). Despite a reduction in killed on national roads by more than 31%, the 2010 target was not reached (Table 2). The objective of a 75% reduction in fatalities on national roads turned out to be too ambitious.
Table 2: Comparison of fatalities on different road categories versus the targets of GAMBIT 2005.

<table>
<thead>
<tr>
<th>Road category</th>
<th>2003</th>
<th>2010</th>
<th>2013</th>
<th>Change 2003 - 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Target</td>
<td>Actual</td>
<td>Variance</td>
</tr>
<tr>
<td>National</td>
<td>2053</td>
<td>770</td>
<td>1406</td>
<td>636</td>
</tr>
<tr>
<td>Regional</td>
<td>1137</td>
<td>865</td>
<td>786</td>
<td>-79</td>
</tr>
<tr>
<td>Urban</td>
<td>866</td>
<td>655</td>
<td>556</td>
<td>-99</td>
</tr>
<tr>
<td>Other rural and county</td>
<td>1586</td>
<td>1210</td>
<td>1159</td>
<td>-51</td>
</tr>
<tr>
<td>Total</td>
<td>5640</td>
<td>3500</td>
<td>3907</td>
<td>407</td>
</tr>
</tbody>
</table>

The details of the progress of GAMBIT 2005 can be monitored by following the indicators set for the objectives. They show that:

– Speeding and dangerous roadsides continue to be the key road accident factors; as a result, the number of killed per 100 accidents dropped from 11.1 in 2003 to 10.1 in 2010 compared to the forecast of 6.4.
– Over the seven years of the analysis accident severity increased. The percentage of victims dying within 30 days after the accident from accident injuries versus all killed in road accidents was 28% in 2003 and as high as 31.3% in 2010.
– Vulnerable road users continue to account for a large number of road deaths. In 2003 it was 46.0% dropping to 40.9% seven years later (forecast of 34%).
– Even though Poland excels in Europe for its pace of reducing drink driving accidents and victims, it has not reached the target. In 2010 drunk road users caused crashes claiming 11.6% of all road deaths. This is by 4.1% worse than planned and only 0.6% better than 2003.
– With incomplete databases controlled by a variety of organisations (e.g. police, hospitals, universities), certain information is not available, such as the number of drivers and passengers wearing seatbelts, vehicles driving above the speed limit and the effects of infrastructure improvements.

The period 2002 - 2011 saw the implementation of a number of legislative, educational, preventive and infrastructure measures (Figure 2). Some of them did not produce the desired results and others were poorly implemented. Some of them, however, have helped improve road safety. These include:

– the Digital Tachograph Act (October 2005)
– regulations on driving license training and examinations (January 2006),
– the government’s Road Safety Delivery Programme for the years 2006 – 2007 (September 2006),
– new examination questions on first aid introduced by the Ministry of Transport (April 2007),
– the mandatory use of daytime running lights during the entire day (April 2007),
– roll-out of speed cameras and intensified speed checks (2008),
– Driver Working Time Act (June 2009)
– Road Transport Inspection Act extending the powers of the inspectors (December 2010)
– extended periods for levying fines (within 180 days from speed camera detection) (December 2010)
– the Bicycle Act which allows bicycles to overtake vehicles on the right side, gives priority to cyclists and defines the rules for using pavements (May 2011).

There were other pieces of legislation which may have caused the increase in fatalities in 2011. Under the “Speed camera” Act on 31 December 2010 a plan was developed to set up a Centre for Automatic Road Traffic Enforcement to be part of the Road Transport Inspection. The Centre was tasked with the operation of speed cameras and other automatic devices for detecting road offences. The police were to hand over this responsibility to the Inspection. However, due to competence conflict, some of the devices could not be operated. In addition, on that same day new higher speed limits were introduced:
– on motorways – raised from 130 to 140 km/h,
– on dual carriageways – raised from 110 to 120 km/h.

Many of the Programme measures were never launched, including those that were to pave the way for GAMBIT 2005 success. The measures supporting the objective “Build a basis for an effective and long-term road safety policy” were launched from the start of the Programme, with most of the efforts occurring at the regional and county level. They helped to:
– develop and implement a dedicated road safety programme (for national roads) and local road safety programmes for more than ten towns and counties,
– set up road safety councils in more than ten towns and counties,
– start work on the Polish Road Safety Observatory and organise two regional observatories.

Unfortunately, a number of important measures were never undertaken such as:
– the designation of a GAMBIT’2005 leader,
– no improvements were made to the operation of existing road safety bodies, in particular the National Road Safety Council; it should have oversight of programme delivery rather than just coordinate and support measures which could be implemented by other bodies,
– no efforts were undertaken to set up local delivery bodies (inspectors, officers, leaders), a solution which works well in other EU countries,
– no funding system was introduced for road safety work while funding is often overlooked in budget decisions,
– the monitoring of the strategy and its progress lacks efficiency,
– road safety solutions that work are not promoted.

The measures supporting the objective “Develop safe behaviour of road users” were conducted primarily at the regional and county level. The most important efforts which were either never undertaken or stopped include:
research into driver and car occupant behaviour,
road safety training for selected target groups: road safety staff, driving instructors and examiners, prosecutors and judges trying road accident cases.

The objective “Protection of pedestrians, children and cyclists” lacked the following measures:
legislation to reinforce the protection of pedestrians and children,
research into road safety and the effects of devices improving the safety of pedestrians, cyclists and children.

Despite a number of new infrastructure projects (new motorways, expressways, ring-roads) the objective “Build and maintain a safe road infrastructure” failed to support the following measures:
a road safety check of public roads design,
regular research to improve the quality of design tools,
creating the conditions to upgrade road traffic management.

The measures which the objective “Reduce the severity and consequences of road accidents” failed to support included:
creating a safe roadside (safety zones) on all roads,
launch of the 112 emergency number,
setting up Hospital Emergency Departments which are now being closed to keep costs down,
setting up a system to help accident victims and their families.

Figure 2: Road safety measures implemented in the years 2001-2011.
3 NATIONAL ROAD SAFETY PROGRAMME 2013-2020

3.1 The principles

Polish and international experience from road safety programming suggests that a modern national road safety strategy should follow several key principles:

a) System-based approach to road safety management at the national and regional level comprising three interrelated elements: institutional management functions, interventions and results (Wegman, 2001, SafetyNet, 2009, Bliss, Breen, 2009)

b) Setting final and interim targets to enable the monitoring of the strategy and a clear evaluation (OECD, 2008). The targets should be ambitious and take account of international commitments (in the case of Poland they are those agreed to by the European community) but also take account of real road safety problems based on facts and the actual potential for solving them.

c) Road safety improvement based on “Vision Zero” and “Safe system” (OECD, 2008). Safe System makes allowance for human error and recognises that there are limits to the forces humans can withstand in a crash. An essential element of the Safe System approach is the design of roads and vehicles to reduce the risk of crashes and to reduce the harm to people if a crash does happen (ACT, 2011)

d) Formulating strategic interventions comprising the basic pillars of safety (WHO, 2011). More pillars can be included as appropriate for the road safety problems identified in Poland.

– Road safety management for development of multi-sectoral partnerships and designation of lead agencies
– Safe road to raise the inherent safety and protective quality of road networks for the benefit of all road users, especially the most vulnerable
– Safe vehicle to encourage universal deployment of improved vehicle safety technologies for both passive and active safety
– Safe road users to develop comprehensive programmes to improve road user behaviour
– Post crash response to increase responsiveness to post-crash emergencies and improve the ability of health and other systems to provide appropriate emergency treatment and longer term rehabilitation for crash victims.

e) Focussing on the main road safety problems when identifying the priority interventions. In the previous decade these problems included:

– high risk of death of vulnerable road users (pedestrians, children, cyclists),
– dangerous road user behaviour (speeding, dangerous overtaking, running the red light)
– poor quality of road infrastructure

f) Integrated approach to the selection of specific measures based on the 3E principle (Education, Enforcement, Engineering).

3.2 The goals

Considering the experience of best-performing countries, Poland’s long-term and ethically justified road safety vision is to completely eliminate road accident fatalities. This “Vision Zero” means that:

– schemes designed to protect road users should be given priority before mobility and other transport objectives
efforts must be undertaken to ensure that it compensates for the shortcomings of the infrastructure and forgives the users for their errors,

– reducing accidents and their consequences is the basic obligation of all those who design, manage and use Poland’s transport system.

While GAMBIT 2005 targets concentrated on fatalities only, the new National Road Safety Programme for the years 2013-2020 have targets not only for fatalities but serious injuries as well. It was agreed that compared to 2010:

– the annual number of fatalities will be at least halved which means not more than 2000 people killed in 2020;
– the annual number of serious injuries will be reduced by 40% by 2020 which means not more than 5600 severe injuries in 2020.

3.3 Areas of intervention

The discussion on the design of the National Road Safety Programme for the years 2013-2020 (NRSC, 2013) produced a number of different proposals for tying with the five safety pillars in the Global plan for the decade of action for road safety 2011-2020 (WHO, 2011). One of the proposals was to replace the pillar “Road safety management” with the “Safe speed” pillar due to the seriousness of the problem in Poland (Job, 2012). Experience shows that the weakest link in Poland’s road safety system was the road safety management system which was incapable of implementing the previous strategies. As a result, the road safety management system should become one of the main pillars of a successful implementation of Poland’s strategic targets. In the classical set of road safety pillars, each of them may include 2 or 3 priority areas of intervention that will reflect the main road safety problems that Poland has been struggling with in the last decade (Table 3). Each of the priorities includes a set of concrete educational, engineering and control measures (enforcement and sanctions) to be included in short-term operational programmes together with their respective performance indicators.

Table 3: Structure and pillars in the 2013-2020 strategy

<table>
<thead>
<tr>
<th>Pillars</th>
<th>Priorities</th>
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</thead>
</table>
| Safe user | Develop a safe behaviour of road users (speed, seatbelts, alcohol)  
Protection of road users (pedestrians, children, cyclists) |
| Safe road | Implement road safety standards to eliminate dangerous behaviour in road traffic (speeding, head-on collisions)  
Develop instruments for the management of road infrastructure safety |
| Safe vehicle | Improve the system for checking the technical condition of vehicles and their safety devices  
Common use of effective active and passive road safety solutions in vehicles |
| Emergency response and post-crash care | Integration of the rescue system  
Improvement of emergency treatment and longer term rehabilitation for crash victims |
<p>| Road Safety | Improvement of road safety structures and establishing a lead agency |</p>
<table>
<thead>
<tr>
<th>Pillars</th>
<th>Priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management to make it happen.</td>
<td>Creation of a consistent system of road safety regulations (Road Safety Act)</td>
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<td></td>
<td>Set up permanent funding and resource allocation</td>
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<td></td>
<td>Establishing data systems for on-going monitoring and evaluation</td>
</tr>
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<td></td>
<td>Development of research and knowledge transfer</td>
</tr>
</tbody>
</table>

REFERENCES


