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PROPOSAL OF VOIVODESHIP ROAD SAFETY IMPROVEMENT PROGRAMME

The article presents a proposal of the 'GAMBIT KUJAWSKO-POMORSKI' Road Safety Improvement Programme. The main idea of the Programme is to establish and initiate systems that will be responsible for the most important areas of activity within road safety, including road safety control, supervision, and management systems in the whole Voivodeship. In total, the creation and start of nine such systems has been proposed, namely: the Road Safety Management, the Integrated Road Rescue Service, the Personnel Continuing Education, the Hazardous Road Behaviour Monitoring, the Social Education for Safe Behaviour on Road, the Teaching Personnel Improvement, the Area Development and Planning Process Improvement, the Road Infrastructure Design Quality Improvement, and the Road and Traffic Management Process Efficiency Improvement. The basic aim of each system has been discussed as well as the most important tasks implemented as its part. The Road Safety Improvement Programme for the Kujawsko-Pomorskie Voivodeship presented in this article is a part of the National Road Safety Programme 2013-2020. Moreover, it is not only an original programme in Poland, but also a universal project that may be adapted for other voivodeships as well.

Keywords: road safety, traffic engineering, road transport engineering, transport

1. Introduction

Countries that belong to the Organization for Economic Co-operation and Development (OECD), as well as other developed countries follow two strategies of the simultaneous implementation of road safety enhancement programmes:

- a central one, which provides a set of actions taken by the central administration, mostly in law and regulations, financing, and coordination of actions taken by different ministries, and

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- a local one, which includes a set of actions on a local level, mostly taken by local government authorities and encompassing a whole range of initiatives in different safety areas.

This two-fold approach is the most efficient method of increasing road safety, which has also proven effective in Polish conditions. The good example of this is the Kujawsko-Pomorskie Voivodeship, where both the national GAMBIT Programme (since 1996) and the local Bydgoszcz GAMBIT Programme (also since 1996) have been implemented for many years. They have brought some very favourable changes in road accident and casualty statistics in 2000-2015, as presented in Figure 1. Moreover, the Figure shows the trends of road accident and casualty numbers in a previous period.

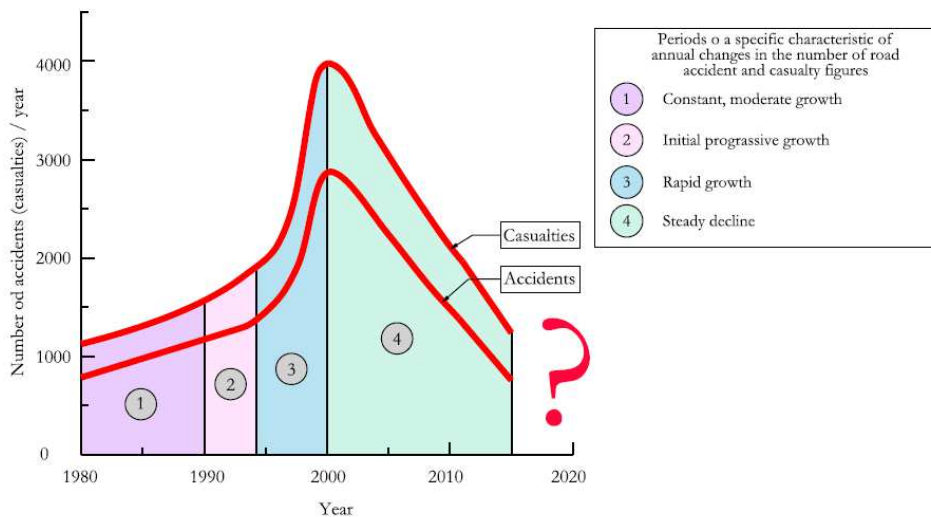


Fig. 1. Changes of road accident and casualty figures in the Kujawsko-Pomorskie Voivodeship in 1980 – 2015 [3]

Rys. 1. Zmiany liczby wypadków drogowych i ofiar wypadków w województwie kujawsko-pomorskim w latach 1980 – 2015 [3]

It is noteworthy that the State and the local government authorities have both statutory and moral obligations to provide the highest level of safety to its citizens, because they are responsible for the public space in their territory as well as for developing the safe behaviour of their citizens. Having this in mind, the Kujawsko-Pomorskie Voivodeship Road Safety Council undertook an initiative to commission the development of the ‘Road Safety Improvement Programme in 2013-2020 in the Voivodeship’, but this time of much greater scope than the previous Bydgoski GAMBIT Programme. Its aims were to be coherent with the objectives of the national GAMBIT Programme adopted in 2005 by the Council of Ministers [1], hence it was given the GAMBIT acronym with the

KUJAWSKO-POMORSKI adjective [2, 3]. The study, due to the broad thematic scope of tasks, was divided into two stages. The first one encompassed the diagnosis of road safety, while the second stage was dedicated to specific proposals of the road safety improvement programme. The study includes a detailed assessment of the road safety status in the Kujawsko-Pomorskie Voivodeship. Based on the assessment, the detailed analyses of the impact of different factors on road safety as well as by examining solutions of numerous road safety problems adopted in the West-European countries, the new programme was formulated entitled 'Programme of Road Safety Improvement in the Kujawsko-Pomorskie Voivodeship'.

The proposed programme is the result of European Parliament and Council Directive, that requiring Member States to put in place and implement a necessary procedure or procedures to carry out a systematic action in road safety aspects, as this is the major measure for road safety improvement. This directive concerns the European transcontinental road network (TEN) and roads financed from UE funds, what, from the Polish point of view, is the serious deficiency of this directive. That is why, one of the goal of this programme is to put in action local authorities involved in road safety. According to the UE Directive this programme suggests the wide range of procedures and analytical, control and verifying activities in this topic. It is also consistent to the Road Safety National Programme 2013-2020. It includes five pillars of this programme: safe behaviour of road users, safe road infrastructure, safe speed, safe vehicles and the emergency and medical service.

This article presents the main ideas of the Programme.

2. Basic idea of the Programme

The main idea of the Programme is to create and start in the Voivodeship specific systems responsible for the most important operational areas of road safety, as well as the road safety control, supervision, and management system encompassing the whole Voivodeship. In total, nine such systems have been proposed.

The effective and efficient management of such systems would require changes to structures that are responsible for road safety in the Voivodeship. Therefore, the Voivodeship Road Safety Council has undergone a major reform, and the establishment of a new entity, i.e. the Voivodeship Road Safety Centre, has been proposed.

The names, objectives, and most important tasks implemented within the system have been presented in Table 1.

Table 1. Systems of the Road Safety Improvement Programme in the Kujawsko-Pomorskie Voivodeship and their objectives

Tabela. 1. Systemy Programu poprawy bezpieczeństwa ruchu drogowego w województwie kujawsko – pomorskim oraz ich cele

<i>Name of system</i>	<i>Aim of the system</i>	<i>Most important tasks fulfilled within the system</i>
[1]	[2]	[3]
Road Safety Management System	Responsible for establishing and operating organizational structures that manage activities within road safety and for the proper operation of most other systems, by inspiring, supervising, controlling and supporting their activities with data and knowledge; raising funds for activities resulting from the Programme	<p>To establish the Voivodeship Road Safety Centre to stimulate and manage road safety as well as to implement the Programme on behalf of the Voivodeship Road Safety Council;</p> <p>To improve the operation of the Voivodeship Road Safety Council structures;</p> <p>To raise funds that will make it possible to fulfil basic statutory tasks within the conduct of standardised and coherent actions resulting from the Programme and the involvement of all relevant social stakeholders in the road safety improvement process;</p> <p>To establish Town/City, Poviast and Gmina Road Safety Councils and to appoint Voivodeship, Poviast and Gmina Road Safety Inspectors;</p> <p>To develop and implement the Road Safety Management System available to all entities responsible for road safety to be used in their statutory and daily activities related to road safety.</p>
Integrated Road Rescue Service	Shortening all elements of the so-called survival chain, i.e. the time of: starting first aid, the arrival of rescue services to an accident site, providing medical care, and arrival at hospital and giving assistance to accident casualties at Hospital Rescue Wards	<p>To develop a concept of establishing the Voivodeship Road Rescue Centre;</p> <p>To prepare materials necessary to create the system of general social education in the first medical aid;</p> <p>To provide regular training to rescue services in order to improve their efficiency as well as to modernise rescue equipment and provide services with additional tools;</p> <p>To support the establishment of Hospital Rescue Wards, to develop the Air Ambulance Service, to take actions aimed at improving the road traffic organization and the development of Smart Transport Systems (faster and more efficient arrival of rescue services to an accident site).</p>

Table 1. Systems of the Road Safety Improvement Programme in the Kujawsko-Pomorskie Voivodeship and their objectives, c.d.

Tabela. 1. Systemy Programu poprawy bezpieczeństwa ruchu drogowego w województwie kujawsko – pomorskim oraz ich cele, cont.

[1]	[2]	[3]
Personnel Continuing Education	<i>Personnel continuing education and their preparation for fulfilling tasks related to road safety</i>	<i>Training for: road safety auditors, local government officers (including town/city, powiat and gmina road safety inspectors); the management of local government authorities to make them aware of road safety problems that occur in their areas; personnel working in supervision services, to provide better reporting of road incidents and the more effective control over behaviour of road users; officers involved in local development and planning, to provide them with greater knowledge of road safety and the impact of planning decisions on the subsequent hazards in developed areas; road rescue services; road engineering personnel (mostly involved in designing road infrastructure).</i>
Monitoring Hazardous Behaviour on Roads	<i>Minimising hazardous behaviour of road users in traffic</i>	<i>To continually locate road sites where road incidents occur most often, due to a specific hazardous behaviour of road users and to intensify traffic supervision at such locations and to increase penal sanctions for such hazardous offences.</i>
Social Education for Safe Road Behaviour	<i>Developing safe behaviour of adult road users in road traffic</i>	<i>To cover adult road users with educational activities in as many organizations as possible, including media, and to use all means of communication for this purpose. One of the main entities that carries out continued road safety promotional activities will be the Voivodeship Road Safety Centre and the dedicated social media portal.</i>
Teaching Personnel Improvement	<i>Developing safe attitudes of children in road traffic with the proper training of all persons involved in their education and in traffic education</i>	<i>To establish suitable structures and a knowledge base that will enable the continued and effective education of personnel and parents in road safety.</i>

Table 1. Systems of the Road Safety Improvement Programme in the Kujawsko-Pomorskie Voivodship and their objectives, c.d.

Tabela. 1. Systemy Programu poprawy bezpieczeństwa ruchu drogowego w województwie kujawsko – pomorskim oraz ich cele, cont.

[1]	[2]	[3]
Area Development and Planning Process Improvement	<i>Taking account of road safety issues when preparing area development and planning documents, including mostly the Area Development Conditions and Directions Study and Local Zoning Plans</i>	<i>To educate officers involved in area development and planning processes within road safety; to introduce new documents and procedures in the planning process; to control the quality of planning studies in terms of road safety; to develop auxiliary materials needed for the preparation of different planning documents; to promote new procedures among local government authorities, to be introduced in order to improve the quality of area development and planning processes as well as road safety.</i>
Road Infrastructure Design Quality Improvement	<i>Designing safe road infrastructure (infrastructure that forgives errors of road users, self-explanatory roads, etc.)</i>	<i>To provide continued education to designers; To introduce new procedures that result in the improvement of designing process quality; To issue materials that contain different road safety content and information on design processes; To create a database including materials useful in designing road infrastructure.</i>
Road and Traffic Management Process Efficiency Improvement	<i>Maximising maintenance activities and resources for road safety</i>	<i>To introduce improved processes and procedures related to the maintenance of a high road and traffic safety level by road administrators in their road networks, i.e. the systematic revisions of roads in terms of operational standards and road safety, to remove the most hazardous locations from the network, to manage vehicle speed in a road network, to approve and implement designs of traffic organization.</i>

3. Cost and main risks to the Programme

The total cost of this road safety programme is estimated at 4.0 mln zł. There were 957 road accidents where registered, 158 people died, 280 persons were seriously injured and 800 slightly injured in the area of Kujawsko-Pomorskie voivodship in 2015. The total cost of these accidents can be estimated at more than 1 miliard zł. The costs of road accidents were determined based on data from [6].

The basic risks to the programme may come from lack of:

- sample solutions on such a scale for the voivodship in Poland,
- the possibility to adapt the right of foreign programs of road safety improvement,
- appropriate efficient structures to manage road safety in the voivodship,
- at the central level of authorities, a number of system solutions, legal and organizational,
- in many cases, the rules for the normalization of standards solutions, books, manuals, auxiliary materials, etc.,

and moreover the need for significant involvement in the implementation of the Programme decision-makers and officials, including government authorities and local authorities at all levels. A serious threat is also a low level of awareness in many decision-makers, planners, designers, teachers and officials of significant importance of road safety for their health and life, as well as the quality and cost of living.

4. Summary

To achieve the road safety improvement, it is necessary to have good domestic, regional, and local strategies in his area. At present, Poland operates the National Road Safety Programme 2013-2020, which was adopted by the National Road Safety Council in 2013. The programme continues the long-term ZERO Vision accepted in the previous domestic road safety programmes, by assuming that death and injuries cannot be perceived as an unavoidable cost of mobility. Moreover, to implement the long-term Vision, two main objectives have been adopted until 2020, namely to limit the annual number of:

- a) fatalities by minimum 50%, which means maximum 2,000 casualties in 2020, and
- b) the heavily injured by minimum 40%, which means maximum 6,900 heavily injured in 2020.

The GAMBIT KUJAWSKO-POMORSKI Road Safety Improvement Programme presented in this article is a part of the National Road Safety Programme 2013-2020. The programme is original in the domestic scale, but is also universal and can be adapted in other voivodeships of Poland.

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PROPOZYCJA WOJEWÓDZKIEGO PROGRAMU POPRAWY BEZPIECZEŃSTWA RUCHU DROGOWEGO

Streszczenie

W artykule przedstawiono propozycję Programu Poprawy Bezpieczeństwa Ruchu Drogowego „GAMBIT KUJAWSKO-POMORSKI”. Główną ideą Programu jest utworzenie i uruchomienie w województwie określonych systemów odpowiedzialnych za najważniejsze sfery działań na rzecz bezpieczeństwa ruchu drogowego, w tym także systemu sterującego, nadzorującego i zarządzającego bezpieczeństwem ruchu drogowego w całym województwie. Łącznie zaproponowano utworzenie i uruchomienie dziewięciu takich systemów, a mianowicie: Zarządzanie Bezpieczeństwem Ruchu Drogowego, Zintegrowane Ratownictwo Drogowe, Ustawiczne Kształcenie Kadr, Monitorowanie Niebezpiecznych Zachowań na Drodze, Społeczna Edukacja Promująca Bezpieczne Zachowania na Drodze, Doskonalenia Kadr Oświaty, Udoskonalanie Procesu Planowania Przestrzennego, Poprawa Jakości Projektów Infrastruktury Drogowej, Poprawa Efektywności Procesu Zarządzania Drogami i Ruchem Drogowym. Omówiono cel nadrzędny każdego systemu oraz najważniejsze zadania realizowane w jego ramach. Przedstawiony w niniejszym artykule Program Poprawy Bezpieczeństwa Ruchu Drogowego dla województwa kujawsko-pomorskiego wpisuje się Narodowy Program Bezpieczeństwa Ruchu Drogowego 2013–2020. Ponadto jest nie tylko oryginalnym w skali kraju tego typu programem, ale jest również programem uniwersalnym, dającym możliwość jego adaptacji dla innych województw kraju.

Słowa kluczowe: bezpieczeństwo ruchu drogowego, inżynieria ruchu drogowego, transport

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