
**EVALUATION OF A POSSIBLE DEVELOPMENT
OF THE TRANSPORTATION NETWORK IN POLAND
SUPPORTED BY THE EU FUNDS**

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A b s t r a c t

The article presents the current situation of the transportation system in Poland and discusses its possible development based on the EU funds. The Operational Programme Infrastructure and Environment is one of the operational programmes scheduled for the years 2007–2013, which will be a basic tool for obtaining the targeted aims of competitiveness and improving investment attractiveness of our country while taking advantage of the funds provided by the Cohesion Fund and the European Regional Development Fund. The financial support from the EU funds under the Operational Programme Infrastructure and Environment can reach at the most 85% of the eligible costs. What is characteristic of the OP Infrastructure and Environment is the integrated approach to the issues of basic infrastructure, which comprises the technical infrastructure and basic components of the social infrastructure. Another important element of this programme is that it favours activities that will beneficially affect the natural environment.

The Operational Programme Infrastructure and Environment provides an opportunity to perform large transportation projects but requires much effort on behalf of the programme's beneficiaries.

**OCENA MOŻLIWOŚCI ROZWOJU SIECI TRANSPORTOWEJ W POLSCE
Z WYKORZYSTANIEM FUNDUSZY EUROPEJSKICH**

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Słowa kluczowe: sieć transportowa, stan dróg w Polsce, fundusze unijne, Program Operacyjny „Infrastruktura i Środowisko”.

Abstrakt

W artykule przedstawiono sytuację układu transportowego w Polsce oraz oceniono możliwości jej rozwoju z wykorzystaniem środków z funduszy unijnych. Program Operacyjny „Infrastruktura i Środowisko” na lata 2007–2013 jest jednym z programów operacyjnych, będących podstawowym narzędziem do osiągnięcia założonych celów wzrostu konkurencyjności i podniesienia atrakcyjności inwestycyjnej naszego kraju z wykorzystaniem środków Funduszu Spójności i Europejskiego Funduszu Rozwoju Regionalnego. Możliwość wsparcia finansowego ze środków UE w ramach PO IiŚ może wynieść maksymalnie 85% kosztów kwalifikowanych. Cechą charakterystyczną PO „Infrastruktura i Środowisko” jest integralne ujęcie problematyki podstawowej infrastruktury, która obejmuje infrastrukturę techniczną i zasadnicze elementy infrastruktury społecznej. Ważnym elementem programu są też działania wpływające w korzystny sposób na środowisko.

PO IiŚ jest szansą na realizację dużych projektów transportowych, ale stanowi jednocześnie duże wyzwanie dla beneficjentów programu.

Introduction

The current state of the transportation system in Poland is a big barrier to the development of trade, commerce and services. It also has a negative influence on the international exchange and decreases mobility of the residents. This barrier must be overcome if Poland is to become an economically successful country, both in Europe and globally, a country which uses efficiently its human resources. Another challenge is to maintain cohesion within the whole territory of Poland. The poor quality of inter-regional transportation links, including the ones between the largest metropolitan centres and towns in eastern Poland with one another and with the capital of Poland, is a limiting factor depressing synergistic effects and making it impossible to take full advantage of the existing potential, not only the economic one but also possible attainments in culture, sciences or education. The lack of territorial cohesion strengthens large development differences between particular regions in the country. The eastern areas of Poland, which belong to the poorest EU regions, have poor transportation links with the other parts of the country.

Because of the transit location of Poland, the transportation trails crossing our country must play an important role in servicing international transport between Western Europe and Russia, Ukraine or Central Asia, and, in a longer time perspective, South-Eastern Asia including China. These trails may also be important for transport between Scandinavia and the south of Europe.

Another currently important issue in the Polish transport is the increasing mobility of the Polish society. As a result, the number of passenger cars is growing rapidly. Over the past fifteen years, it has more than doubled, which alongside the low investment in roads causes increasing congestion, both in large cities and on regional and state roads.

In line with Council Regulation no 1083/2006 laying down general provisions on the European Regional Development Plan, the European Social Fund and the Cohesion Fund (general regulation), the Community Strategic Guidelines (CSG) on Cohesion were accepted on 6th October 2006, which determine the framework of the fund in 2007–2013. According to the CSG, each member country which is a beneficiary of the fund has prepared National Strategic Reference Frameworks (NSRF). Based on these documents, operational programmes have been prepared, which serve as a basic tool for executing the priority areas defined in the NSRG.

General overview of the Operational Programme Infrastructure and Environment

In line with the National Strategic Reference Guidelines, accepted by the European Commission on 7th May 2007, the Operational Programme Infrastructure and Environment is one of the basic operational programmes which are a primary tool for attaining the targets defined in the NSRG while utilising the means from the Cohesion Fund and the European Regional Development Fund. What is characteristic of the Operational Programme Infrastructure and Environment is that it integrates the technical infrastructure and the basic components of the social infrastructure. The starting point for a thus defined scope of the programme is the principle of maximising development effects, as conditioned by the integrated approach to the technical and social spheres in a common programme and technical path. Activities undertaken within the Operational Programme Infrastructure and Environment are complementary to the tasks executed under the 16 regional operational programmes as well as other operational programmes scheduled for the years 2007–2013, i.e. Innovative Economy, Human Capital, Development of Eastern Poland and programmes funded by the European Territorial Cooperation.

The Operational Programme Infrastructure and Environment is an important instrument serving the execution of the re-launched Lisbon Strategy, and the expenditures on the EU priority targets which fulfil the criteria defined in Article 9 (3) of Regulation no 1083/2006, establishing the general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund, constitute 66.22% of the total expenses.

In line with the declaration of the European Commission formulated at the summit in Göteborg, another important component of the programme would consist of activities producing beneficial influence on the natural environment. They include activities supporting reduction of climatic changes and increase in the importance of “green” energy, improvement and increased efficiency of

transport as well as its enhanced safety (for example, by promoting public and rail transport systems).

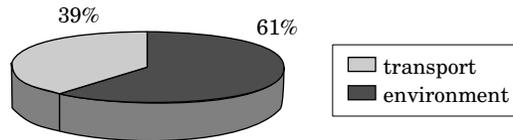


Fig. 1. Distribution of the funds from the Cohesion Fund between the transport and environment sectors

Source: The Operational Programme Infrastructure and Environment.

When considering the means available from the Cohesion Fund within the priority axes connected with investment projects in the transport and energy generation sectors which are environment-friendly, it can be concluded that such investment projects – far from being more difficult – contribute to the completion of one of the horizontal targets of the National Strategic Reference Guidelines “Improving the competitiveness of Polish regions and counteracting their social, economic and spatial marginalization”. This conclusion is also confirmed by the level of support that environment-friendly investment projects receive. The investment projects which directly or indirectly add to environmental protection receive 39% of the total support derived from this Fund.

Diagnosis of the current situation in the transport sector

At present, the development of new technologies in transport, including improved efficiency of vehicles, reduced emission of exhaust fumes and noise, application of devices which protect natural environment or solutions based on telematics techniques in transport, is neglected in Poland. Despite the large research and development potential and quite remarkable achievements in this sphere, implementation of new technologies progresses very slowly. Among the major impediments are the insufficient financing and the need to make up for the backwardness, which until now has been a barrier halting development and implementation of new technologies to a desirable level. Recently, it has been possible to observe an increasing attention paid to this sphere, which – as it can earn support from EU aid funds – is now facing a potentially dynamic growth.

The Trans-European Network – Transport (TEN-T), defined in the decision of the European Parliament and Council on the community guidelines for development of a trans-European network of transport (1692/96/WE), com-

prises 4816 km of roads in Poland. They are Poland's major road trails, quite heavily loaded with traffic, including transit vehicles. In Poland, the TEN-T priority projects as well as the major transport axes included in the communique of the Commission on extending the major trans-European transport to neighbour countries (COM(2007/32) are as follows: motorway A2 – part of the North Axis within the section Berlin – Warsaw – Minsk; motorway A4 – part of the Central Axis within the section Dresden-Katowice-Lviv; motorway A1 – part of the priority project 25 – motorway axis Gdańsk-Brno-Bratislava/Vienna.

The progress in the execution of priority project 25 in Poland is the following:

- a section of the A1 from Sośnica (Gliwice) to the state border (Gorzyczki) is being constructed with the support of funds from the Cohesion Fund for 2004-2006;

- preparation for constructing a section of the A1 between Toruń-Stryków, Stryków-Pyrzowice, Pyrzowice-Sośnica financed from the TEN-T fund is underway. Additionally, a private-public partnership system will finance construction of two sections of the A1, i.e. Gdańsk-Nowe Marzy and Stryków-Pyrzowice. It is planned that by the end of 2010 the Polish section of PP25 will have been completed over its whole length, from Gdańsk to the southern border of Poland.

The total length of roads in Poland, divided into categories, are:

- state roads – 18 287 km
- provincial roads – 28 476 km
- district roads – 128 328 km
- commune roads – 206 371 km

In total: 381 463 km (source: General Directorate of State and Motorways, GDDKiA, Research Department, as of 31 December 2005).

The density of the road network (81.2 km per 100 km²) in Poland can be considered satisfactory. However, there is a problem of exhausting the flow capacity of roads and their increasing congestion. Another weakness of the Polish roads is their low standard of maintenance and a whole range of structural flaws. They are such grave drawbacks that one feels inclined to believe that they are most essential problems to be solved in order to develop the whole country.

The major drawbacks of the Polish road network are:

- **Lack of a coherent network of motorways and expressways.** In the mid-2006 there were 674 km of motorways and 257 km of expressways in Poland. The motorway tracts which are to connect the western border of Poland with Kraków and Warsaw are still incomplete. The targeted length of the planned network of motorways is about 2 thousand km and that of

expressways should reach about 5 thousand km. With respect to motorways and expressways, the most severe problems at present are: lack of connection between main metropolitan areas in Poland, lack or insufficient networks of such roads around metropolitan cities, lack of roads connecting the north with the south of the country (including a motorway running in this direction), lack of good connections between main cities in eastern Poland and Warsaw or other parts of Poland.

– **Poor maintenance of roads.** At the end of 2006, nearly half of the state roads was in a bad or unsatisfactory state of repair (both 23.4%) with just 53.2% being in good condition. This means that over half of the state roads in Poland should undergo major repairs immediately (bad condition) or in the nearest future (unsatisfactory condition). Although the current state of repair of the Polish roads is so bad, worth noticing is the fact that we have been able to stop further degradation of roads and since 2003 their condition has been slowly improving.

– **Roads in Poland are not adjusted to the load capacity of 115 kN/axis.** Most roads in Poland are adjusted to the standard load capacity of 80 kN/axis or 100 kN/axis. There are only 2 190 km of roads which can bear load of 115 kN/axis. At the same time, heavier vehicles (up to 115 kN/axis) are allowed to travel on international roads (5 500 km), causing their rapid degradation. In the Accession Treaty, Poland obliged itself to reinforce the roads and declared that in 2011 two and a half thousand km of roads would be capable of bearing load of 115 kN/axis.

– **Traffic in Poland often flows through urbanized areas.** It is a structural problem in Poland that state roads, often bearing a heavy flow of traffic including lorries, run across urbanized areas, which develop along road axes. This holds true for both cities and smaller towns. It is an aggravating situation for local residents, posing threat to their safety. It also slows down the transit traffic and limits the traffic flow capacity of roads.

– **Road traffic safety.** Another serious problem of road traffic in Poland is the low level of safety on Polish roads. In 2005, 5 444 people were killed and over 61 000 injured in road accidents. The number of fatal casualties of road accidents per 100 000 Polish residents was 14.3 in 2005, whereas in the countries which excel in road safety this index is 6. The mortality among road accident victims is also very high, reaching 11.2 casualties/100 accidents, in contrast to the average index of 2.7/100 accidents in other EU countries. In order to improve road safety it is necessary to redesign and reconstruct particularly dangerous sections of roads, to introduce changes to the way roads are designed (including a broader use of techniques applied to relax the traffic) and to undertake other actions in the sphere of infrastructure (e.g. build higher category roads).

Analysis and evaluation of the financial support received until present

The financial support has concentrated on finding an alternative to the excessively developing road traffic and on ensuring safety in Polish transport. Railroad investment projects have been executed, including the ones related with sea transport, especially short-distance sea connections. In respect of road safety, sections of motorways and expressways as well as state roads have been constructed or modernized, so that they are adjusted to load bearing capacity of 115 kN/axis, starting with the roads belonging to the TEN-T network and other roads with heavy traffic flow of lorries. Transit traffic through district capital towns has been improved, for example by building ring roads (The annual report on performance of the programme – the Sector Operational Programme Transport for the years 2004–2007, in 2006, Ministry for Regional Development, May 2007).

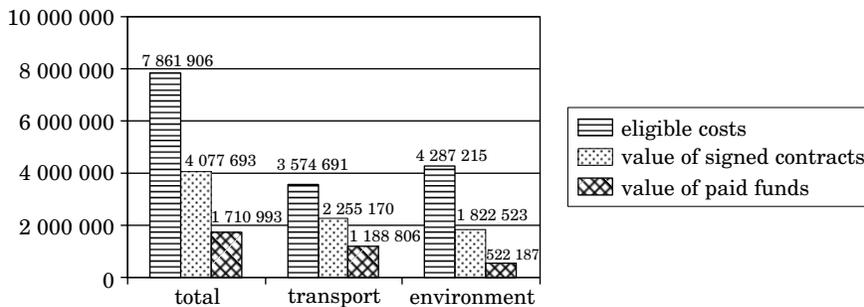


Fig. 2. The utilization of the Cohesion Fund at the end of December 2006

Source: Guidelines for expenditure eligibility under the Operational Programme Infrastructure and Environment; published by the Ministry for Regional Development.

The ratio of the funds spent by the beneficiaries to the allocated ones was 21.7%, with 33.26% in the transport sector and 12.18% in the environment sector. The ratio of the means received from the European Commission (liabilities) to the total amount of the subsidies from the Cohesion Fund was 23.9%, reaching 32.23% in the transport sector and barely 15.83% in the environment sector.

Conclusions drawn from the up-to-date implementation of projects within the sectors found in the Operational Programme Infrastructure and Environment

The conclusions drawn from the way infrastructural projects have been implemented until present suggest that the key role while executing investment projects can be ascribed to the degree to which these projects are prepared. Most of the problems encountered while implementing the projects are due to their poor preparation, and particularly to the lack of grounds, co-financing, technical, environmental or tender bid documentation. Additionally, other problems appearing during the implementation stage can be indicated, such as:

- frequent protests and appeals during public procurement procedures cause delays and make it necessary to repeat the procedures,
- difficulty conducting procedures for evaluation of the effect on environment whenever such an evaluation has not been completed during the project's preparatory stage and the European Commission has recommended one.

Considering the above, the Ministry for Regional Development has prepared a turnaround programme in order to facilitate the use of EU funds in 2004–2006. The above conclusions have also served to improve the preparation of a system for implementation of operational programmes in 2007–2013. The expected outcome of this system is to increase absorption of the funds.

Investment project effects

The vast majority of the EU funds has been allocated to infrastructural projects in the transport and environment sectors, which was due to the fact that large investment outlays were needed in these areas. As a result of completing projects co-financed from the structural funds, construction or modernization of a total of 1 631 km of provincial, district or commune roads, 283 km of water mains and 1 240 of sewage pipes took place.

The communication accessibility of regions has also been improved, in addition to the improved municipal transport systems, including public transport.

With respect to state roads, however, only 25.9 km of roads were modernized versus the 350 km planned to be modernized. The main reason for such low use of the EU funds is the specific nature of projects executed under the programme, which are characterized by a lengthy investment cycle, and the complicated legal system as well as institutional barriers. The financial support in this case has focused on finding an alternative option to the excessively developing road transport and on ensuring safety in transport in Poland.

Railroad investment projects have also been carried out – 19 km of railroads have been reconstructed, including the railroads serving sea transport, especially short-distance one. Regarding safety on roads, sections of motorways, expressways and state roads have been constructed or modernized so as to bring up their load bearing capacity to 115 kN/axis, starting with roads in the TEN-T network and other roads with heavy flow of lorries. The traffic flow through district towns has been improved by building ring roads. As regards implementation and monitoring of transport safety measures on state roads, dangerous spots have been removed and investment has been made in proper signposting, equipment and information, including emergency services on state roads; the traffic management system as well as road safety systems have been developed and the efficiency of road traffic police divisions has been improved.

The largest and the most efficient group of beneficiaries applying for subsidies to execute projects from the structural funds consists of local governments. The second biggest group comprises representatives of the state administration and units which perform tasks commissioned by the state administration and state budget units. The third largest groups of the structural funds beneficiaries include entrepreneurs.

Threats to the execution of projects

Early identification of potential threats to proper execution of the programme should enable us to decide what turnaround activities can be undertaken and indicate the areas which should be particularly carefully monitored within the monitoring process.

Identification of most severe problems and barriers has been performed as part of the assessment evaluation of the programme, based on the analysis of the conclusions formulated during social consultations dealing with the Operational Programme Infrastructure and Environment, group interviews held for each sector of the Operational Programme's interventions and verification of the results of the assessment evaluation of the National Strategic Reference Guidelines. Results of interviews among employees of institutions managing the Integrated Operational Programme Regional Development, the Sector Operational Programme Transport and the Cohesion Fund have also been taken into consideration. The thus identified problems and barriers can be divided into three groups:

- due to external conditions,
- due to internal conditions,
- related to the solutions accepted for the Operational Programme Infrastructure and Environment and problems which occurred during the implemen-

tation of the pre-accession and structural funds (1999–2000). This group has been further subdivided into problems identified during particular stages of the implementation of the programme:

- the programme’s context,
- the application process,
- the programme’s implementation process,
- the termination of the programme’s execution.

Threats caused by external and internal conditions

The main threat to the execution of the programme, as indicated during the assessment evaluation of the OP Infrastructure and Environment, are the limited possibilities of using up the funds available from the programme due to the difficulty in finding suitable contractors to perform large investment projects. This in turn is due to a small number of potential contractors on the market. The supply of the services they offer is not proportional to the demand. The large deficit of qualified labour force, mainly managers, is caused by the fact that many experts work abroad. This results in lower quality of services available in Poland. Because of the shortage of “large construction companies”, there is risk that large infrastructural projects will not be executed as scheduled. Another potential threat is that of tight budgets – both the central budget and local budgets may have limited resources to co-finance investment projects.

The barriers and problems stemming from the adopted solutions and experiences in Poland in terms of absorbing pre-accession and structural funds

With respect to *the context of the programme*, potential consequences of the complex structure of the programme have been implicated as a threat, which may involve excessively lengthy procedures as well as problems with communication and coordination. Another threat is created by the fact that regulations and procedures, which tend to be rather strict, change during the execution of the programme. Moreover, the number of experienced employees, especially in the early stages of the programme, may be insufficient. Finally, qualified staff may tend to leave due to insufficiently competitive remunerations.

According to the surveys, over 40% of beneficiaries stated that the financial side of projects is the biggest obstacle to good execution of projects (preparation of applications for payments, delayed payments); nearly 40% have encountered problems connected with the preparation of an application. Nearly 30% of beneficiaries complained of the incorrectly operating information flow system.

Another important issue is the designation of areas covered by the Natura 2000 network, which as of yet has not been completed by the Ministry for Environment. Should the designation and approval of the Natura 2000 areas

be further delayed, a serious obstacle will appear, as the projects planned to be performed under the OP Infrastructure and Environment may be located in protected areas.

As regards *the application process*, the threats indicated could appear if the system of evaluating applications for financing was not clear enough. What is particularly threatening is an inadequate selection of experts evaluating projects as well as inadequate sets of evaluation criteria.

Table 1
The SWOT analysis. Strengths, weaknesses, opportunities and threats for the transport sector

Strengths	Weaknesses
<ul style="list-style-type: none"> - a well-developed railway network with a relatively evenly spatial distribution - a high contribution of the rail to cargo transport - fully free and competitive road transport market - increasing re-loading potential of sea ports - availability of EU funds for development of transport infrastructure - rapid growth in innovative solutions - role of market mechanisms which raise profitability of transport - inclusion of the sustainable development principle to spatial planning - presence of well-developed and highly active non-government organisations dealing with transport-related issues 	<ul style="list-style-type: none"> - inadequate transport connections along main transport corridors - bad state of rail infrastructure, negatively impacting rail transport speed and comfort - overexploited and old rail rolling stock - lack of motorway and expressway connections between major economic centres - exhausted flow capacity of roads and their increasing congestion - low technical standards of existing roads - lack or insufficient high-class road systems around metropolitan areas - traffic flow running across urbanized areas - lack of integrated public transport systems - low road safety level - low quality of rail services and difficult rail service financing - inadequate air transport response to the increasing demand - lack of fast and efficient road connections with airports - poorly developed access to sea ports - old sea port infrastructure - no modern sea port services - increasingly bad state of waterways - increasingly more common weather anomalies (droughts, floods, fires) which have negative influence on maintaining and constructing transport infrastructure

Regarding *the implementation process*, a possible threat lies in the inability to plan and execute projects or to foresee possible risk of delay, which often leads to beneficiaries missing deadlines. This in turn causes delays and means that planned schedules need to be changed on a level of the programmes, which leads to changing forecasted utilization of the funds. In the previous period of programming, the beneficiaries had the biggest problems with the application

process, financial realization of projects and poor information flow. These problems are caused mainly by the institutional weakness of beneficiaries and small number of staff qualified to handle such matters. Potential delays can also be caused by delayed termination of procedures relating to public aid.

Concerning *the termination of the programme's execution*, threats relating to insufficient evaluation activities have been implied, in addition to the limited experience of the institutions engaged in the realization of such activities.

The turnaround programme increasing absorption of the funds

On 6th December 2005, the Council of Ministers approved the Turnaround Programme increasing absorption of structural funds under the National Development Plan (NDP) 2004–2006, prepared by the Ministry for Regional Development in coordination with the Ministry of Finances. The document stated that short- and long-term activities should be undertaken which would aim at achieving the main target, i.e. improvement of the absorption of structural funds under the NDP 2004–2006. The execution of these activities was assigned, in line with their capacity, to the Ministry for Regional Development or the Ministry of Finances. Some activities were to be performed by a joint effort of both ministries.

The activities undertaken by the state administration concerned institutional changes related to the management and implementation of operational programmes, elaboration of mechanisms which would strengthen the supervision of proper ministers on institutions implementing particular actions, complex revision of adopted procedures in the whole system, and especially during the application for EU funds and clearance of accounts within projects. The overriding principle was to diminish the burden laid on beneficiaries and institutions servicing these processes. In addition, a number of changes were introduced to the legal regulations pertaining to the utilization of EU funds and steps were taken to stabilize the staff employed in and outside state administration at different levels, responsible for performance of certain tasks relating to the implementation of the NDP 2004-2006. The immediate tool for financial management of EU programmes was the relocation of funds towards activities which ensured their full absorption.

Among the most important changes were:

- establishment of the Ministry of Regional Development, which functions as a managing institution for operational programmes and the Cohesion Fund;
- amendments to the Act on the National Development Plan, particularly the one which departs from the requirement of regulating the key documents in the form of legal acts having a status of ordinance;

- an amendment to the Act on the National Development Plan, which facilitated the procedures with this regard,
- simplification and increasing the transparency of procedures in particular programmes.

Strategy of development: Aims of the programme and their consistence with the Polish programme documents and EU regulations

The completed SWOT analysis of the Operational Programme Infrastructure and Environment implies that one of the major barriers impeding the economic growth of Poland and its regions is the lack of good and efficient technical and social infrastructure.

In line with the analysis of the present situation and conclusions drawn from the diagnosis, the attractiveness of Poland and its regions can be raised owing to investment projects in six areas: transportation, environment, power generation, culture, health care and higher education. This in turn can be attained by attaining the following *detailed targets of the Programme*:

- Constructing infrastructure which will ensure that the development of Poland will coincide with the improvement and preservation of natural environment.
- Increasing the accessibility of main economic centres in Poland, by connecting them with a network of motorways and expressways as well as alternative means of transport.
- Ensuring long-term energy-supply safety of Poland through diversification of supplies, diminishing the energy consumption in economy and development of renewable energy resources.
- Using the potential of the Polish culture and cultural heritage on a global and European scale in order to enhance the attractiveness of our country.
- Supporting the good health status of human resources.
- Development of modern academic centres, including the ones which educate specialists in modern technologies.

The aims of the Programme in *the transport sector* have been identified on the basis of the strategic directions of the sector development as set out in the National Strategic Reference Framework 2007–2013. This strategy points to four main aims, such as creation of a transportation network able to serve future transportation needs of the country, development of market-oriented relationships in transport, territorial and branch transport integration and, finally, improvement of road safety. The investment projects which put into life the strategy's aims will be mostly funded from the Programme's funds. In

the Strategy for Transport Development, detailed aims have been defined, such as constructing motorways and expressways, raising the load capacity of roads to 115 kN/axis, supporting selected infrastructural projects at airports and in navigation, as well as executing pilot projects in the development of Intelligent Transport Systems (ITS) and management of road traffic in towns and outside urbanized areas. These aims are reflected in activities distinguished in the priority axes VI and VIII.

Regarding the transport infrastructure, investment projects in the TEN-T network and priority projects are considered most important by the Polish authorities, which will make effort to bring the roads, rails and airports in the TEN-T network to the parameters set in the documents which established the TEN-T network. In addition, the authorities will carry out work to produce a Polish proposal for the revision of the network, which is scheduled to be ready in 2010.

The technical parameters of transport projects (e.g. road category, planned speed on railway roads) will reflect the forecasted demand for transport by particular sectors, especially in terms of traffic flow and quality of transport services.

Within the Programme, the investment projects that are to be executed will enable us to obtain the following aims:

- improvement of communication accessibility of the whole territory of Poland and inter-regional connections within the TEN-T network, including the priority investment projects indicated by the European Parliament and Council in their decision of 23rd July 1996 on the community guidelines relating to development of trans-European transport network of motorways and expressways – connecting the capital city with the main cities in eastern Poland and using their development potential created by their close location to the eastern border of the EU.

- development of transport branches which will be alternative to road transport, such as the TEN-T railway roads, including the priority projects indicated in the decision of the European Parliament and Council number 1692/96/WE157, as well as investing in infrastructure of sea ports and inter-modal transport and raising the contribution of public transport to mobility of residents of metropolitan areas by supporting environment-friendly means of mass transport,

- improvement of transport safety and improvement of the inter-regional connections by investing in projects which enhance safety and traffic flow (particularly, intelligent transport systems) as well as development of road networks which will be complementary to the investment projects executed under the TEN-T programme.

Poland faces yet another challenge in that that it will have to overcome the

negative, albeit justifiable stereotype of the frightfully bad condition of the road infrastructure and inefficient railroad infrastructure. Many of the agglomerations in Poland have poor transport links between one another and with other urban centres countrywide. The stereotype that Poland is a peripheral country is strengthened due to its poor accessibility.

Modern and diversified transport infrastructure is an important factor in business activity of many companies; it also enhances the economic and social attractiveness of the country's regions. It is therefore necessary to reinforce, and in some cases to create, a series of key transport solutions. All Polish regions need to have better links with the other EU countries via trans-European infrastructural networks.

It is also necessary to introduce integrated mass transport systems and to improve the safety conditions on Polish roads. Poland has to overcome the infrastructural barriers but also take advantage of its geographical location and shape its infrastructural network in such a way as to stimulate a rapid growth of domestic and foreign investment projects in the possibly most uniform manner across the whole country.

Fast development of transport infrastructure, by road or rail, is unfortunately connected with some environmental costs. Reconstruction, modernisation and development of transport infrastructure must therefore take into account the requirements of rational use of space and protection of natural resources, with particular attention paid to eliminating or at least reducing the negative influence of transport on a decline in biological diversity, fragmentation of ecosystems and disorders in functions performed by wildlife corridors.

Priority axes executed under the framework of the Operational Programme Infrastructure and Environment

There will be 15 axes implemented under the programme:

- I. The water and sewage management.
- II. Waste management and the protection of earth.
- III. Resource management and counteracting environmental risks.
- IV. Initiatives aimed at adjusting enterprises to the requirements of environment protection.
- V. Environment protection and the promotion of ecological habits.
- VI. TEN-T road and air transport network.**
- VII. Environment-friendly transport.**
- VIII. Transport safety and national transport networks.**

- IX. Environment-friendly energy infrastructure and energy effectiveness.
- X. Energy security, including diversification of energy sources.
- XI. Culture and cultural heritage.
- XII. Health security and the improvement of the efficiency of the healthcare system.
- XIII. Infrastructure of higher education.
- XIV. Technical assistance – The European Regional Development Fund.
- XV. Technical assistance – Cohesion Fund.

Priority axis VI: TEN-T road and air transport networks

The main objective of the priority axis

To improve the communication accessibility of Poland and inter-regional links by developing the TEN-T road and air network and to improve communication links between main towns in the provinces located in eastern Poland with the rest of the country by developing the road networks in these provinces.

Detailed objectives of the priority axis

- to improve traffic flow and safety, load capacity and quality of TEN-T network roads in transit traffic, road links between large Polish towns, including urban centres in eastern Poland, and transit roads across towns;
- to increase the capacity of airports included in the TEN-T network and the flow capacity of the air space over Poland as well as to ensure high quality of the services.

Description and justification of the priority axis

The execution of this priority axis will involve construction of sections of the motorways A1, A2, A4 and A18, construction of sections of expressways between the largest cities (e.g. the S1, S2, S3, S5, S7, S8, S17, S69), construction of ring-roads and re-construction of other national roads included in the TEN-T network, such as the sections of these roads crossing district towns.

It is also expected to implement projects which aim at reinforcing the load bearing capacity of national roads up to 115 kN/axis, which is in line with the obligations Poland assumed in the Accession Treaty. According to the treaty, in 2011 there will be 2.5 thousand roads of the load bearing capacity of 115 kN/axis.

The selection of projects concerning construction of expressways and motorways for financing from the Operational Programme is based on results of the analysis of several economic and social factors. The principal criterion for selection of road investment projects to be co-financed under the priority axis is the location of a given section of a road among the most important road trails, as identified in the draft Transport Development Strategy, which contribute significantly to the improved accessibility of regions and largest

agglomerations as well as to international and inter-regional connections. At the same time, the current and foreseen traffic flows are taken into consideration along with the project's readiness for implementation. Another important factor, which determines selection of a project for c-financing, is how it will raise safety on the identified, strategically important road connections.

Considering the fact that the TEN-T network includes corridors running across the two largest towns in eastern Poland, Białystok and Lublin, the support from this priority axis shall be given to the reconstruction of the national roads connecting these two cities with Warsaw so that they will reach the standards of expressways (the S8 and S17 roads).

The provinces situated in eastern Poland are characterised by poor transport accessibility. Therefore, it is essential to create efficient transport links with the rest of the country and with other European countries. The lack of territorial cohesion with the regions located in the east of our country adds to the existing differences in the level of development between particular parts of Poland and the European Union.

Owing to their transit location, the eastern provinces of Poland, crossed by the major transportation trails crossing eastern Europe, could play a very important role in servicing the international transport between West Europe and countries located in East Europe.

Under the priority axis, financial support shall be allocated to projects concerning preparation of technical documentation for investment projects in line with the objectives of this priority axis.

An expected outcome of the undertaken activities is the creation of a network of roads characterised by parameters much higher than the present ones, as well as a basic framework of large flow capacity roads, which will constitute a network of links between the largest economic centres in Poland. As a result, congestion of motor vehicles around the largest cities will decrease and the transit time between particular towns in Poland will be shortened. Moreover, the transit traffic flow across Poland will be smooth. In addition, the implementation of the projects supported by funds from this axis will create better links between eastern Poland's two largest cities and Warsaw, which will have an impact on a more accelerated development of the provinces located in eastern Poland, which are now the most poorly developed parts of our country.

The elimination of development barriers in Poland by constructing a network of roads and airports will increase the country's chances to make use of competitive advantages such as the geographical location or the large domestic market. This will improve trade between the EU countries and other neighbour countries around Poland. The development of the existing road network will also ensure good transport for industries and services and will improve passenger transport.

Indices of the effects of the execution of priority axis VI

Table 2

Priority axis VI	Name of an index	Value in the base year	Predicted value in the target year	Source of data (frequency of measurement)
Product indices	Number of projects			Monitoring of the programme (annual)
	Motorways constructed in the TEN-T network (km)			Monitoring of the programme (annual)
	Expressways constructed in the TEN-T network (km)			Monitoring of the programme (annual)
	Roads re-constructed in the TEN-T network (km)			Monitoring of the programme (annual)
	Airports re-constructed in the TEN-T network (km)			Monitoring of the programme (annual)
Outcome indices	Level of completion on the TEN-T PP 25 (%)			Monitoring of the programme (annual)
	Value of the time for passenger and cargo transport saved by building and modernising roads (euro-year)			Monitoring of the programme (annual)
	Improved traffic capacity of airports in the TEN-T network (million passengers)			Monitoring of the programme (annual)
	Increased number of passengers served at the re-constructed airports (million passengers)			Monitoring of the programme (annual)
Indices	Name of an index		Value in 2005	Source of data
Context indices	Length of motorways (km)			Main Statistics Office "Transport – activity outcome"
	Length of expressways (km)			Main Statistics Office "Transport – activity outcome"
	Length of roads in the TEN-T network			Ministry for Transport
	Number of airports in the TEN-T network			Ministry for Transport
	Number of accidents in state roads outside towns (per 1 million vehicle-kilometer)			Head Office of the Police
	Number of fatal casualties (per 100 thousand residents/in absolute figures)			Head Office of the Police

It will also enable us to benefit fully from the expansion of the unified market and to create new opportunities to attract foreign capital and to increase mobility among working age people.

The main beneficiaries under the priority axis are: subjects managing national roads and airports included in the TEN-T network.

Expected outcomes of the implementation of the priority axis:

- creation of a network of efficient transport connections, which will help intensify the trade exchange on the unified market,
- economic development of regions and improved accessibility of main urban agglomerations in Poland,
- improved safety in transport, which will enable us to reduce high social and economic costs of road accidents,
- improved communication accessibility of eastern Poland,
- enhanced attractiveness of the two major cities in eastern Poland as locations of production investment projects.

Priority axis VIII. Transport safety and national transport networks.

The main objective of the priority axis

To improve the safety and communication accessibility of Poland and the national inter-regional connections, outside the TEN-T network, and some sections of roads included in this network.

The details aims of the priority axis:

- to improve the safety in road traffic,
- to improve the condition of national roads outside the TEN-T network and some sections of roads included in this network,
- to improve the efficiency of road traffic management,
- to improve the safety of air traffic.

The description and justification of the priority axis

Under this priority axis, financial support shall be allocated to projects related to:

- the improvement of the safety in road traffic. The improvement of safety on roads will involve providing roads with equipment which increases traffic safety and, on the other hand, undertaking actions which aim at changing the attitude and behaviour of road traffic participants,
- the improvement of the condition of national roads outside the TEN-T network and some sections of roads included in this network. Raising the standard of national roads will increase their traffic flow capacity, improve safety on roads and shorten the time of travel, which will decrease the cost of road transport,
- development of Intelligent Transport Systems, particularly traffic management systems,

– providing necessary safety standards in air traffic, in compliance with the international and national regulations.

Regarding road projects, the support allocated under this priority axis will be given to projects involving national roads outside the TEN-T network, in particular the ones situated in eastern Poland, and some sections of roads included in this network (such as a section of Road S19, which belongs to the TEN-T network), including their reconstruction in order to reach standards of expressways, as well as construction of ring-roads and reconstruction of other sections of national roads outside the TEN-T network, including the sections crossing district towns. It is also expected that the priority axis will support projects aiming at strengthening national roads up to the load bearing capacity of 115 kN/axis.

The principal criterion when selecting projects for co-financing will be their effect on increasing the accessibility of the largest urban agglomerations in a given area. Another important criterion will be the effect of a project on improving road safety on the road trails in eastern Poland which carry the heaviest traffic. Another consideration will be the readiness of a project to be implemented. Projects involving preparation of technical documentation for investment projects in line with the priority axis are also eligible for co-financing.

The choice of this priority axis has been dictated by the need to develop national transport infrastructure outside the TEN-T network and to guarantee cohesion of the transport system across Poland. Moreover, Poland urgently needs to improve the safety in road and air traffic and to apply on a wider scale modern information technologies in transport.

The main beneficiaries under this priority axis will be: subjects managing national roads and airports, subjects responsible for road and air transport safety, units of local governments, subjects involved in servicing passengers and managing public transport.

Expected outcomes of the implementation of the priority axis

- improved safety on roads,
- more efficient inter-regional connections,
- broader application of Intelligent Transport Systems,
- improved safety in air transport.

Table 3

Indices of the effects of the execution of priority axis VIII

Priority axis VIII	Name of an index	Value in the base year	Predicted value in the target year 2013 (2015)	Source of data (frequency of measurement)
Product indices	Number of projects			Monitoring of the programme (annual)
	Constructed and modernised expressways, including the TEN-T network (km)			Monitoring of the programme (annual)
	Reconstructed state roads (km)			Monitoring of the programme (annual)
	Number of reconstructed danger spots			Monitoring of the programme (annual)
	Airports reconstructed to improve safety			Monitoring of the programme (annual)
Outcome indices	Value of the time for passenger and cargo transport saved by building and modernising roads (euro-year)			Monitoring of the programme (annual)
Indices	Name of an index		Value in 2005	Source of data
Context indices	Number of airports			Ministry for Transport
	Number of accidents in state roads outside towns (per 1 million vehicle-kilometer)			Head Office of the Police
	Number of fatal casualties (per 100 thousand residents/in absolute figures)			Head Office of the Police

The management and implementation system of the Operational Programme Infrastructure and Environment

The system for managing and implementing the Operational Programme Infrastructure and Environment is regulated by the Regulation number 1083/2006 issued by the Council of Europe on 11th July 2006, which establishes general provisions for the European Regional Development Fund, the European Social Fund and the Cohesion Fund, and by the Regulation of the Council number 1828/2006/WE of 8th December 2006, which sets detailed executive

provisions for the Council's Regulation number 1083/2006, which specifies general provisions concerning the European Regional Development Fund, the Social Fund and the Cohesion Fund, and finally by Regulation number 1080/2006 of the European Council and Parliament of 5th July 2006, which concerns the Regional Development Fund.

The provisions concerning the system of management and implementation of the OP Infrastructure and Environment as well as the functions of the institution managing the National Strategic Reference Framework, the institution managing the Programme, certifying institutions, intermediary institutions and the institutions to which the intermediary institutions will delegate implementation of some part of the tasks, the auditing institution and mutual relations between these institutions are included in the National Strategic Reference Frameworks 2007–2013.

Summary

The Operational Programme Infrastructure and Environment, in the years 2007–2013, will be one of the operational programmes that will become a basic tool for obtaining the assumed objectives of increasing competitiveness and investment attractiveness of Poland with an aid of funds provided by the Cohesion Fund and the European Regional Development Fund. The maximum financial support allocated from the EU funds under the OP Infrastructure and Environment is 85% of eligible costs.

What is characteristic of the OP Infrastructure and Environment is that it integrates the issues of basic infrastructure, comprising technical infrastructure, with the basic components of social infrastructure. Another important element of the programme involves actions undertaken in order to produce beneficial influence on environment.

The OP Infrastructure and Environment is an opportunity of execute large transport projects. At the same time, it is a big challenge for potential beneficiaries of the programme. The complex nature of investment projects, tight schedules for the execution of the Programme, and the requirement to implement and apply the procedures imposed by the Programme, the FIDIC's conditions for contracts and the need to comply with the binding legal regulations mean that beneficiaries have to prepare projects with the highest efficiency and precision, employ highly qualified and dedicated staff in the team of the Project Manager, who represents the Investor, the team of the Contract Engineer, a supervising body, and, above all, in the team of the Contractor.

The implementation of the programme and achievement of its objectives also requires proper preparation of public administration and beneficiaries so that they are able to take the best advantage of the funds available under the Operational Programme.

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