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future of Lithuania

2014-2020 Operational
Programme for the
European Union Funds
Investments in Lithuania

European Social Fund

Impact assessment of the priority “Development of Sustainable Transport and Core Network Infrastructure” of the Operational Programme for EU Structural Funds Investments for 2014–2020

Summary of final report

Ministry of Transport and Communications of Lithuania

Vilnius, 2021

Summary

Smart Continent LT, UAB, in cooperation with the Ministry of Transport and Communications of the Republic of Lithuania, carries out the impact assessment of the priority “Development of Sustainable Transport and Core Network Infrastructure” of the Operational Programme for EU Structural Funds Investments for 2014–2020. The aim of the assessment is to determine the impact of investments in Priority 6 “Development of Sustainable Transport and Core Network Infrastructure” of the Operational Programme for EU Structural Funds Investments for 2014–2020, to prepare directions for improvements in the field of transport and measures for the 2021–2027 funding period.

The findings and recommendations of the evaluation will be used to report to the public and the European Commission on the results of the use of EU investments in 2014–2020, while lessons learned and best practices will help to better prepare for the challenges of the 2021–2027 funding period.

Analysing the key processes, trends and changes in the Lithuanian transport sector in the period 2014–2020, the 2020 National Reform Agenda is taken into account, which summarizes the most important ongoing and planned structural reforms to achieve the quantitative goals of the Europe 2020 strategy, and the Lithuanian Progress Strategy “Lithuania 2030”, based on which strategic decisions are made and state plans or programs are prepared. Also considered is the National Transport Development Program 2014–2022, which defines a sustainable, environmentally friendly, competitive and high value-added Lithuanian transport system, and the assessment of the impact of the EU Structural Funds on transport for the 2007–2013 period, which determines the efficiency of the Lithuanian transport sector and provides recommendations to improve the investment of EU funds in the transport sector in 2014–2020.

The evaluation of the number of fatalities on the roads, the number of goods transported and the number of passengers in the different modes of transport revealed that one of the most important factors behind the changes in the transport sector in 2014–2020 was the implementation of the Operational Program. The implementation of infrastructure projects has allowed the modernization and development of existing infrastructure, which has had a significant impact on businesses, residents and the environment in the transport sector. Further modernization and development of infrastructure should be carried out in the future, which would allow for more efficient use of the created infrastructure and further reduce the negative impact on the environment and the population.

Priority 6 of the Operational Program aimed at developing and modernizing transport connections with the TEN-T, with a stronger focus on road safety; developing and modernizing multimodal transport infrastructure and promoting sustainable mobility; developing intelligent, innovative and fully interconnected transport infrastructure; improving the conditions for mobility and managing the demand for mobility more efficiently, as well as developing the necessary infrastructure for various types of interoperability.

It has been established that the results generated by the implementation of the planned activities contribute to the solution of the challenges identified at the beginning of the programming period. Appropriate actions are envisaged to achieve the set goals and objectives, as the projects implemented in the road, rail, maritime, inland waterway, and air transport sectors address the issues identified in the Operational Program.

During the implementation of the measures, the projects are financed by applying the principle of non-refundable subsidy, obliging the project executors to cover a part of the amount necessary for the implementation of the project, or by allocating 100% of the eligible costs.

In all transport sectors, the use of a non-refundable subsidy is considered to be the most appropriate form of financing, as the projects implemented are large-scale, adding value to the whole country, but in many cases, they do not generate revenue. Without the non-refundable subsidy, part of the projects would still be implemented, but not to the same extent or at the same pace. Otherwise, the state would be less attractive to businesses and tourists in terms of transport, the population would suffer losses due to poorer technical infrastructure parameters and longer travel time, the negative impact on the environment would not be reduced, competitiveness vis-à-vis other countries would not be increased.

At the beginning of the Operational Programme period, EUR 989.6 million was planned for the implementation of the analysed measures, while at the end of the period the amount was almost 1% higher than the initial one. It is estimated that at the beginning of the funding period, project funding was well planned, changes little during the course of implementation, and some projects achieved higher indicators than initially planned.

6.1. The investment priority “Supporting the Development of a Common European Intermodal Transport Area by Investing in the Trans-European Transport Network” aims to increase the interoperability of the Lithuanian intermodal transport system and the trans-European transport networks. 5 product indicators are provided to assess the achievement of the goal. To achieve the overall indicator for the length of lines reconstructed or upgraded on the TEN-T network, funding of 321.7 million EUR is requested, and an indicator of 448.11 km is targeted, which is 32.2% higher than planned. 84.1 million EUR is requested for the implementation of the total length of newly built roads in the TEN-T network which is 0.8% less than planned, but this represents a 3.2% increase. 224.7 million EUR is requested to reach the total length of reconstructed or upgraded roads in the TEN-T network (99.29 km), 7.9% less than planned. 94.3 million EUR is requested for the implementation of traffic safety and environmental measures in the seaport, which will be installed 2 more than planned (5 in total). A reduction of 59.8% (10.5 million EUR) is required to achieve the ICAO-compliant indicator for the surface area of hard surfaces at the airport (176,167 m²), which is sufficient to achieve this indicator.

In summary, it is planned that the indicators of the investment priority product will be achieved upon completion of all projects (except for the indicator related to the total length of roads newly built on the TEN-T network, but the amendment of the Operational Program will reduce the value of the indicator). Although in the railway sector some of the projects

had to be implemented with lower funding intensity, in general it can be said that the allocated funding is sufficient to achieve the indicators.

6.2 The investment priority "Increasing regional mobility by connecting secondary and tertiary nodes to the TEN-T infrastructure, including intermodal nodes" aims to increase regional mobility by developing regional connections to the country's core transport network and implementing road safety measures. 4 product indicators are provided to assess the achievement of this goal. For the total length of reconstructed or renewed roads, 131.3 million EUR is requested, which ensures that the target is increased by 10.4% to 221.98 km instead of the planned 201 km. Assessing the total length of the improved or newly created inland waterway, it was found that the amount of funding requested (EUR 23.3 million) allowed to reach the set indicator by 100%. The 39.1% reduction in funding for the indicator "Measures to improve traffic safety and environmental protection" ensured that 301 measures were implemented instead of the planned 173. The funding provided for the indicator "Implemented measures to improve traffic safety and environmental protection of which: at level crossings" was sufficient, as the indicator was achieved higher than planned – instead of 9 measures, 10 measures were implemented.

Considering the objectives of the investment priorities and the reviewed contribution of the projects to their achievement, it is assessed that all projects are relevant to the implementation of the objectives and tasks of Priority 6, and most of the implemented projects are directly related to the achievement of investment priorities. The physical scope of the planned projects was sufficient to achieve the objectives in question, and the volume of funding was sufficient in many areas, except for the rail transport.

Measure 501 aims to develop and improve the TEN-T road network, strengthen, and distribute road surfaces, and implement road safety and environmental protection measures. Measure 502 aims to develop and improve the TEN-T road network through road safety and environmental protection measures. Measure 503 is intended for the improvement of railway systems, increase of capacity of TEN-T railway lines, improvement of traffic safety. Measure 504 is aimed at ensuring traffic safety and security and the implementation of the traffic information and traffic management transport system in the TEN-T network. Measure 505 aims to improve the conditions of maritime transport traffic in Klaipeda State Seaport. Measure 506 is aimed at improving air safety and aviation security, reducing the negative impact on the environment. Measure 507 is intended to increase regional mobility by developing regional connections to the TEN-T network and implementing road safety and environmental protection measures on roads of national importance (regional connections to the TEN-T network) outside the TEN-T network. Measure 508 aims to eliminate one-level road or pedestrian crossings with railways, to reconstruct two-level road or pedestrian crossings with railways, and to improve traffic safety at level crossings and crossings. Measure 509 aims to reduce the negative impact on the environment of the railways. Measure 510 is intended to improve inland navigation conditions. Measure 511 aims to develop communication on local roads by improving the technical parameters of these roads and introducing traffic safety and environmental protection measures.

Following interviews with representatives of state institutions, the Central Project Management Agency and the Ministry of Transport and Communications, the following are

the most important projects in the transport sector implemented in 2014–2020. period. The development of the Trans-European Network Road E67 (VIA BALTICA, Kaunas–Marijampole), the reconstruction of the state highway A1 (Vilnius – Kaunas – Klaipėda), the reconstruction of the state highway A14 (Vilnius–Utena) and the development of the Vilnius Western Bypass are distinguished in road transport. In railway transport, the electrification of the Kena–Naujoji Vilnia section and the electrification of the Vilnius railway junction and the reconstruction of the Lentvaris railway crossing were distinguished. In maritime transport, the dredging of Malku Bay to a depth of 14.5 m has been singled out, in inland waterway transport, the modernization of the TEN-T network road E41, and in air transport, the reconstruction of the runway and signal light system of Vilnius Airport.

The specific objective of Priority 6 of the Operational Program “Increasing the Interoperability of the National Intermodal System and Trans-European Transport Networks” meets the need to improve the TEN-T network in Lithuania by building the necessary transport infrastructure connections to the TEN-T and missing links and developing intermodal infrastructure. The implementation of a specific task and its indicators is influenced not only by properly selected and implemented activities, but also by external factors. 9 indicators are provided to measure the implementation and impact of this specific task.

The result indicator “Intermodal transport units transported, units” was achieved and exceeded during the preparation of the assessment by 27%. The result indicator “Average speed of a passenger train on the reconstructed and renewed sections of the TEN-T network, km/ h” is reached and exceeded by almost 12%. Result indicator "Number of fatalities on the roads of the TEN-T network, persons per year" Not achieved during the preparation of the evaluation. It should be noted that the indicator does not show a downward or upward trend and its value fluctuates from year to year. The indicator is influenced not only by the implemented projects, but also by such external factors as the implemented traffic safety education programs, etc. Against this background, it is difficult to assess the achievement of the indicator value. Result indicator "Average manoeuvring time of 1 aircraft" was not achieved during the assessment. It should be noted that the indicator is influenced not only by the implemented projects, but also by such factors as weather conditions, traffic intensity, therefore it is difficult to assess the achievement of the indicator in the end of 2023.

Product indicator "Total length of lines reconstructed or upgraded on the TEN-T network, km" Not achieved at the time of assessment. During the preparation, another project is being evaluated, during the implementation of which the 1520 mm wide and 321.1 km long railway section Kasiadorys–Klaipeda (Draugystes station) Belonging to the IXB transport corridor will be modernized, adapting it to electric traction train traffic. In this case, after the implementation of all 6 projects, the length of the reconstructed or upgraded railway lines in the TEN-T network will reach 448.11 km – the indicator envisaged in the Operational Program would be exceeded by 32.2%. It is estimated that by 2023 this indicator. the end will be reached. Product indicator "Total length of newly built roads in the TEN-T network, km" Not achieved during the preparation of the assessment. The measures contributing to the achievement of the indicator will achieve 74% of the value planned in the action program. Given that only one project that has already been completed has reached the

indicator, it is estimated that the indicator will not be achieved. Achievement of the product indicator “Total length of roads reconstructed or upgraded in the TEN-T network, km” during the preparation of the assessment is 90% and is not achieved. The value of the indicator achieved after the implementation of all signed contracts should be 0.3% higher than planned in the Operational Program. It is estimated that by the end of 2023 the indicator will be reached. Achievement of the product indicator “Measures to improve traffic safety and environmental protection implemented in the seaport, units” during the preparation of the assessment reaches 67%. Although the indicator has not been achieved yet, the product indicator "Area of installed ICAO compliant airport hard surfaces" is 100% achieved during the assessment.

Another specific objective of Priority 6 of the Operational Program relevant to the Evaluation is “To increase regional mobility by developing regional connections with the main transport network of the country and implementing traffic safety measures”. Implementing this task improves the technical parameters of roads, increases their throughput and speed, and ensures traffic safety. The implementation and impact of the task are assessed by 7 indicators.

Outcome indicator "Number of fatalities on non-TEN-T roads, persons per year" Not achieved during the preparation of the evaluation. Achievement of the result indicator “Time spent traveling by road (excluding TEN-T roads), thousand hours” during the preparation of the evaluation reached 85%. Even after the implementation of the signed contracts, the indicator will not be achieved. The result indicator “Volume of freight transported by inland waterways, tonnes per year” was achieved and exceeded by 7% compared to the value provided in the Operational Program.

The achievement of the product indicator “Total length of reconstructed or renewed roads, km” during the preparation of the assessment is 80% – the value provided for in the Operational Program has not been reached yet. The value of the indicator achieved after the implementation of all signed project contracts should be 10% higher than the value provided for in the Operational Program. Product indicator "Total length of improved or newly developed inland waterway, km" Not achieved at the time of assessment. Following the implementation of the planned activities, the value of the indicator set in the Operational Program – to improve or create a new 20 km of inland waterway – should be achieved. Achievement of the product indicator “Traffic safety improvement and environmental protection measures, units” during the preparation is 97% – the value planned in the Operational Program has not been achieved yet, but after implementation of the signed agreements the value provided in the Operational Program should be exceeded 74%. The product indicator “Measures for the improvement of traffic safety and environmental protection have been implemented, of which: at railway crossings, units” has not been achieved during the preparation of the assessment and makes up 33% of the values envisaged in the Operational Program. Following the implementation of the signed project contracts, 10 traffic safety and environmental improvement measures should be implemented at the level crossings, in which case the value envisaged in the Operational Program would be exceeded.

During the preparation of the evaluation, out of 16 indicators designed to measure the implementation and impact of the specific objectives of the Operational Program: 3 result and 1 product indicator; it is planned that 7 product indicators will be achieved by the end of 2023; it is estimated that 2 outcome indicators will not be achieved; It is difficult to assess the achievement of the result indicators 3, as the indicators are affected not only by the implemented projects, but also by other external factors.

The evaluation aims to determine whether the issues identified in the Operational Program are being addressed through projects in the transport sector. The following problems have been identified: poorer transport network parameters than in the EU as a whole; insufficient integration into the TEN-T network; lack of interoperability between the different modes of transport on the TEN-T network; lack of environmentally friendly solutions; high accident rates on roads, unsafe railway crossings; poor technical parameters of roads in the regions, resulting in insufficient mobility of business and population; underdeveloped inland waterway infrastructure. It can be stated that the problems identified at the beginning of the 2014–2020 period were solved through the implementation of interventions, but some of the problems are of a sufficiently large scale, therefore the need for solutions will remain relevant in the period of 2021–2027.

Through projects in the transport sector, their implementation also contributes to the creation of other social and economic benefits for society, private and public sector enterprises and the country's economy. This is reflected in time savings, savings in road vehicle operating costs, a reduction in road accidents, a reduction in noise and air pollution, a reduction in carbon emissions and an increase in the attractiveness of the area for households and businesses.

The socio-economic benefits in monetary terms of projects in the transport sector are clear. The value of social and economic benefits generated by the projects implemented in the period of 2014–2020 amounts to 3.43 billion EUR. This benefits society, the country's economy and business, and has a significant impact on changes in the number of people working in the transport sector, the number of passengers and the amount of cargo. In summary, it has been found that the largest share of the socio-economic benefits is due to travel time savings – as much as 82.3% of the total benefits. The reduction of accidents (11.4%), savings in operating costs of road vehicles (2.8%) and the reduction of air pollution (2.4%) also make a significant contribution. The remaining 1.1 percent is due to a reduction in noise pollution, a reduction in carbon emissions and an increase in the attractiveness of the area for households and businesses.

Based on the methodology for calculating conversion factors and assessing the socio-economic impact (benefits / harms), the benefits of projects in the transport sector are assessed over a period of 25 to 30 years. The socio-economic benefits from 2014 to 2018 are not assessed, as during this period most of the projects are implemented, the investments and costs incurred outweigh the benefits and no revenue is generated. The increase in benefits is observed from 2019, when part of the projects was completed, and the growth trend will continue until 2043. During this period, the benefits will increase more than 60 times – from 3.1 million EUR to 199.12 million EUR.

After assessing the financial internal rate of return of the projects implemented under 11 measures, it was found that the rate of return of all projects is negative. It should be noted that in most cases public and large-scale projects do not generate revenue, but satisfy the public interest, therefore it is important to assess not only the financial but also the economic indicators of these projects. Although the financial average rate of return on projects is negative, they are being implemented due to a positive economic internal rate of return.

The total length of the TEN-T road transport network is 2,650.36 km. The core and comprehensive TEN-T road network include projects for the reconstruction or renewal of roads, the construction of new roads, and the introduction of road safety and environmental measures. The total length of the TEN-T rail network is 2,015 km, which includes projects to electrify railways, build second railways and introduce traffic and environmental measures. The inland waterways of the TEN-T network make up 278 km, and Klaipeda State Seaport is included in the main TEN-T network in maritime transport. The TEN-T maritime and inland waterway networks are implementing projects to modernize existing infrastructure and introduce road safety and environmental measures. There are 3 airports in Lithuania (Vilnius, Kaunas and Palanga), all of which belong to the common TEN-T network. The core and comprehensive TEN-T network include projects to renovate or upgrade existing airport infrastructure, build new taxiways, and introduce road safety and environmental measures.

The Action Program distinguishes between 3 horizontal principles: sustainable development, equal opportunities and non-discrimination, and equality between women and men. The assessment of compliance with the horizontal principles showed that the projects implemented under Measures 6 pursued the principles of sustainable development, but none of the projects implemented under Measures 11 contributed to the principle of equality between women and men (impact neutral).

Even with the smooth implementation of projects and the targeted use of EU funds, there is a problem of financing the functional maintenance, financing and rehabilitation of existing infrastructure, which in turn leads to the exclusion of a cost-based infrastructure charge (usage tariff). Although the infrastructure created generates social benefits, it does not generate direct revenue, in which case, at the end of the infrastructure development project, the owner has no additional revenue that could be allocated for the maintenance of the infrastructure. Project information already indicates that there will be a shortage of revenue to cover costs and reinvestment, so alternatives will have to be found to cover infrastructure maintenance costs and may be taxpayers' money, potentially reducing taxpayer funding for other projects and modes of transport.

When assessing the compatibility of measures and projects implemented in the transport sector with measures and projects implemented in other sectors of the economy, several cases of compatibility of measures are observed. For example, Priority 6 of the Operational Program includes the development of local roads, and Priority 4 of the Operational Program “Promotion of Energy Efficiency and Renewable Energy Production and Use” implements the modernization of street lighting, which contributes to energy efficiency in the energy sector. Consistency has also been established with Priority 2 of the Operational Program “Promoting the Information Society”, which aimed to increase the availability and use of

broadband electronic communications network infrastructure. The development of the broadband infrastructure was aimed at coordinating the work with road reconstruction projects to include optical cables in the reconstruction of the roads, thus reducing the costs due to their possible sharing. No duplication has been identified in other sectors of the economy.

After the evaluation of the projects implemented in the period of 2014–2020, the challenges of the Lithuanian transport sector relevant to the period of 2021–2027 are highlighted. The country has not adopted a unified strategy for the transport sector, which would provide a long-term vision for the sector, goals, development directions and priorities. In the absence of a strategic plan, it is not clear enough to the players in the sector what the direction of the transport sector is. In Lithuania, there is a lack of railway connections in the north and south directions, it is necessary to implement railway electrification works and automation of the sector. However, there is a lack of funds for significant railway development projects in Lithuania. It is expected that in the period of 2021–2027, the funds allocated to Lithuanian railway projects will be lower than in the 2014–2020 funding period. When assessing the reduction of the negative impact of the transport sector on the environment and the greening of freight transport, priority is given to railways at the EU level, but Lithuania also aims to increase the use of inland waterways. However, the planned investments are not enough to solve the environmental challenges, and it should be noted that the infrastructure and the equipment for its maintenance are obsolete, which requires large-scale investments. In the area of seaports, insufficient port depth remains a major problem, hindering the acceptance of larger and heavier cargo ships. This leads not only to lower port capacity, but also to a greater negative impact on the environment, as more ships have to arrive if ships cannot be fully loaded. Although the focus of the 2014–2020 funding period has been on road safety measures, the implementation of specific road safety measures in one place or another is not sufficiently substantiated by statistical analysis. Also, it is not clear enough which authority should be responsible for carrying out the analysis and selecting appropriate measures in problem areas. EU-level documentation states that the transport sector should innovate to ensure data interoperability. It is important to seize the opportunities offered by digitalisation.

In the period 2021–2027, the interoperability of different modes of transport should be further improved by promoting cooperation rather than competition between different modes of transport. The deployment of intelligent transport systems should also be continued, as well as additional projects related to digitization and the use of artificial intelligence. Based on a comparison of measures, the reduction of pollution at airports and seaports will remain relevant. Road safety measures have also been implemented in the implementation of projects under many other measures. Reductions in road fatalities should continue to be pursued, contributing to the EU's goal of reducing the number of serious injuries and road deaths by 50% by 2030 and close to 0 in 2050. In addition, the introduction of road safety measures in some cases contributes to the promotion of non-motorized transport.

Ensuring the integrity of the different modes of transport is crucial for the 2021–2027 funding period. Between 2014 and 2020, investment in some sections overlapped with the development and improvement of both rail and road and, in some cases, inland waterway

infrastructure. Assessing the needs of the transport sector at national level, rather than in individual transport sectors, would make it possible to identify the modes of transport that best meet the needs of business and the population on the various sections and provide the most funding, maintaining and not expanding the remaining infrastructure.