

Sustainable and durable development of Romanian road transport, in the context of European requirements of the European Union

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Abstract. The scientific work presents a concrete research carried out by the authors in order to implement some concepts of a technical and economic nature so that the readers can become aware of a certain way of presenting the problems regarding the durability development and sustainability of the road transport system. It proposes a study, carried out from a managerial point of view with engineering nuances, so that the concept of sustainable development in the addressed field can be viewed in a global context. The work as a whole is intended to be a theoretical approach with correlations in the field of engineering and management, essentially aiming at the sustainable development of the road transport. Finally, are presented some conclusions and further research directions in this way.

Keywords: *durable development, sustainability, road transport, milestones, targets, strategy.*

1. Introduction

Sustainable development brings to the fore a new set of values that will direct the future model of the economic-social development of the humanity, with its present and future needs, the protection of the natural environment and its conservation, mitigation and stopping the destruction of ecosystems. Until recently, industrial activities bore the entire blame for the pollution of our planet.

The rapid development of all branches of transport, especially the road sector, the increase in the production of automobiles worldwide, the frequent use of cars that are not friendly to the environment, have caused the balance of the sources of noxes and harmful effects to tilt in the opposite direction, towards the minus, making that transport activities become today the main source of environmental pollution, becoming a real danger to the human health.

At the present time, specialists say that 72% of the polluting substances emitted into the atmosphere result from transport activities. As previously presented, sustainability in transport derives from a complex system that aims to ensure the mobility needs of today's generation, without contaminating or damaging environmental factors or human health. Applying now a maximum efficiency of the consumption of raw materials and energy, the transport system must satisfy in optimal conditions the economic, ecological and social perspectives of the mobility needs of the generations to come [1].

The vast majority of researchers have come to the conclusion that the current road transport system is not sustainable and will not have durability because everything that has been achieved so far is based on an exaggerated consumption of resources that has led to the destruction of the environment and human health.

Consequently, the sustainable road transport is a fundamental element for prosperity ensuring, but creates a true compromise between obtaining major benefits and certain constraints related to the cumulative effect of environmental and social costs. Sustainable development and durability in road transport implies a balanced economic growth in terms of economic, social and environmental dimensions. They are directly dependent on the production and energy sectors, which ensure the social development of a nation.

1. The concept of durable development

The word *development* becomes more and more often used in the last decades, having more meanings. Many authors believe that the term development has several meanings, being a polysemic concept, sometimes causing great confusion. The word has several meanings, however, the most important ones are those of growth, evolution, progress.

The other term, *durable, durability*, is defined as something that includes a long period of time, that lasts a long time, durable, solid, viable. Therefore, to develop durable means to grow, to progress, to evolve permanently, certain things that last over time.

The concept of *durable development* has as its genesis the world economic crisis that took place between the years 1929-1933 and subsequently evolved to include all economic, social and human spheres, and currently it defines the new path of the humanity. At that time, the strong industrial exploitation of resources harmed the environment, and the durable development was thought of as a saving solution to the ecological decline that would follow. Through the measures taken, an agreement was established between the economic and social progress, without degrading the environment. The idea behind the concept represents a higher quality of life for the current generations, but also for those that will follow.

Some authors place the origin of durable development in the *Wealth of Nations* written by Adam Smith in 1776 [2]. The author is a classic who wrote one of the best political economy books ever written, trailblazing, with a masterful purpose unsurpassed to this day. He is a pioneer of the modern economic thinking. His theory regarding development was based on the division of labor that allows the increase in productivity and which, together with the increase in investments, leads to an increase in total production and production per capita.

A concrete definition of the durable development is presented by [3], in the report *Our Common Future*, which became a reference document, being the first to use the term global development (durable development), also known as the *Brundtland Report*, which said: durable development is the development that aims to meet the needs of the present, without compromising the ability of future generations to meet their own needs.

In our view, the durable development does not only represent those actions taken to protect the environment. Durable development means all those actions, taken as a whole, to build, permanently develop, viable, the things and objectives necessary to carry out the daily activities. For example, the humanity's need for mobility led to the development of the automobile and communication ways, objectives that continue to this day, through technology, but also the network of modern roads and highways. Without the automobile and a lasting, durable network of communication routes, the humanity would not have been able to move from one place to another and would not have been able to secure the goods and food necessary for the daily living.

All these things, however, must also be seen through the lens of environmental protection. Let's not forget that cars consume resources and emit pollutants into the atmosphere. A motor vehicle pollutes from the extraction of the ore from which it is made, until it is scrapped. Also, the construction of the road infrastructure (roads, highways) pollutes with noise, chemically, affects and destroys natural ecosystems.

However, the road infrastructure, since ancient times, has facilitated the free movement of people and consumer goods. Subsequently, they developed much later in isolated areas and regions, only after the infrastructure was paved and automobiles appeared. With the appearance of highways, high-speed roads and the development of the automobile industry, the road transport had a remarkable evolution, becoming one of the most accessible and important ways through which the humanity expressed its desire for mobility. Considering the fact that it is one of the most unsafe transport systems and pollutes the environment a lot, the road transport has become and is the most important in the economy of all the states of the world.

It was found that the underdeveloped countries or regions, as well as the developing ones that have insufficiently developed transport systems and infrastructure, or have inefficient transport services, are difficult to develop from this point of view, and those that invest in this field do remarkable progress, developing durably. If these aspects are neglected, the economic, social and ecological costs increase.

Over time, the durable development has been interpreted according to the approaches of the fields in which this term is used, and history has shown that the first people who approached this term in the field of transport were the profile organizations, regardless of the field of transport in which they operated.

In antiquity, the highly developed civilizations were those that knew how to capitalize on the advantages offered by nature, namely, inland waterways and openings to the seas or oceans. The Roman Empire, China, Egypt and Greece prospered very quickly when they developed their river and sea transport routes. In this way, countries like Japan, Spain, Great Britain, Germany, France and the United States of America developed their state economies very quickly too. With the advent of the railways, the infrastructure in this area developed and allowed the development of areas and regions that had wealth in raw materials, but were landlocked.

2. The concept of sustainability

The sustainability derives from the term *to support something, to provide support*. It is defined by the quality of the human actions, to take place without exhausting the available resources, and like durability, it ensures that balance between economic-social growth and environmental protection.

So, sustainability is the ability to exist and develop without depleting natural resources for the future [4].

With the emergence of the term sustainability, the notion of sustainable development has been permanently developed in the opinion of specialists. It is the foundation of the human needs that improves the quality of life.

Thus, the need to integrate qualitative aspects in the measurement of the development is emphasized, and the sustainable development is a central concept that refers to a new way of understanding the world, but also to a method of solving global problems [5, pp. 241-242].

The foundations of this concept were laid for the first time in 1992, at the National Conference in Rio de Janeiro, Brazil. The concept of sustainability focuses on the conservation of material resources and their efficient use, in order to facilitate and guarantee future generations access to an uncompromised natural and economic environment. More specifically, the extent to which the present needs are met without compromising the ability of future generations to meet their own needs. This is about intergenerational equity. In this sense, the current generation benefits from the basic resources of the environment without preserving or replacing them. What remains for future generations from these resources are only the debts they have to pay.

Hartwich, was the one who identified a theoretical interconnection between resource rent and economic sustainability in the case of exhaustible resources [6].

His rule shows us that a nation will invest the rent collected from the present use of the exhaustible resource, in the case of a use that maximizes the owner's benefit [6].

Personally, I agree with the specialists who claim that in its essence, the concept of *sustainability* shows us the connection between the responsible consumption of resources and the environment from which they come, in order to increase the economic efficiency in the medium and long term.

A durable economic growth requires sustainability, and the durable development presupposes superiority over economic growth.

3. Durable development in road transport

The durability in road transport derives from a complex system that is destined to ensure the mobility needs of today's generation without contaminating or damaging environmental factors or the human health.

In other words, the specialists and researchers have the mission of finding current transport options that do not pollute the environment and that do not affect the human health, and this can be achieved by increasing the energy efficiency of the fuels burned in the thermal engines of the means of transport, the use of more efficient vehicles in terms of fuel consumption, the use of alternative energies for travel and last but not least, the permanent reduction of waste of any kind resulting from the production or decommissioning the means of transport.

The means through which action can be taken to achieve these desired goals are the economic-legislative ones, through which action is taken on fees, authorizations and taxes [1].

The effect of these constraints can lead to the reduction of the use of the polluting vehicles with advanced physical or moral wear, with technical defects, the reduction of energy consumption, the efficiency and effectiveness of transport activities, the equal redistribution of income between the transport organizations and society, but also the reorientation of the way in which transport activities are carried out. Those aspects through which the transport organizations cause damage or loss, without being held responsible, will have to be analyzed very well.

These represent the external costs or externalities [1], and are defined by the noxious pollution of the earth's atmosphere. If some policies specific to the concept of durable transport are adopted, this does not mean that the style in which we live is immediately or totally changed, taking radical measures to reduce the need to travel or to restrict the purchase of motor vehicles, but it is necessary to act where there is the genesis of evil, namely, through the design and construction of non-polluting means of transport, friendly to the environment.

In the figure 1, presents mobility pyramid showing the order of priority for the different modes of transport in achieving a sustainable transport system.

The measures that will be taken in this regard must be taken in the long term and not in the medium or short term, by applying new strategies of a political nature that determine the three main factors that contribute to the durable development of transport, namely [1]:

1. The political factor, at a high level, through the decisions it takes;
2. Teams of specialists, in factories and plants, to value their training and knowledge in the field of automobile construction;
3. The involvement of the society through the activities it carries out daily.

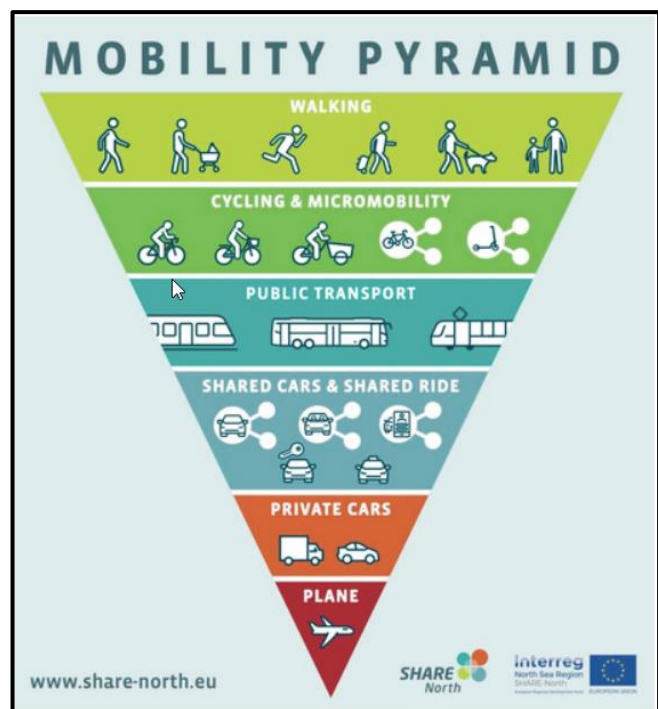


Figure 1 The mobility pyramid for different modes of transport to achieve a sustainable transport system [14].

According to the same author, from the point of view of sustainable development, transport has four important economic functions, namely [1]:

It increases the possibility of movement and makes the transfer of the production factors, especially the labor force, to those places where they can be used efficiently;

It modifies the productive functions as a result of progress in transport, reducing costs, introducing investments into the production process;

Feeds the production process, which allows goods and people to be transferred between them and in the centers of production and consumption;

It ensures cohesion, social security, increases the standard of living of the population by expanding some facilities and providing consumer goods.

It was found that underdeveloped countries or developing countries that have insufficiently developed transport systems and infrastructure, or have inefficient transport services, develop with difficulty or hardly at all from a social, economic and cultural point of view, and those that invest in this field they make remarkable progress in this field by developing durably. If these aspects are neglected, the economic, social and ecological costs increase.

The impact that transport has on the population must be analyzed in a broader perspective, as follows:

Realized the need for an agreement between the economic environment and the environment, on the new path of development that supports the progress of humanity for the whole planet and for a distant future;

The desire for mobility that has negative effects on the environment and human health must be satisfied at the same time as taking measures to reduce these effects.

The concept of comprehensive durability implies a balanced economic growth in terms of economic, social and environmental dimensions, it depends directly on the production and energy sectors, which ensure a major social prosperity but, in a more advantageous direction, durable transport can be created as an adjustment of transport services to meet other objectives.

The first more important research in the field of durable development of transport was presented at the OECD Conference in Vancouver in 1996 [7], where the principles of durable transport were stipulated, then they were continued at the Workshop on durable transport in the period 20-21. 10. 1998, in the capital of Canada, Ottawa, and in the capital of Austria in Vienna during the period 04-06.10. 2000, the results of the EST project - *durable environmental transport* were presented, where on the occasion of these events the social dimension of the transport durability was clearly revealed [1].

Initially these concerns regarding durable transport were of the engineers, applying the principle that any reduction of polluting emissions by means of transport represents durable development, so that later new definitions and practical interpretations of durability are introduced, reaching that comprehensive durability deduced from the combination of several dimensions of durable development, initially the environment, then the environment and the economy, and finally the environment, the economy and the social. *Benefit-cost* analysis was used as an analytical work tool [1].

4. Sustainability of road transport in Romania

The proposed objective is to increase the sustainability of all national transport systems, thus supporting the transition to electromobility and digitalisation, through the development of a sustainable and ecological transport infrastructure, which determines and at the same time contributes to the completion of the trans-European transport networks (TEN-T), which resulted in the decongestion of the urban nodes.

In this sense, targeted actions are aimed at developing environmentally friendly measures, which will target high-speed transport infrastructure (highways, expressways and national roads), the development of Intelligent Transport Systems, measures regarding road safety and security and the protection of the environment.

In this sense, in order for the proposed objective to produce its expected effect, for the development of road networks at the national level, certain reforms and investments will have to be made for implementation and development, in the component: sustainable transport, the pillar: the transition to a green community. Tables 1 present the main reforms that Romania has proposed, as well as the financial funds necessary for the development of the road transport system, through the PNRR.

Table 1 Reforms established by the objective of developing the road transport system within PNRR [8]

Reforms	Allocated budget (mil. euros)	Milestones/Targets
<p>R1. Sustainable transport, decarbonisation and road safety/Road decarbonisation in accordance with the "polluter pays" principle.</p>	<p>10</p>	<p>1. Entry into force of the law for the implementation of a new charging system based on distance traveled for heavy goods vehicles (trucks) and higher property taxes for the most polluting passenger vehicles (cars / buses / coaches), on the basis of the "polluter pays" principle and the principle of environmental taxation.</p>
		<p>2. Entry into force of the law to encourage the use of clean vehicles and fleet renewal programs by domestic users, private companies and public institutions.</p>
		<p>3. New clean vehicles purchased by public bodies, at least 3% above the thresholds of Directive (EU) 2019/1161 of the European Parliament and of the Council of 20 June 2019 amending Directive 2009/33 / EC, in the period 2021- 2025.</p>
		<p>4. Scrapped polluting vehicles (EURO 3 or less). At least 250,000 polluting vehicles (with EURO emission standards 3 or less) older than 15 years will be scrapped between 2022 and mid-2026.</p>
		<p>5. Increasing the number of zero-emission vehicles by 2026 (29,500 units).</p>
		<p>6. Charging stations for electric vehicles installed nationwide. Completion of the network of recharging power stations with a number of 52 stations that will have 264 charging points by 2026, located on the 4 proposed highways.</p>
		<p>7. Adopt the national road safety strategy. The National Road Safety Strategy for 2021-2030 will implement EU rules and guidelines as set out in the EU Road Safety Policy Framework 2021-2030 and the "zero vision", which aims to reduce deaths by 2050 in road accidents to near zero.</p>
		<p>8. Entry into force of road safety legislation - legislation on monitoring, enforcement and sanctions applicable to road safety infringements.</p>
		<p>9. Installed and functional equipment to improve compliance with</p>

Reforms	Allocated budget (mil. euros)	Milestones/Targets
		speed limits and road safety regulations.
		10. Reducing the number of road accident victims (seriously injured and killed) by 25% compared to the 2019 reference level.
R2. High – performance management for quality transport – Improving institutional management and corporate governance capabilities.	19	1. The entry into force of Law no. 50/2021 for the approval of the Government Emergency Ordinance no. 55/2016 on the reorganization of the National Company of National Highways and Roads in Romania - S.A. (C.N.A.I.R.) and the establishment of the National Road Investment Company - S.A. (C.N.I.R.).

The latest report at the level of the European Union on the state of the road transport infrastructure (European Transport and Infrastructure Board) from 2019, shows that our country is the worst in this area, ranking in last place, with a score of 2, 96 [9, pp. 25-34].

In this sense, in order for the proposed objective to produce its expected effect, for the development of road networks at the national level, certain reforms and investments will have to be made for implementation and development, in the component: sustainable transport, the pillar: the transition to a green community.

Table 2 shows the main investments that Romania has proposed, as well as the financial funds needed for the development of the road transport system, through the PNRR.

Table 2 Investments established by the objective of developing the road transport system within PNRR [8].

Investment	Allocated budget (mil. euros)	Milestones/Targets
II. Development of sustainable road infrastructure related to the TEN-T network, tolling, traffic management and road safety.	3.095	1. Signing of contracts for 100% of works, following open and competitive tenders and relevant permits obtained, with opinions from the environmental impact assessment and the corresponding assessment (part of the Habitats Directive) issued and incorporated since the investment design phase.
		2. Entry into force of the law to encourage the use of clean vehicles and fleet renewal programs by domestic users, private companies and public institutions.
		3. New clean vehicles purchased by public bodies, at least 3% above the thresholds of the Clean Vehicles Directive (Directive (EU) 2019/1161 of the European Parliament and of the Council of 20 June 2019 amending Directive 2009/33 / EC] for the period 2021- 2025. For clarity, this would mean a target of at least 21.7% for light vehicles, 9% for heavy vehicles and 27% for buses, given

Investment	Allocated budget (mil. euros)	Milestones/Targets
		that the minimum targets for public procurement set for Romania in the Clean Vehicles Directive are: 18.7% for light vehicles, 6% for heavy vehicles and 24% for buses.
		4. Construction of new roads, 50% of the works completed.
		5. Construction of new completed roads (TEN-T standards).
		6. Elimination of black spots / hotspots on road safety. The 267 road safety hotspots / hotspots in 2021 will be reduced by 129.

In september 2021, Romania is not among the more than half of the EU member state whose recovery plans have been approved by the European Commission [10]. The figure 2 shows the share of investments in transport infrastructure through the National Recovery and Resilience Plan (PNRR), submitted to the EC, in 2021, by the Roamanian Government.

According to the data specified by the Romanian Government, both reforms and investments will be made in reciprocity with:

➤ **Climate policies at European level** [10]. According to the authors, these policies consist in the development and use of renewable energies; the development of energy efficiency in all European industries; reducing pollution by reducing CO₂ emissions in new motor vehicles; urgent measures to reduce pollution by manufacturing industries and reduce pollution from landfills;

➤ **The European Green Pact** [11]. In our opinion, this pact has as its main purpose the transformation of the economies of the European Union countries into an efficient, modern and competitive economy in terms of resources. From this point of view, Europe aims to achieve the following objectives by 2050: zero greenhouse gas emissions; economic growth to be delimited by the use of resources; the development of human beings and the habitats in which they live;

➤ **The EU's 2030 climate goals plan** [12]. In the opinion of the authors, this plan brings new measures to reduce greenhouse gases by a percentage of 40%, below the level of the year 1990; the renewal of some political ambitions to increase the energy efficiency; bold targets for the renewable energy; a new governance strategy and new indicators to guarantee a developed, secure and competitive energy system;

➤ **The European strategy on durable and intelligent mobility**, which provides sets of measures established by the European policies for long-term durable and sustainable development, as follows [13, p. 3]:

a) **By 2030:** at least 30 million vehicles with zero-emission will be in operation on the European roads; 100 European cities will be climate neutral; high-speed railway traffic will double; the

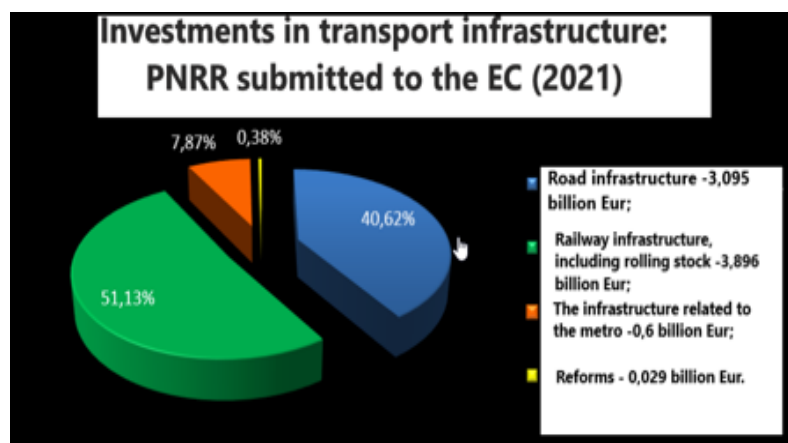


Figure 2 Share of the investments in transport infrastructure (PNRR transmitted by the EC (2021) [15].

scheduled collective journeys of less than 500 km will have to be carbon neutral within the EU; the automated mobility will be widely implemented; zero emission ships will be ready for market launch.

- b) **By 2035:** high-capacity zero-emission aircraft will be ready for market launch;
- c) **By 2050:** almost all the cars, vans, buses and heavy vehicles will have zero-emission; the railway freight traffic will double; the high-speed railway traffic will triple; the multimodal trans-European transport network (TEN-T), equipped for a sustainable and intelligent transport with high-speed connectivity, will be operational for the global network.

5. Conclusions

Through the durable development of the urban transport, the efficiency of sales markets and the population's access to leisure activities and entertainment increases, and through the development of the rural one, the same is developed and ensured in these markets, production costs decrease and the rural economy develops rapidly, which is not related to agriculture.

The interurban and international transport develops the domestic and foreign trade through a faster movement of goods and passengers.

By making transport services more efficient, a region develops faster from a social, economic and cultural point of view, constituting a very complex process of capitalizing on the skills and talent of the population, but also of natural resources.

By protecting the environment and through a responsible use of all resources, us, as the current generation, will ensure the durable and sustainable development of everything we will leave as wealth to our descendants.

By improving the transport activities, we develop economically and increase the mobility, but it is necessary to find that state of concordance between the three factors, the ecological factor, the social factor and the economic factor, on which the lasting and durable development of transport systems depends. The durable development of transport is the main pillar of the economic development, and its growth reduces poverty and the access to the free market for goods and passengers, offers the opportunity to enter the labor market, services, education and having a decent house.

Despite all the efforts undertaken by the authorities in our country in the last 30 years, to modernize and restore the domestic transport systems, according to the previously analyzed data, it turns out that a large part of the public road network is in a mediocre or completely damaged state, insufficiently prepared to take over and cope with a high flow of vehicles.

At the national level, we have an outdated and aging motor vehicle fleet, whose means of transport have advanced physical and moral wear, have technical defects that endanger the lives and health of people and road users, and the road safety is defective, with all the efforts made for efficient and operative road traffic management.

Due to these reasons, the Government of Romania, the Ministry of Transport, the National Road Infrastructure Administration Company and the Local Administrations, through their decision-making position, must take into account and adopt new development strategies in this field, in order to ensure a high technical and quality level, to integrate the road transport system in Romania to EU requirements.

Such a strategy consists in the creation of sustainable road structures, so that the road transport system in our country becomes more efficient, safer, with a reduced economic, environmental and social impact. Only in such a situation can the Romanian road transport be considered sustainable. This desired can be achieved if, in addition to reaching the technical and engineering targets specific to the road transport activity, the entire system has the ability to protect and repair the damage caused to the ecosystems within which it evolves, to use material, financial, human and natural, and finally to cover all the important human tasks and needs such as: the satisfaction and comfort, health, safety and the provision of jobs for mankind.

Durable road transport cannot be set aside from the economic issues, because it is an integral part of this system. Currently, the transport specialists and those with environmental protection

responsibilities must urgently solve the major problems in this sector, in order to meet the reduction of pollution, but also to find ecological and economically viable transport solutions. All of the above are the primary objective of a durable and sustainable auto transport system.

6. References

- [1] I. I. Basgan, „Sustainable development of transport in Romania the context of accession to European Union. The new vision of European quality.,” *AGIR newsletter*, 2003.
- [2] A. Smith, *The wealth of nations. The Economics Classic- A Selected Edition for the Contemporary Reader*, by Adam Smith, This abridged edition copyright© Tom Butler-Bowdon, 2010 ed., 2. f. R. e. Publica, Ed., Capstone Publishing Ltd. (a Wiley company), 2010.
- [3] H. G. Brundtland, “Our common future,” (WCED), Commission for Environment and Development, 1986.
- [4] G. TWI, „What is sustainability?,” 2022. [Interactiv]. Available: <https://www.twi-global.com/locations/romania/ce-facem/intrebari-frecvente-faq/ce-este-sustenabilitatea>. [Accesat 08 August 2022].
- [5] D. J. Sachs, "The Age of Sustainable Development.," *Columbia University Press*, vol. 81, no. 3, pp. 241-242, 11 September 2015.
- [6] J. Hartwick, “Intergenerational Equity and the Investment of Rents from Exhaustible Resources,” *American Economic Review*, vol. 67, pp. 972-74, December 1997.
- [7] OECD, "Towards Sustainable Transportation," in *Conference organised by the OECD; hosted by the Government of Canada*, Vancouver, British Columbia, 1996.
- [8] The Government of Romania; Ministry of European Investments and Projects, "The National Recovery and Resilience Plan (PNRR).," 27 September 2021. [Online]. Available: <https://mfe.gov.ro/pnrr/>. [Accessed 01 June 2022].
- [9] G. I. o. P. -. I. Ministry of Internal Affairs, "Road Safety Bulletin," Ministry of Internal Affairs, General Inspectorate of Police - IGPR, Bucharest, 2021.
- [10] T. E. Commission, "Climate Action," 2021. [Online]. Available: https://ec.europa.eu/clima/index_ro. [Accessed 08 August 2022].
- [11] T. E. Commission, "The European Green Pact; Let's be the first climate neutral continent!," December 2019. [Online]. Available: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_ro. [Accessed 08 August 2022].
- [12] T. E. Commission, "2030 climate and energy targets for a competitive, secure and low-carbon EU economy," 22 January 2014. [Online]. Available: https://ec.europa.eu/commission/presscorner/detail/ro/IP_14_54. [Accessed 08 August 2022].
- [13] The European Commission, "The strategy for a sustainable and intelligent mobility – registration of transports. European on the way to the future.," Brussels, 2020.
- [14] infoclima, "Socio-economic and Mobility; How do we move to stop fueling climate change?," 2022. [Online]. Available: <https://www.infoclima.ro/acasa/cum-ne-deplasm-pentru-a-nu-mai-alimenta-schimbrile-climatice-yey2m>. [Accessed 05 September 2022].
- [15] H. Bănescu, "Contributors.ro; Value-added texts; PNRR mysteries: how investments of 1 billion euros disappeared from the metro," 01 September 2021. [Online]. Available: <https://www.contributors.ro/misterelepnrr-cum-au-disparut-investitii-de-1-miliard-de-euro-de-la-metrou/>. [Accessed 05 September 2022].