Thematic Assessment on Smart Mobility for the Republic of Moldova

Part of the Green Agenda for Armenia, Georgia, Moldova and Ukraine project

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DISCLAIMER:

This thematic report was developed under the ***Green Agenda for Armenia, Georgia, Moldova, and Ukraine project***, which is funded by the Swedish International Development Cooperation Agency (Sida) and led by the Stockholm Environment Institute (SEI). It is issued as a technical working document to provide sector-specific insights as part of a broader effort under the Green Agenda.

The findings, interpretations, and conclusions expressed in this report are those of the authors and do not necessarily reflect the official policy or position of Sida, SEI, or any other project partners or stakeholders.

The report is based on information available up to Spring 2024. For the latest data and analysis, please refer to the national green transition assessment report for Moldova.

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1. Current state and trends

EGD covers the “Sustainable and smart mobility” thematic area through the three main pillars analysed in this report:

Sustainable mobility - assess the current state of all modes used in passenger and freight transport (both public and private) on international and national levels, in urban and rural areas, their greenhouse gas emissions, vehicles and fuels used and availability and quality of supporting infrastructure. Understanding the national strategies and goals, national public transport planning, action plans, and implementation status will help identify gaps, challenges, and opportunities for advancing action and accelerating progress towards the uptake of more sustainable mobility options to reach climate neutrality. Evaluate the effectiveness of current means, incentives (including financial) on driving the transition for uptake of less polluting vehicles and reducing the current dependence on fossil fuels.

Smart mobility - assess the current level of automation and digitalisation in passenger and freight transport to support multimodal mobility, including smart and interoperable booking and payment services, connected and automatically coordinated freight transport, and traffic management. Evaluate the existing policy framework and the availability and quality of necessary data to identify gaps, challenges, and opportunities for advancing the uptake of innovative digital solutions.

Resilient mobility - assess the existing policy framework, strategies, action plans and incentives for creating a more resilient and greener transport sector through implementation of a single market, free movement of goods and services, ensure multimodality and interoperability through development of transport corridors with modern infrastructure. Evaluate the current state of transport safety and provisions for accessibility in all regions and for all passengers to identify the existing gaps, challenges, and opportunities.

1.1 The profile of the thematic area

This subsection provides a short overview of the trends and current situation of relevant sub-areas of the Smart mobility thematic area.

Table 1. The main indicators in the area[1]

Relevant Statistics/indicators	1990	2018	2019	2020	2021	2022	Comments
GDP contribution		6.9%	6.8%	5.3%	5.4%	7.3%	
Motorization (cars/1 000 persons)		226	242	256	273	291	
Road (transport) fatalities		109	103	109	111	92	
Share of public transportation use of all trips						49%	In Chisinau
Final energy consumption of the sector (KTOE)		758	769	681	789	793	
Total greenhouse gas (GHG) emissions from transport (ktCO2e) (from year 1990)	N/A	167.1	127.8	100.6	130.3	125.6	

At 7%, transport makes a small contribution to the Republic of Moldova (hereinafter: Moldova) gross domestic product. Yet, according to OECD the sector is responsible for 22% of the country's greenhouse gas emissions – transport is the second biggest contributor after the energy sector. It must be noted, though, that the calculation formula for emissions has transitioned from Soviet-era methods to those aligned with UN/EU standards. Historically, emissions were calculated based on the quantity of fuel sold. A notable trend in recent years is that many Romanian-registered vehicles refuelled at Moldovan gas stations due to lower fuel prices in Moldova compared to Romania. This practice likely contributed to the unusual trends observed in the fluctuation of transport sector GHG emissions.

The transport sector is the primary source of air pollution in urban areas, accounting for at least 86% of total emissions. According to World Health Organization (WHO) data, the number of deaths in Moldova caused by ambient air pollution has more than tripled over the last 15 years. The Municipality of Chisinau is experiencing a substantial increase in air pollution-related diseases.[2]

According to the Environmental Agency[3], motor transport is the main source of pollutants into the air, accounting for over 90% of total pollutant emissions. The amount of emissions from transport was 198.1 thousand tons in 2018, 9% more than in 2014. At the same time, compared to 2017, the trend is decreasing by -33%, and 2017 was the year when a volume of 296 thousand tons was reported—the largest volume of pollutants recorded over a period of almost two decades.

[1] National Bureau of Statistics (www.statistica.gov.md)

[2] https://www.oecd-ilibrary.org/sites/bab910b0-en/index.html?itemId=/content/component/bab910b0-en

[3] A1 Emisii de poluanți în aer atmosferic | Agenția de Mediu (gov.md)

This trend is largely due to the increasing number of motor vehicles (from 300 thousand units in 1990 to over 870 thousand units in 2018) and, respectively, the increase in demand for freight and passenger transport.

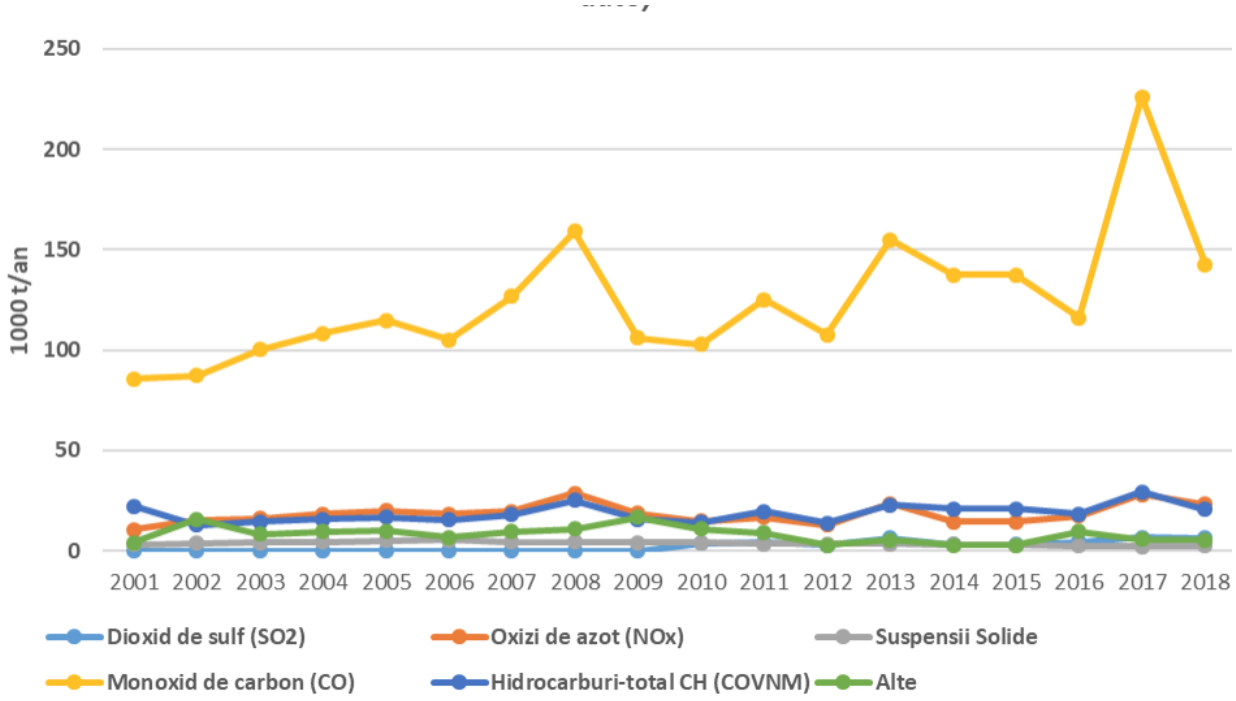

Figure 1. Trend of emissions of pollutants into the air from motor transport. Source: National Bureau of Statistics

The draft National Environmental Strategy 2024-2030[4] also states that the transport sector contributes significantly to greenhouse gas emissions, and its role in reducing these emissions is crucial for climate change mitigation. The sector's dependence on fossil fuels, in particular petroleum-based fuels, leads to emissions of carbon dioxide (CO2) and other greenhouse gases into the atmosphere. Reducing greenhouse gas emissions from transport requires changes in transport and infrastructure planning, as well as the transition to low-carbon fuels. According to the draft strategy, emissions from mobile sources (which make up 86.2% of the summary volume of harmful substances emitted into atmospheric air) depend on fuel quality, technical conditions of vehicles, the number of transport units operated, etc.

[4] nu-85-mm-2024.pdf (gov.md)

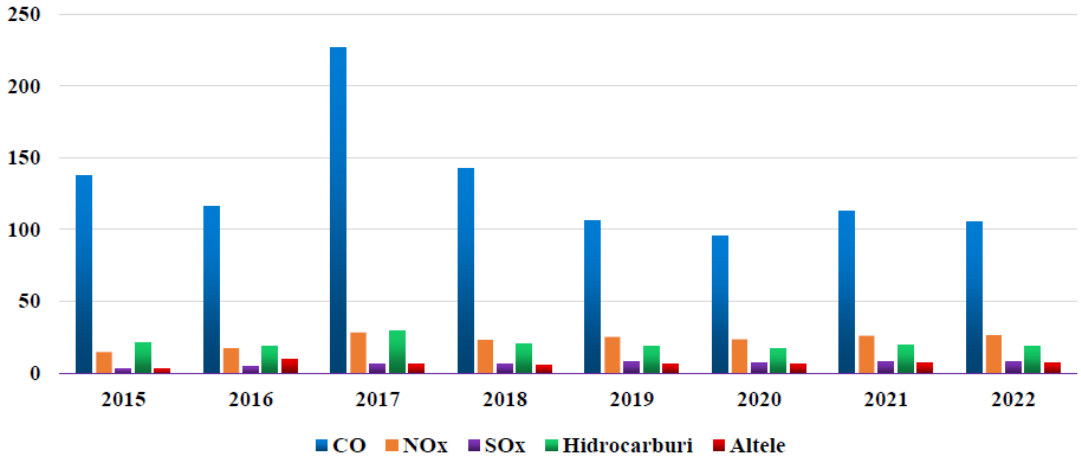

Figure 2. Polluting substances in atmospheric air from motor transport, 2015-2022. Source: National Bureau of Statistics, Environment Agency

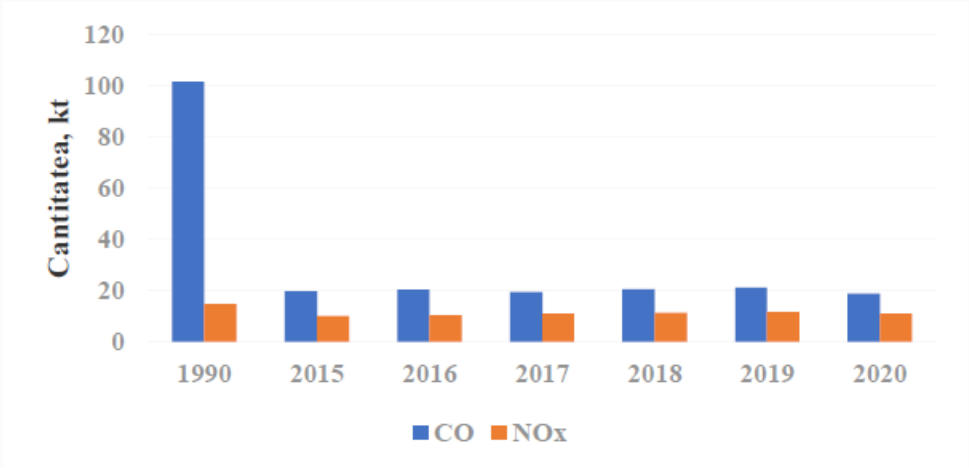

Figure 3. Dynamics of emissions from mobile sources. Source: Information inventory report of the Republic of Moldova 1990-2020, submitted to the UN-ECE Convention on Long-range Transboundary Air Pollution, 2022

Due to the increase in the number of vehicles (in 2011 there were 647 thousand transport units, in 2021–931 thousand units), including old vehicles, the amount of exhaust emissions also increases, which can generate critical levels of air pollution in cities with serious socio-economic and environmental consequences, requiring measures to prevent and reduce pollution.

The advanced age and high attrition rate of the public transport fleet, especially buses and minibuses, increase maintenance costs and fuel use, thus increasing environmental pollution, negatively affecting health, and reducing road safety. The modernization of the bus fleet is slow, requiring significant financial investments, both from private and public operators.

Another way to reduce pollutants generated by road traffic is to adopt fiscal measures favouring the replacement of old, emitting cars with new cars with low pollutant emissions.

1.1.1 Structure of the transport sector in Moldova

According to the National Development Strategy "European Moldova 2030"[5], although economic development in the Republic of Moldova has been predominantly positive in the last twenty years, it has not translated into substantial and geographically uniform increases in people's access to physical infrastructure, public utilities, and improved living conditions.

About 60% of Moldova's population lives in rural areas, and the degree of urbanization is about 40%—one of the lowest in Europe. Chisinau and Balti are the two cities in Moldova that attract the rural population. In the next 10-20 years, the degree of urbanization could increase to 50-60%, which would bring it closer to the European average.[6]

While mobility brings many benefits to its users, it also comes at a cost to society. These include greenhouse gas emissions, air, noise, and water pollution, but also road and other accidents, congestion, and biodiversity loss, all of which affect our health and wellbeing. Policy efforts and measures so far have not yet sufficiently addressed these costs. Greenhouse gas emissions from the transport sector have increased over time. The State Register of Transport reveals the increase in the share of vehicles involved in public passenger transport aged over 10 years from 68.5% in 2014 to 91% in 2022[7].

At the same time, the Republic of Moldova faces a significant difficulty in ensuring a modern, combined, safe and efficient transport infrastructure. A recent assessment of national public roads reveals a worsening situation. The share of public roads assessed as "excellent" and "good" decreased from 36.8% in 2015 to 30% in 2020, while the condition of "bad" and "very bad" roads expanded from 25.4% to 46.8% of the total. [8]

Poor infrastructure constitutes a major constraint on private sector development, reducing the internal mobility of people, capital and labor. According to the *Global Competitiveness Report 2019*, Moldova ranked 86th out of 141 evaluated states. The most difficult being the situation of road transport infrastructure (129th place). The underdevelopment of transport infrastructure affects trade, with Moldova accumulating one of the lowest scores in Central and Eastern Europe for the logistics

[5] LP315/2022 (legis.md)

[6] Urbanizarea R. Moldova: Cum Chișinăul poate ține piept acestui proces (stiri.md)

[7] Concept of the National Mobility Strategy https://particip.gov.md/ro/document/stages/anunt-privind-initierea-elaborarii-strategiei-de-mobilitate-pentru-anii-2023-2030/10176

[8] National Development Strategy 'European Moldova 2030,' p 14-15.

performance index (2.46 out of 5 possible points). These constraints undermine the country's level of competitiveness, which is a great challenge for an economy that is vitally dependent on foreign trade. At the same time, the development of infrastructure projects, in addition to the funding gap, is frequently slowed down by low absorption capacity. The under-execution of capital investments provided for in the public budget has become a chronic problem. In 2021, capital investments from the state budget were assimilated in the proportion of 74%, while in the case of local budgets, 62%.

Finally, the transport investments do not always consider the needs of vulnerable groups, especially persons with disabilities, who are the most vulnerable group when it comes to physical access to infrastructure. The regulatory framework does not provide sufficient guarantees for accessibility of public facilities and services, in particular, transport, and does not include an effective framework of sanctions for violations of existing rights. The responsible authorities at the central and local levels do not monitor the free access of persons with disabilities to the physical environment.

An additional constraint is represented by the current level of development of railway and naval transport, with underdeveloped infrastructure and the legal framework only partially adopted according to EU regulations and requirements. The war in Ukraine again demonstrates that rail and waterborne transport have a vital role in ensuring the proper functioning of freight logistics chains in the region and require special attention at the planning stage of transport development. A brief analysis reveals a substantial increase in the use of the rail and naval segments. In January-September 2022, 2.9 million tons of goods were transported by rail, a volume that is 30.9% more than in January-September 2021, respectively by ship, in the similar period of 2022, 103.6 thousand tons of goods were transported compared to the volume of 76.2 thousand tons transported in the same period of 2021.

Aviation

The most developed transport sub-sector in Moldova is aviation, which began to rise internationally after signing the Declaration of Independence in 1991. Since all flights are international, the transposition of international security and safety standards into the national regulatory framework and their implementation is regularly audited. The only airport in Moldova opened for regular flights is the Chisinau International Airport; the other three airports are in Balti, Marculesti and Cahul. Two Moldovan airlines operate scheduled services, i.e., Fly One and HISky.

The share of aviation in freight transport is very low and did not exceed 0.002% in 2022.

Road transport

The Republic of Moldova faces a significant deficit in providing a modern, safe, and efficient transportation infrastructure. The quality and condition of road infrastructure limit access to essential services, education, and employment opportunities. Some residential areas can be reached only by private car, and in smaller cities or rural areas, road quality is the primary constraint on developing public transport.

Public roads, the main internal transport route, link major cities of Moldova and have many advantages over the railways. Passengers travel within the national territory mostly by regular bus and minibus trips. Moldova has a public road network totalling about 10,635 km, of which 5,857 km are classified as national roads and 3,238 km as local roads. National roads are under the responsibility of the central government (i.e., State Road Administration), and the local public authorities administer local roads.

According to the Implementation Report of the Program for Allocating Funds for National Public Roadways, the International Roughness Index (IRI) at the end of 2022 shows that 68.5% of national public roads are in very poor, poor, or mediocre condition, even though there has been a 7.4% improvement compared to 2021. Approximately 1,200 kilometres of national public roads (20%) are still gravel or dirt roads.

At the end of 2022, the Republic of Moldova recorded 8.3 road traffic-related deaths per 100,000 inhabitants (road traffic mortality rate), which is a decrease of about 24% over the past 10 years. Meanwhile, the European Union's average in this regard is 4.6 road traffic-related deaths per 100,000 inhabitants.

The weight in motion has not been implemented in Moldova yet. Currently, the National Road Transport Agency checks the weight of vehicles using 13 mobile (portable) equipment.

Over 80% of the registered vehicle fleet is over 10 years old, with a growth of approximately 12% over the last 10 years. The motorization rate (the number of registered vehicles per 10,000 inhabitants) has increased by 86.7% in the last decade, and only about 65% of registered vehicles undergo regular technical inspections.

In 2019, the share of road transport by fuel types at the national level climbed to: 44% for gasoline, 43% for diesel and 13% for other fuels, including electric. At the same time, there is a constant and significant increase in hybrid transport units, including electric, so comparing the period 2004-2019, there is an increase from seven units

(2004) to 14,737 units (2019, a 9.4-fold increase in the number of units (hybrid + electric) can be observed, comparing 2015 with 2019.[9]

The Moldovan authorities are initiating initiatives to implement electronic row and parking lots for trucks at the border with Romania. For this mechanism to work, the Romanian side should also implement it upon entry into the EU. Meanwhile, Ukraine will introduce, starting February 12, 2024, an electronic queue service for buses crossing the border at all checkpoints with Moldova and EU countries.

In 2022, the Republic of Moldova counted 291 cars per 1,000 inhabitants (motorization rate), while the European Union counted 560 passenger cars per 1,000 inhabitants on average in 2020, and 120 commercial vehicles and buses, compared to 81 in the EU in the same year. This rate does not fully reflect the real number of cars circulating in main cities, as cars registered in those cities are counted only. For example, according to some experts, the estimated daily number of cars entering Chisinau is 250,000. Moreover, the number of cars registered primarily in Moldova increased by about 30% annually in 2022-2023.

Traffic congestion is a common issue, particularly in urban areas like the capital city of Chisinau. This results from inadequate road capacity, poor traffic management, and a lack of reliable public transportation alternatives, as well as lack of infrastructure for active mobility (e.g. walking and cycling).

The factors mentioned above reduce efficiency, comfort, and health and impact the mobility, safety, and sustainability of people's accessibility and connectivity. However, this situation also presents an opportunity to advance sustainable mobility.

Rail transport

Moldova has a rail network with a total of 1,151 km of rail tracks consisting of non-electrified lines with a broad standard gauge of 1,520 mm. Some short sections near the Romanian border are built with the European standard gauge of 1,435 mm to enable the change of bogies or the transhipment between the different gauges. Several routes in the north and the south don’t follow the limits of the countries, and rail lines are entering and exiting Moldova and Ukraine several times. This situation generates unwanted complexity regarding controls and train monitoring. Complicated customs structures and procedures increase the travel time and reduce the attractiveness of rail transport.

Today, Calea Ferată din Moldova (CFM) is the sole railway operator in the Republic of Moldova, responsible for freight and passenger transport and managing the network. Freight transport, and more specifically transit from Ukraine to the EU, is predominant.

[9] H3 Componența parcului de autovehicule pe tipuri de combustibil | Agenția de Mediu (gov.md)

Passenger transport operations are limited. Following the Covid-19 crisis, only a few lines, the more commercially relevant ones, are still offered.

This reform process in Moldova started with projects regarding the reorganization of CFM and the transposition of the EU Directives. In 2022, a new Rail Code was published, including EU Aquis provisions on establishing a single European railway area, railway safety and train driver certification.

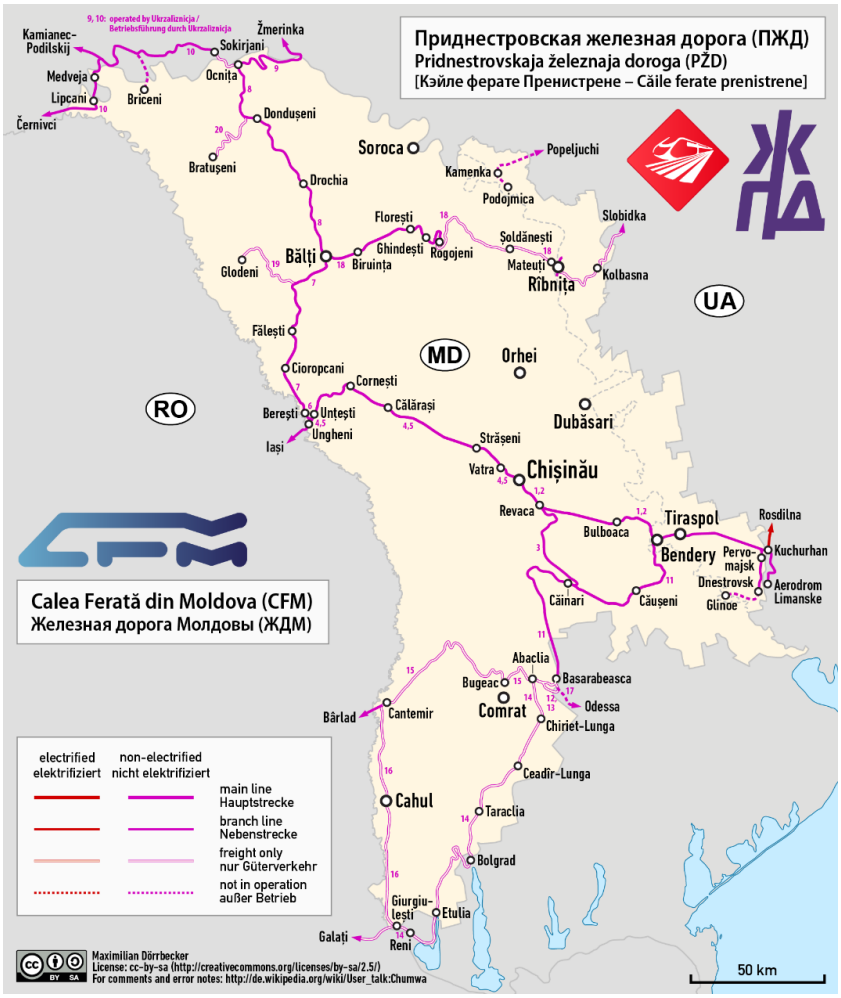

Figure 4. Overview of the railway network in Moldova

In addition, several initiatives are ongoing to reinforce rail infrastructure connectivity with EU networks. In the future, part of the Moldovan railway network will operate as TEN-T corridors connecting all EU countries, and Moldova will be an important transit country between the European Union and Ukraine.

Inland waterways

Shipping in Moldova is possible on the lower Prut and Nistru rivers, but water transportation plays only a modest role in the country's transportation system.

Moldova's waterways are 424 km long (on the Nistru River). It has a tiny (500 m) access to the Danube River at Giurgiulesti port.

Modal share

According to the National Bureau of Statistics[10], 257.4 million passengers were transported by all modes of public transport in 2022, with 24.4% more than in 2021. Most passengers were transported by trolleybuses (64.1%), buses (30.9%) and taxi (4.3%). Only 0.5% and 0.2% by air and rail transport, respectively. There was an increase in air passenger transport (43.2%), buses (34.1%), trolleybuses (21.2%) and taxis (10.4%). At the same time, decreases were recorded in railway (-4.2%) and river passenger transport, which did not influence the general trend due to their insignificant shares. 2022 increases could be due to the extension and modernisation of the bus/trolleybus fleet in Chisinau and Balti, public transport priority measures implemented and after the borders opening.

	2000	2005	2010	2015	2019	2020	2021	2022
Pasageri transportaţi – total, mii pasageri *Перевезено пассажиров – всего, тыс. пассажиров Transported passengers – total, thou. passengers*	**326 656,7**	**316 438,6**	**232 455,2**	**248 727,2**	**276 541,9**	**178 362,7**	**206 980,8**	**257 419,0**
feroviar *железнодорожный railway*	4 798,2	5 024,1	4 963,7	3 268,3	1 161,4	720,2	597,6	572,2
autobuze / *автобусный / buses*	72 440,4	105 655,6	105 984,5	102 641,6	100 108,3	54 239,6	59 257,2	79 468,8
taximetre/ *таксомоторный/ taxi*	722,9	1 007,4	4 085,5	4 950,8	9 395,3	6 558,8	10 001,6	11 042,3
troleibuze *троллейбусный trolleybuses*	248 442,2	204 255,0	116 476,6	136 641,7	164 165,7	116 247,2	136 117,1	165 002,3
fluvial / *речной / river*	32,1	134,8	118,8	139,4	135,7	211,8	169,2	133,2
aerian / *авиационный / air*	220,9	361,7	649,2	1 085,4	1 575,5	385,1	838,1	1 200,2
Parcursul pasagerilor – total, mil. pasageri-km *Пассажирооборот – всего, млн. пассажиро-км Passengers turnover – total, mio. passenger-km*	**2 414,6**	**3 548,9**	**3 993,4**	**5 071,9**	**6 693,2**	**2 941,3**	**4 108,9**	**5 518,1**
feroviar *железнодорожный railway*	314,7	355,0	398,8	180,8	74,1	29,2	23,3	32,0
autobuze / *автобусный / buses*	1 020,7	2 958,7	2 416,7	2 834,4	3 512,2	1 754,8	2 062,1	2 797,3
taximetre/ *таксомоторный/ taxi*	11,9	19,2	80,1	100,5	220,6	153,8	211,8	205,8
troleibuze *троллейбусный trolleybuses*	814,5	676,0	346,8	413,2	498,0	352,8	413,3	500,8
fluvial / *речной / river*	0,1	0,3	0,2	0,3	0,3	0,4	0,3	0,3
aerian / *авиационный / air*	252,7	439,7	750,8	1 542,7	2 388,0	650,3	1 398,1	1 981,8

[10] www.statistica.gov.md

Figure 5. Distribution of the number of passengers carried by public transport modes, 2022.
Source: Statistical Yearbook 2023, National Bureau of Statistics

Chisinau municipality contributed the largest share to the number of passengers using public transport (est. over 90%). The freight volume carried by Moldovan transport companies in 2022 was lower than that recorded in 2021, with 4% (1.98 million tons). 91.9% of cargo volume was transported by road, 4.1% less than in 2021.

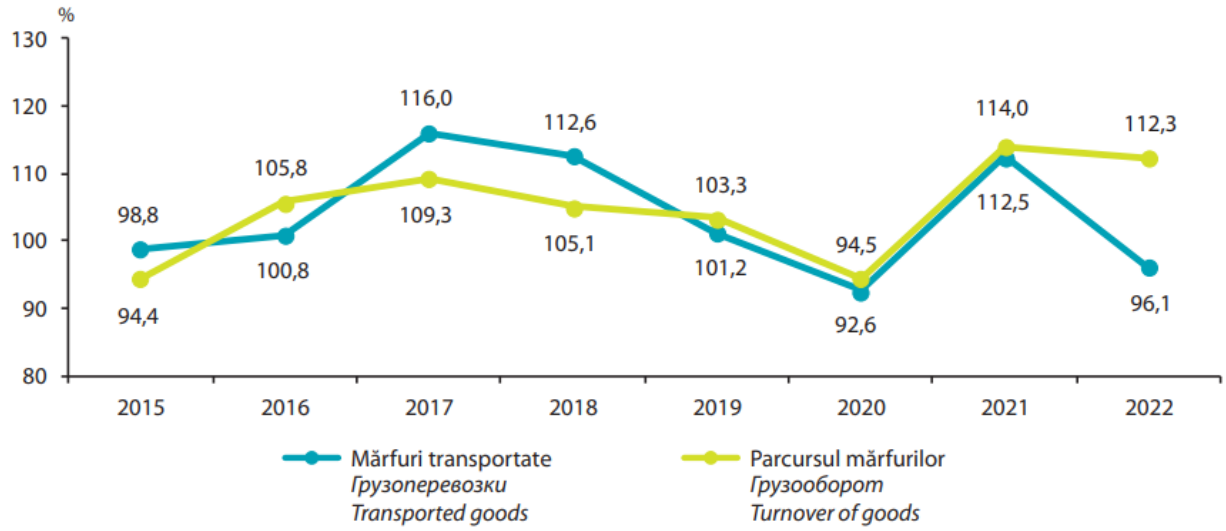

Figure 6. The evolution of the transported goods and turnover of goods (previous year = 100).
Source: Statistical Yearbook 2023, National Bureau of Statistics

In 2024, public transport companies transported 307.6 million passengers, 12.5% more than the previous year. This evolution was due to the increase in the number of passengers transported by air (+24.0%), road (+22.9%) and trolleybus transport (+7.8%). At the same time, the number of passengers carried by railway (-23.9%) decreased during the analysed period. Passenger turnover increased by 8.9% and amounted to 6319.9 million passenger-km.

In 2024, rail, road, river and air transport enterprises transported 20.2 million tons of cargo, 2.2% higher than the previous year. In the reporting period, the volume of cargo transported by air (+19.5%), road (+12.4%) and river transport (+0.2%) increased. At the same time, the volume of cargo transported by rail transport (-38.0%) decreased. Cargo turnover of transport enterprises amounted to 5964.7 million ton-km, which is 2.1% more than in the previous year.

There is no publicly available data on modal shares on a national level (e.g., walking, cycling, car use, etc.). Meanwhile, a group of consultants developing the Sustainable Urban Mobility Plan for Chisinau Municipality observed that non-motorized trips have a very low share of only 16%, of which 15% are pedestrian trips. The remaining 84% of trips are made by motorized means of transport, of which public transport is dominant, with 49% of trips, while 34% are made by car.

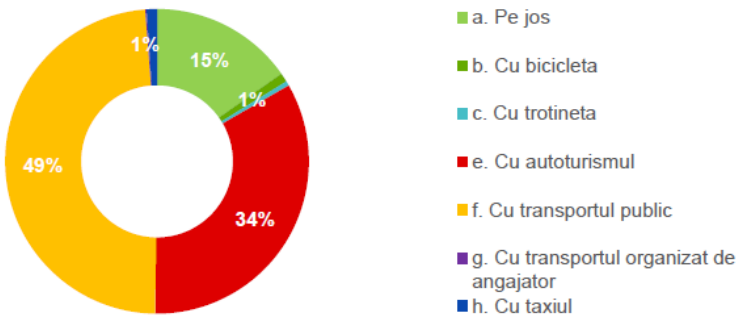

Figure 7. Preferences in the modal choice of respondents. Source: Existing conditions analysis, draft SUMP Chisinau

As you can see above, public transport (49%) is the basic preference in Chisinau, followed by personal cars (34%) and walking (15%).

In Cahul, non-motorized trips have a low share regardless of their purpose; over 70% of trips are made by motorized means of transport. Car trips have a dominant position, being followed at a great distance by trips made by local public transport[11].

Based on home interviews and traffic censuses in the smaller town of Edinet, the following distribution of trips by mode of travel was estimated[12]:

1. Walking – 54%
2. Car– 28%
3. Public transport -10%
4. Bike – 6%
5. Others– 2%.

Compared to Chisinau, private cars and walking predominate in other municipalities. This difference in the preferences of residents has several causes, including a poorly developed public transport network and relatively short distances to work or study.

1.1.2 Main development goals and economic/activity indicators

A long-term strategic vision document indicating the development directions of the country and society is the National Development Strategy of *European Moldova 2030*[13]. It adapts the priorities, objectives, indicators, and targets of the international

[11] PMUD Cahul_14.06.2023.pdf - Google Drive

[12] Nr (primariaedinet.md)

[13] LP315/2022 (legis.md)

commitments undertaken by the Republic of Moldova in the national context, especially the Association Agreement between the Republic of Moldova, on the one hand, and the European Union and the European Atomic Energy Community and their member states, on the other, and the commitments deriving from the status of a candidate country for EU accession, including the *2030 Sustainable Development Agenda*. It forms the basis for developing the national strategic planning framework, highlighting the vision, priorities, objectives, and relevant long-term intervention directions.

To improve living conditions (General objective 2), the strategy is set as specific objective 2.1: "Increasing mobility through efficient, sustainable, and safe transport systems". Under this objective, the following strategic targets should be reached as described in Table 2:

Table 2. Strategic targets of the transport sector

No.	General objective/indicator	Baseline	Intermediate target (2025)	Final target (2030)
23.	**Share of electric and hybrid cars in total passenger cars, %**	1.2 (2021)	8.0	15.0
24.	**Road accident rate per 100 thousand population**	98.0 (2021)	80.0	70.0
25.	**Number of deaths from road accidents per 100 thousand population**	10.3 (2019)	7.3	5.1
26.	**Status of national public roads, share of roads in 'bad' and 'very bad' condition, %**	46.8 (2020)	25.0	10.0

In line with sustainable development commitments, the following strategic targets are to be implemented by 2030:

- Development of quality, reliable, sustainable, and safe infrastructure throughout the country will be ensured to support economic development and increase the

well-being of the population, with a focus on broad and equitable access for all (SDG 9.1).
- Access to safe, affordable, accessible, and sustainable transport systems for all will be ensured, road safety will be improved, through the expansion of public transport networks (SDG 11.2).

The National Development Plan for 2023-2025[14] provides for the achievement of specific objective 2.1. The following related budgetary sub-programmes:

- Policies and management in the transport and road infrastructure sector (SB6401)
- Road development (SB6402)
- Development of shipping (SB6403)
- Development of road transport (SB6404)
- Development of rail transport (SB6405)
- Air transport development (SB6406).

The implementation of the actions in this plan will contribute to achieving the following sustainable development goals (SDGs):

- Ensure the development of quality, reliable, sustainable, and resilient infrastructure across the country to support economic development and increase the well-being of the population, with a focus on broad and equitable access for all (SDG 9.1).
- Expanding public transport networks will ensure access to safe, affordable, accessible, and sustainable transport systems for all and improve road safety (SDG 11.2).

This plan also aims to achieve the following medium-term objectives set out in the *Moldova-EU Association Agenda 2021-2027*[15]:

- Cost-effectively decarbonizing the economy through the smart integration of renewables, energy efficiency and other sustainable solutions.
- Implementing the provisions of the Common Aviation Area Agreement to stimulate tourism and economic development of the country.
- Developing and implementing a new policy document on transport development (mobility strategy).
- Improving the performance of the state pavilion to exclude the Republic of Moldova from the blacklist of the Paris Memorandum of Understanding.

[14] HG89/2023 (legis.md)

[15] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22022D1997&from=EN

- Initiating the process of reform and sustainable development of inland waterways and integrating them into international transport corridors.
- Supporting the Republic of Moldova in implementing infrastructure projects by extending the TEN-T network.
- Improving the road safety data collection system by developing a national road safety database, which will be used to develop a more effective road safety policy.
- Reforming the rail sector to ensure competitive and safe rail services, which will help increase the share of freight transported by trains and ensure the development of sustainable transport.
- Improving urban and interurban mobility with a view to decarbonizing the transport sector and developing closer cooperation on sustainable urban and interurban mobility planning.
- Jointly implementing public awareness campaigns to raise citizens' awareness of alternative mobility pathways in cities, such as cycling and public transport, to reduce pollution and congestion.
- Supporting the use of energy-efficient vehicles to reduce pollution and increase the environmental performance of the transport sector.

There is no official data on the cycling network length. In 2021, UNDP developed a strategy without such data.

There are no plans to develop the pedestrian and bicycle network at the national level. At the same time, in Chisinau, along with the modernization of some main streets, the bicycle lanes were designed, and their implementation has already started[16]. There are plans to arrange similar tracks in other areas of the capital[17]Cyclists also have access to the lanes dedicated to public transport in Chisinau, and the number of streets with public transport lanes is constantly growing.

As mentioned earlier, one of the actions included in the Green City Action Plan adopted by the Chisinau Municipal Council is “connecting urban parks and green areas with a cycle route and a bike sharing system as part of a green corridor”[18].

1.1.3 Main challenges of the sector

Improvement of mobility conditions in the Republic of Moldova and its alignment with the European Union standards, and even the average mobility conditions in most EU member states, remain difficult challenges. The sector inherits years of underinvestment, and the succession of international crises has questioned its resilience capacities. The Covid-19 crisis in 2020-2021 slowed down the transport

[16] Prima pistă de biciclete din Chișinău // strada 31 August 1989 // 4K - YouTube

[17] TVR MOLDOVA

[18] GCAP_Chisinau-ENG.pdf (ebrdgreencities.com)

demand considerably and was immediately followed by the consequences of Russia's invasion of Ukraine. This represented a severe stress test for the transport system, with energy deficit, the blockade of Black Sea ports, and the pressure created by the transit to and from Europe of Ukrainian commodity flows and displaced persons.

Moldova is still experiencing this difficult context, which is causing many uncertainties regarding the future shape of the transport flows. However, despite this context, it is important to address the sector's main issues, increase its resilience capacities, and open the way to sectoral modernization.

The Moldovan transport system is facing several key challenges, both internal and external, that require urgent and determined answers.

Low connectivity

Despite Moldova's transport system gradually becoming part of the European transport system, connectivity with the neighbouring countries (Romania and Ukraine) is low. Due to a bottleneck at the border crossing with Romania, a modern road and rail network must be developed to enable easier transit flows from Romania to Ukraine.

Moldova's main routes and transport nodes are already included in the EU's main transport networks (EU TEN-T extended networks), which define the major routes across Europe for all types of mobility. This integration requires priority investments accessed through the Connecting Europe facility. The creation of Solidarity Lanes in Ukraine provided consistent support in 2023.

Poor transport infrastructure

During the past 10 years, several road and rail rehabilitation projects were successfully implemented, with the support of international financial institutions. However, the road and rail networks remain generally in poor shape. Inland waterways transport activities on the Prut and Nistru rivers collapsed due to their low economic attractiveness and insufficient maintenance. Limited budgetary funding leads to low maintenance budgets, without significant investments in secondary railway lines or local roads.

Underinvestment continuously impacts the country's economic and social situation, particularly in rural areas where local roads are the most degraded. Getting on board with a trend of continuous improvement of infrastructure would be a major priority for all modes of transport.

Environment

Compared with the base year level (1990), by 2020, the Republic of Moldova had reduced its greenhouse gas emissions by circa 69.8%. However the decrease in greenhouse gas emissions over the last 30 years is only marginally a result of environmental policy, and mostly the mathematical consequence of the decrease of some essential economic and social indicators: the real value of the GDP decreased by 24.5% within this time period, the population – by 28.7%, the greenhouse gas intensity (CO2eq/GDP) – by 60.0%, consumption of primary energy resources – by 72.9%, import of energy – by 81.1%, electricity consumption – by 52.2%, heat consumption – by 83.9%.

The transport sector's share of 26.3% of the total emissions in 2020 has doubled compared to 1990, when emissions from transport represented only 13.1% of national emissions. The most polluting transport mode, road transport, is dominating the market and developing faster than environmentally friendly transport modes, and it is the leading cause of emissions. Vehicle fleet age is contributing to this trend as well.

Increased car use has several reasons:

- no age restrictions for imported cars,
- no pollution standards,
- most cars have a diesel engine that becomes more restricted in Europe,
- cheap cars from the USA,
- no fiscal incentives like no public paid parking (even in Chisinau) or differentiated car taxes,
- underdeveloped public transport and active/electro mobility infrastructure.

Another aspect of Moldova's environmental challenge is the growing vulnerability of infrastructure to more frequent extreme climatic events—this should be answered in the future by the construction/adaptation of more climate-resilient infrastructure.

Digitalization

The National strategy for digitalization 2023-2030 addresses the challenge of Moldova's digitalization, and the transport sector will play an important role in orienting all transport modes towards a systematic use of digitalized solutions.

Regarding the deployment of intelligent infrastructure, Moldova is still at an early stage in the development of ITS solutions. Digitalization is a priority for the National Railway Company (CFM) in terms of corporate processes, e-ticketing, and traffic control, all these components being operated through mostly obsolete or inadequate technologies.

Digitalized interfaces with transport users should be better developed, and there has been some progress in public transport for some cities and some services, but most of the public transport services sparsely use these technologies.

Another significant potential challenge in the future is the possible low inclusiveness of new technologies regarding older people or people with a low degree of digital culture. Nobody should be left behind, and the inclusiveness of the initiative must always be put in front of the objectives for digitalization.

Logistics

Due to economic crises, the Republic of Moldova's logistics sector is poorly developed. There is almost no intermodal transport in the country and few operating logistics centers, which are not dimensioned for the future of a modern market economy.

In this area, private initiative is a key driver, but the role of the public authorities (the state and local public authorities) is important when developing the critical infrastructure, such as ports, rail terminals, airport terminals and all the connectivity of economic activity areas with the transport networks.

Several initiatives were launched to reinforce the logistical capacities at key transport nodes, particularly in Chisinau and strategic border crossing areas.

Public transport network

Smaller Moldovan localities encounter multiple issues in fulfilling their role in developing public transport and maintaining local roads. Their level of coordination is low or nonexistent with neighbouring cities and regions. This situation results in a generally modest, low-quality public transport offer, and a missing link in the renovation and maintenance of local roads. Cooperation between the public transport stakeholders, at local and national levels, including with rail and road transport operators, should be reinforced to propose integrated transport systems at a larger scale, and combine forces to improve the current offer.

A few large cities in the country have developed systems that have successfully integrated all transport modes. They should rely on EU cities' experience, which implemented modern, sustainable and efficient development concept (SUMP) that has modernized the approach of urban mobility, with more attention paid on active transport modes (such as walking and cycling), safer and less polluting urban transport fleets of vehicle, and a larger citizen participation in the planning processes.

Road transport safety

Because it involves human lives, the improvement of safety on roads should be an indisputable priority. Road traffic fatalities in the Republic of Moldova are over 50%

above the EU average (i.e. 44 road deaths per million inhabitants). Vulnerable users are impacted: more than 52% of road deaths in Chisinau are pedestrians.

Multiple stakeholders have responsibilities, and a holistic and intergovernmental response should be organized, encompassing the action of the central government and police forces, emergency response services, education establishment, etc. Attention should be paid to continuously improving various actions: safe infrastructure design and inspections, traffic calming and safety works, control of driver professionalism, etc.

Transposition of the EU Acquis in the transport legislation

With the Republic of Moldova receiving status as a candidate country for accession to the EU, the adoption of the EU core transport legislation became a priority.

Moldova has already achieved some level of adoption of the EU transport policy. It needs to align further with the EU legislation on transport and be implemented effectively. Currently, the core legislation is adopted but not implemented in rail transport and remains to be completed in the road transport and aviation subsectors. Legislation must be aligned in the shipping sector, both for inland waterways and maritime transport.

The capacities of line ministries and other competent state agencies should be reinforced. Cooperation and technical assistance from European partners are needed. Moldova should join the Transport Community and, in this context, prepare an even more in-depth alignment of the transport legislation and governance models with those of the EU member states.

Unfortunately, improving mobility conditions in the Republic of Moldova and its alignment with the EU regulation, as indicated by the National Development Strategy, remains a difficult challenge. The sector inherits years of underinvestment, and the succession of international crises has questioned its resilience capacities. The Covid-19 crisis in 2020-2021 slowed down the transport demand considerably and was immediately followed by the consequences of Russia's invasion of Ukraine. This represented a severe stress test for the transport system, with energy deficit, the blockade of Black Sea ports, and the pressure created by the transit to and from Europe of Ukrainian commodity flows and displaced persons.

In the private sector, the country also suffers from weakened capacities in engineering and construction. This is also connected to low investment levels in the past years and a lack of perspectives in the country for students with transport and civil engineering education. This could cause serious issues when implementing mobility projects.

The trend towards digitalization is progressing in society, but there is much to do. The challenges regarding the country's digitalization are addressed by the *National strategy for digitalization 2023-2030*, and the transport sector will play an important role in orienting all transport modes towards a systematic use of digitalized solutions.

Regarding the deployment of intelligent infrastructure, the Republic of Moldova is still at an early stage in developing ITS solutions in the field of road infrastructure. Digitalization is a priority for the National Railway Company (CFM) in terms of corporate processes, ticketing, and traffic control, all of which are operated through mostly obsolete or inadequate technologies.

Digitalized interfaces with transport users should be better developed. There has been progress in public transport for some cities and some services, but most public transport services sparsely use these technologies. Potential issues in the future could arise due to the possible low inclusiveness of these technologies regarding elder people or people with a low degree of digital culture. As nobody should be left behind, the inclusiveness of the initiative must always be put in front of the objectives for digitalization.

A major issue is the lack of integrated action between the local and state levels for infrastructure and public transport planning. Development schemes discussed by all the transport stakeholders are missing. Preparing such a scheme would immediately demonstrate common issues: lack of continuity and coordination, and lack of coordination in the refurbishment and construction of road infrastructure.

Due to the reduction of domestic rail services and the availability of road transport, few cities offer the possibility of combining road and rail services. This considerably reduces the chance of intermodal linkages for the domestic passengers. Due to the reduced supply of rail and domestic road transport services, few cities offer the possibility for passengers to combine road and rail services (intermodality).

Based on a regional planning document, rail transportation would need to be reassigned a major role for passenger mobility and ensure that important rail stops are close enough to each other. Structuring suburban lines, where the infrastructure exists, would then fulfil their role as major passenger corridors and indirectly improve the efficiency of lighter public transport modes.

The resources for the development of public transport are limited, and, due to low population incomes, the transport fares must be kept at the minimum level. This makes creating new transport services challenging for the public stakeholders, and there is little margin for private operators to improve their quality of service.

Currently, the most polluting and costly mode of urban transport prevails. Privately operated buses and minibuses are by far the most common, while electric-powered

vehicles such as electric buses and trolleybuses are mainly used in bigger cities. Suburban rail transport is almost non-existent.

Not all cities have developed bus hubs. When located along transit routes between larger cities, stops cannot always be concentrated in the same area due to multiple planning levels.

Two municipalities developed sustainable urban mobility plans (Cahul[19] and Edinet[20]), and two others are developing these plans (Chisinau[21] and Ungheni[22]), with the EU's financial support. Likewise, these cities have strategies and plans with smart city elements, but implementing them has just started.

The development of active transport modes (cycling, walking) is progressing slowly in the country and shall also be supported. Cities and NGOs developed several initiatives to promote cycling, and the population willing to adopt this transport mode is growing. The quantity of effectively built cycling lanes is, however, limited, and no important network is planned, except in Chisinau, where a strategy for the development of an extended network[23] was proposed. The first bike routes have already appeared in Chisinau, Edinet and Ungheni.

Moldova has set out to develop digitalisation in multiple sectors of society, in businesses and in public sector services for the citizens. The government has approved the *National Digitalization Strategy 2023-2030*. The priority objective targets particularly the digitalization of public services, which should include transport. However, the country's maturity regarding digitalization shows contrasting results across the activities, geographic areas, and categories of the public. While some areas show signs of rapid progress, other areas (rural areas) present challenging difficulties for digitalization. There is no doubt that digital infrastructure will reach maturity in the most populated and economically developed areas, where it will be capable of supporting the digitalization of urban transport services, and benefit from developed digital services (such as route planning, passenger information, e-ticketing, traffic management and safety).

However, the gap may even widen in the peripherical areas, which will remain with segmented and poorly organized services. The growth poles will probably play a role

[19] Elaborarea Planului de Mobilitate Urbană Durabilă (PMUD) al municipiului Ungheni, continuă - ProvincialProvincial

[20] Nr (primariaedinet.md)

[21] Planul de Mobilitate Urbană Durabilă Chișinău 2022-2030 (chisinau.md)

[22] Municipiul Ungheni va avea Plan de Mobilitate Urbană Durabilă – Unghiul – Vezi lumea așa cum e ea!

[23] Strategia de dezvoltare a infrastructurii pentru transport alternativ în orașul Chișinău | United Nations Development Programme (undp.org)

in reducing the gap with less connected cities, and digital support of mobility may be a critical element for regional development.

A poorly developed and inefficient public transport sector impacts the most fragile population first, who cannot use or afford individual vehicles. The situation is generating the use of an ageing, second-hand car fleet, both for private and public use. This impacts the ever-growing volume of emissions generated by the sector and constitutes one of the causes of a high level of car crashes, far above the European average. Generally, the low quality of public transport service in most of the country's areas is affecting the whole population, and limits its mobility possibilities compared with EU countries, with multiple economic consequences and on the quality of life.

With respect to CO2 emissions, rail transport is one of the lesser emitters of CO2. However, the sector’s decarbonization potential remains significant. Efforts should be focused on infrastructure, facilities and rolling stock, traction energy, ancillary systems, or the use of artificial intelligence for energy management. More efficient locomotives (lighter) and the usage of clean vehicles (hybrid, battery, natural gas) can reduce the CO2 emissions, in addition to training for eco driving.

1.2 Key statistics and trends of the thematic area

Table 3. Relevant key indicators for the last 5 years are presented in the table below[24]:

Relevant statistics/indicators	2018	2019	2020	2021	2022	Comments
Transport infrastructure						
Road networks (km)	9,446	9,432	9,465	9,472	9,488	
incl. paved (km)	9,079	9,146	9,098	9,170	9,193	
Motorway network (km)	0	0	0	0	0	
Railway network (km)	1,150	1,150	1,150	1,150	1,151	
Electrified rail lines (km/%)	0	0	0	0	0	
Navigable inland waterways (km)	410	410	410	410	410	
Trolleybus lines (km)	306	306	306	306	306	
Infrastructure for active mobility (walking and cycling) (km)	N/A	N/A	N/A	N/A	700 km*	*Est. data for Chisinau
Vehicle stock						

[24] www.statistica.gov.md

Stock of registered vehicles per type: • cars, incl. taxi • buses and minibuses • goods vehicles	 616,800 21,050 179,392	 648,780 21,087 185,669	 677,670 21,014 185,878	 716,906 21,076 190,850	 745,970 21,055 194,523	
New vehicle registration per type; zero emission vehicles thereof (%), by fuel type[25]: • Gasoline • GPL, GNC • Diesel • Hybrid (incl. EV) • Others	N/A	 44 7 43 2 4	N/A	N/A		
Sea						
Non-propelled cargo vessels	7	7	8	8	8	
Tugs, pushers and pusher-tugs	7	6	7	7	7	
Self-propelled passenger ships	2	2	2	2	2	
Merchant fleet ships of 1,000 gt and over. Total fleet controlled, share of national flag fleet (number; dwt)	N/A	N/A	N/A	N/A	N/A	

[25] H3 Componența parcului de autovehicule pe tipuri de combustibil | Agenția de Mediu (gov.md)

For transport of goods and passengers (ships of 1,000 gt and over), fleet by type of ship and country of domicile (number; dwt)	N/A	N/A	N/A	N/A	N/A	
For transport of goods and passengers/cargo ships/cruise ships by registered flag (ships of 300 gt and over; ships of 1 000 gt and over) (number; gt)	N/A	N/A	N/A	N/A	N/A	
Air						
Number of passenger aircraft owned	4	4	4	4	4	
Number of passenger aircraft in use*, by number of seats: • <50 • 51-150 • 151-250 • >251					 2 1 5	*Registered 21.11.2023
Number of cargo aircraft owned	2	3	2	1	1	
Number of civil aircraft in service (Freight): • under 100,000 lbs MTOW • over 100,000 lbs MTOW • special (VLA)					 13 14 18	*Registered 21.11.2023
Rail						

Stock of passenger transport vehicles (coaches, railcars, trailers), by fuel	263	262	264	212	220	
Stock of goods transport wagons	4,690	4,586	4,586	4,586	4,485	
Final energy consumption						
By fuel (KTOE): • LPG • petrol • jet fuel • diesel	 77 176 55 591	 73 183 49 624	 68 162 12 605	 66 195 41 663	 62 180 47 668	
By transport type/sector: • Rail • Road • Naval • Air	 6 688 0 55	 7 687 1 49	 5 648 0 12	 4 707 0 41	 5 721 0 47	
Biofuels consumption by fuel (KTOE):	N/A	N/A	N/A	N/A		
Energy efficiency						
Total energy use per passenger km and ton km (annual average over all modes).	N/A	N/A	N/A	N/A	N/A	
Emissions						

GHG emissions from road transport by transport mode and mean (MtCO2e/%)	198.1	163.8	148.7	172.1	N/A	
CO2 emissions from road transport by transport mode and mean (Mt/%)	142.6	106.4	95.0	112.4	N/A	
Air pollutant emissions of passenger and freight transport modes (Nox, NMVOC, NH3, SO2, exhaust and nonexhaust for PM2.5) • NO2 • SO2 • hydrocarbs	 23.1 6.3 20.5	 25.0 7.7 18.2	 23.4 7.3 16.6	 26.0 7.8 19.1	 N/A N/A N/A	
Modal split *Passenger mobility (Car, bus+trolley bus+coach, railway, tram+metro, waterborn, air)*						
Modal split according to passenger kilometers ran (pkm) • Rail • Bus • Air • Taxi • Trolleybus	 1.4% 51.2% 37.2% 3.3% 6.9%	 1.1% 52.5% 35.7% 3.3% 7.4%	 1.0% 59.7% 22.1% 5.2% 12%	 0.6% 50.2% 34% 5.2% 10.1%	 0.6% 50.7% 35.9% 3.7% 9.1%	
Modal split according to vehicle kilometers ran (vkm)	N/A	N/A	N/A	N/A	N/A	
Modal split according to the number of trips ran	N/A	N/A	N/A	N/A	N/A	

Modal split according to the number of vehicle kilometers per trip ran	N/A	N/A	N/A	N/A	N/A	
For freight (Road, rail, inland waterways, sea)						
Modal split according to goods vehicles kilometers ran (vkm)	N/A	N/A	N/A	N/A	N/A	
Modal split according to freight ton kilometers ran (tkm): • Rail • Road • Naval • Air	 16.1% 83.9% 0.005% 0.016%	 14.4% 85.5% 0.005% 0.02%	 9.7% 90.2% 0.008% 0.016%	 9.5% 90.5% 0.004% 0.016%	 15.5% 84.4% 0.004% 0.015%	
Traffic safety						
Road fatalities by transport mode/user	298	275	289	291	236	All traffic accidents
Railway fatalities	N/A	N/A	N/A	N/A	N/A	
Access to mobility services						
Population residing <500 meters from a public transport stop (%)	N/A	N/A	N/A	N/A	80%	Data for Chisinau (<300m)
Number of jobs and urban services accessible within 60 minutes by public transport (%)	N/A	N/A	N/A	N/A	N/A	
Noise hindrance						

Percentage of inhabitants within urban areas exposed to unhealthy road traffic noise levels (%)	Zero pollution topic	N/A	N/A	N/A	N/A	

2. Thematic area stakeholders mapping

The aim of this section is to identify the key stakeholders of the thematic area, including public institutions, the private sector, academia, civil society organisations, international actors and others.

2.1 Public authorities

The greatest influence on promoting the green transition is the legislative body that represents the main political forces in the country, and the executive one that includes representatives of line ministries responsible for promoting state policy.

The **Parliament of Moldova** is the supreme representative body of the country and the only state legislative authority.

The **government** ensures the implementation of the state's domestic and foreign policy, exercises the general management of the public administration, and is accountable to the parliament.

The **State Chancellery** is the public authority that ensures the organization of the government's activity, the creation of the general framework for defining its priorities, the support in planning, elaboration and implementation of public policies by governmental authorities, preparation of draft government acts, including implementation of the right of legislative initiative, and verification of their execution, as well as exercise by the government of prerogatives related to its relations with local public administration authorities.

The state administration of the transport system in Moldova is carried out by the **Ministry of Infrastructure and Regional Development (MIDR)**, specialized government agencies and local public administration authorities. MIDR is the central specialized body that promotes state policy in the transport sector and coordinates the actions of the subordinate agencies.

The **Ministry of Energy (MEn)** is the central body responsible for developing and implementing the country's energy policy by analysing the current situation and issues in the energy sectors. MEn also proposes justified state interventions to provide efficient solutions in ensuring the green transition and digitalization of the energy sector by promoting electricity generation from renewable sources and energy efficiency.

The **Ministry of Finance (MF)** is the specialized central public administration body that develops and promotes the state's public finance policy. Among other functions, MoF drafts the annual budget law, takes part in formulating state tax and customs policies, and negotiates and concludes bilateral and multilateral loan and grant agreements.

MF, in cooperation with MIDR, has a key role in developing and implementing financial and fiscal policies and incentives relevant to the smart mobility theme.

The **Ministry of Environment (MEnv)** is the central specialized body of the public administration that ensures the implementation of governmental policy in environmental protection, climate change and sustainable management of natural resources.

The **Ministry of Economic Development and Digitalization (MDED)** is the central body authorized to promote state policy in the field of economy and coordinate the economic development of the country. Its mission is to ensure the growth of the national economy by optimizing the regulatory framework for entrepreneurial activity, creating the conditions for the development of the business environment, technological development and ensuring competitiveness.

The **Ministry of Internal Affairs** is the central specialized body of the public administration that has competences in organizing and supervising road traffic and enforcing road traffic regulations.

The **Civil Aviation Authority** is an administrative authority for certification, supervision, and control in civil aviation. It is subordinated to the MIDR and aims to implement civil aviation policies and ensure flight safety, aviation security and consumer protection.

The **National Road Transport Agency** was established by the Government to implement international motor transport treaties and Moldovan laws and regulations governing the carriage of goods and passengers. It authorizes and monitors road transport operations to/from and within Moldova's territory.

State Road Administration is responsible for maintaining, repairing, rehabilitating, developing, upgrading and administrating national public roads in Moldova. Its objective is to effectively manage the road fund and external investments in and for the corresponding road infrastructure, ensuring fast and safe road traffic.

The **Naval Agency** is the administrative authority subordinated to the MIDR. Its mission is to ensure the implementation of state policies in the field of naval transport and to ensure the safety of navigation on inland waterways and in the port area, and the quality and safety of naval transport services.

The **Railway Authority** will aim to implement policies in the rail transport and railway safety areas. It will act as a railway safety authority, will issue rail transport authorizations, safety authorizations, safety certificates and driver's licenses.

The **National Bureau of Statistics (NBS)** is the central administrative authority that manages and coordinates the country's statistical activity. Complete and reliable statistics are the basis for analysing and elaborating on any policy, including building renovation policies.

Local public authorities (local/municipal councils and mayors of localities) approve urban mobility plans, public transport programs, investment strategies and development policies of localities.

2.2 Private

I.S. Chisinau International Airport is a state-owned company operating the Chisinau airport, the primary international airport serving Moldova.

ÎS Calea Ferată din Moldova (CFM) is state-owned and the sole railway operator in the Republic of Moldova. It is responsible for passenger and cargo transportation and railway infrastructure maintenance within the country.

Ungheni River Port is a state-owned enterprise that manages the Giurgiulesti passenger and cargo port activity, of the jetties on the Nistru and Prut rivers.

Danube Logistics is a limited liability company, a general investor, and the Giurgiulesti International Free Port operator.

RTEC is a municipal transport company operating trolleybuses in Chisinau city.

PUA is a municipal company operating buses in the Chisinau metropolitan area.

LUMTEH is a municipal company that manages the public lighting and traffic light systems in Chisinau.

ÎM Balti Trolleybus Directorate is a municipal enterprise of urban, land and suburban passenger transport.

Bolt is a company providing micromobility services by renting electric scooters in Chisinau.

Amigo Team is a company offering car-sharing services in Chisinau.

Premier Energy is the largest electricity supplier in the Republic of Moldova.

EV Point is the enterprise that manages a network of charging stations for electric vehicles in Moldova.

flyRen Energy Group SpA is a developer and independent solar power producer. It also owns a large charging network for electric vehicles (more than 150 operating charging stations).

2.3 Academia

The Academy of Sciences of Moldova is the country's main scientific organization, coordinating research in all areas of science and technology.

Technical University of Moldova – the only higher education institution for engineering in the country

2.4 CSOs

Green City Lab Moldova is a public association created with the initial support of the UNDP Sustainable Green Cities Project, and its basic objective is to catalyse investment in low-carbon green urban development by applying integrated urban planning approaches, encouraging innovation, participatory planning, and public-private partnerships. It also aims to become an urban laboratory of innovations in the local services area, to guide the transformation of Chisinau and other urban centres into modern, green and smart European cities.

The Automobile Club of Moldova (ACM) is a non-governmental organization that aims to develop motoring, technical road assistance services and motor tourism.

Chisinau Bicycle Alliance is a community of alternative transport users.

2.5 Development partners and IFIs

This group supports the green transition of Moldova. It includes diplomatic missions (EU delegation, etc.), representatives of international financing institutions (e.g. EBRD, EIB, WB, KfW, etc.) and international development agencies (e.g. SIDA, USAID, AFD), as well as the implementing agencies (UNDP, GIZ, etc.). Direct funding or through local banks for the mobility projects, along with the technical assistance (knowledge transfer) offered to the public authorities or other beneficiaries, is crucial for the green transition in Moldova.

2.6 Others

Congress of Local Authorities of Moldova (CALM) is an apolitical organization, a non-commercial association, representing all local authorities. It was established by the administrative-territorial units organized as towns (municipalities) and villages (communes) and by their professional associations. CALM is actively involved in public consultations on changes to the national legislation, including legislation relating to the objectives of the EGD.

International Transport Association (AITA) is a non-governmental, non-commercial and professional association representing the interests of organizations performing international road transport cargo and passenger transport. AITA is a member of the International Union of Road Hauliers (IRU) and the International Federation of Forwarders Association (FIATA). Also, it acts as a guarantor association according to the *Customs TIR Convention* (1975) for more than 200 carriers. No support should be expected from AITA to the government's initiatives related to the decarbonization of road transport because this involves significant investments in fleet renewal, and the state cannot provide support for this purpose. In the meantime, because most freight shipments are carried out in the EU countries, operators will have to comply with the requirements of the destination countries. AITA's power is relatively high because it represents most freight carriers in Moldova and issues TIR certificates to system members.

The Union of Transporters and Road Workers is a voluntary union of enterprises and organizations operating in the transport sector. It aims to assist its members in their capacity as employers by representing and defending common interests in relations with, inter alia, public authorities. The Union's position does not differ from that of AITA for the reasons set out above, but its power to influence policy decisions has diminished over time.

Employers' Association of Motor Transport Operators (APOTA) represents the interests of private operators providing urban and interurban transport services. Previously, most minibus operation companies were association members, but their share of urban traffic has fallen dramatically in recent years. Therefore, any political decisions that would jeopardize or reduce the profitability of its members' activity will be combated. As proof, APOTA announced protest actions in February 2024 in the center of the capital city following the latest amendments to the *Road Transport Code* adopted by Parliament at the end of 2023.

2.7 Stakeholder mapping

Based on stakeholders' interests and influence analysis, the following groups can be champions of the green transition in Moldova:

- line ministries and government agencies,
- private companies (e.g. electric bike/car sharing, charging stations operators, electricity suppliers, etc.),
- NGOs and the civil society (e.g. Green City Lab, alternative transport organisations, etc.).

Governments in every country recognize the need to accelerate the green transition. However, creating new green pathways will require long-term commitment, increased investment, continuous innovation and collaboration between government agencies, the private sector, NGOs and civil society. Thus, the government may postpone some

stages of the transition until it obtains the necessary resources for capital investments in the strategic enterprises it manages. There may be pressure from private car owners, but also from national and local carriers, along with importers of petroleum products and natural gas, as most of them are fueled with diesel and LNG.

It is important to foster inclusive dialogue across all stakeholders and build consensus around reforms, paying particular attention to overcoming complex issues and agreeing on reasonable timelines. Securing an equitable, green and healthy future requires urgent action and collaboration between cities, businesses and communities.

Stakeholder engagement can face challenges and risks, such as a lack of clarity, transparency and accountability, insufficient resources and capacities, conflicting interests and values, and resistance to change. Institutional barriers, such as rigid structures, cultures, and norms, a lack of leadership and support, and misalignment of incentives and expectations, can also hinder it.

It is important for policymakers to understand the needs and perspectives of various actors and improve trust in proposed government actions. Outcomes-based funding policies can promote energy transition goals.

3. Thematic area gap assessment

This section will give an overview of the main gaps between the current environmental and climate policy-related plans and actions in the smart and sustainable mobility thematic area and those proposed in the EGD, as well as the limitations in institutional and sectoral capacity. A more elaborate mapping overview can be found in annexes 1 and 2 of this report.

3.1 Policy and Legal Framework

3.1.1 Strategic and planning documents, goals and targets

In September 2015, the Republic of Moldova and 192 other UN member states adopted the *Summit Declaration on Sustainable Development*, committing to implement the *2030 Agenda for Sustainable Development*. Thus, by 2030, the country is to mobilize its efforts to eliminate all forms of poverty, combat inequalities and address climate change issues, ensuring that no one is left behind.

The 2030 Agenda is an action plan for People, Planet and Prosperity. The 2030 Agenda is also geared towards strengthening universal peace. All countries and stakeholders must act in partnership to implement this action plan. Thus, the 17 sustainable development goals and 169 targets of the 2030 Agenda fall into five basic pillars:

1. People
2. Planet

3. Prosperity
4. Peace
5. Partnership.

Starting with 2019, the State Chancellery is the partner of the project *Support to the Government of the Republic of Moldova in implementing the 2030 Agenda*, carried out with the support of the federal government of Germany, the purpose of which is to strengthen the capacities of the public administration at central and local level, as well as of non-governmental organizations, to align their internal objectives and processes with the provisions of the Agenda 2030 and to strengthen the national monitoring system of the sustainable development goals.

The relations of the Republic of Moldova with the European Union were formally enshrined by signing on November 28, 1994, **the *Partnership and Cooperation Agreement* (PCA)**, which entered into force on 1 July 1998, for an initial period of 10 years with the possibility of tacit extension. The document established the legal framework of bilateral relations between Moldova and the EU in the political, commercial, economic, legal, cultural-scientific fields and aimed to support Moldova to: consolidate democracy and rule of law with respect for human rights and minorities by ensuring the appropriate framework for political dialogue; sustainable development of the economy and completion of the transition process to market economy by promoting trade, investments and harmonious economic relations. The PCA created a cooperation council that meets once a year to monitor the implementation of the PCA at the highest level.

The Moldova-EU Action Plan, elaborated within the European Neighbourhood Policy and adopted at the Cooperation Council in February 2005, represented the next step in Moldova-EU rapprochement. The action plan initially set strategic objectives for cooperation for three years, which was extended repeatedly. This action plan was replaced in 2014 by the association agenda, agreed under the ***Moldova-EU Association Agreement*.**

The association agreement between Moldova and the European Union was signed on 27 June 2014 and was ratified by the Moldovan Parliament on 2 July 2014 and by the European Parliament on 13 November 2014. The signing of the *Moldova-EU Association Agreement* (AA) marked the advancement of dialogue and cooperation relations between Moldova and the EU by establishing a new legal framework, oriented towards a higher quality stage, that of political association and economic integration with the EU.

According to the association agreement (Chapter 15), Moldova shall, inter alia, “promote efficient, safe and secure transport operations as well as intermodality and interoperability of transport systems”. The cooperation between parties shall cover the promotion of the use of intelligent transport systems and information technology in

managing and operating all modes of transport. Finally, it shall also aim at improving the movement of passengers and goods, increasing the fluidity of transport flows between the Republic of Moldova, the EU and third countries in the region.

Another important step that contributes to the free movement of Moldovans within the EU was joining the **Common Aviation Area (CAA)** by signing the ECAA agreement in June 2012. CAA has been envisaged to allow gradual market opening between the EU and its neighbours, linked with regulatory convergence through the gradual implementation of EU aviation rules, to offer new opportunities for operators and wider choice for consumers. The processes of market opening and regulatory convergence take place in parallel to promote fair competition and implement common high safety, security, environmental and other standards.

Following the repercussions of the war in Ukraine, Moldova signed the **agreement with the EU on road freight transport** in 2022 to temporarily facilitate road transport between the EU territory and the Republic of Moldova. The country is also a party to the convention relating to the International Carriage of Goods by Road (CMR) and to the Agreement on the International Occasional Carriage of Passengers by Coach and Bus (INTERBUS).

In 2018, the Moldovan government acceded to the ***Agreement on International Rail Freight Transport*** **(SMGS)** and became a member of the Railway Cooperation Organization. In the naval field, the country acceded to the Convention on the International Maritime Organization and the Convention on the Facilitation of International Maritime Traffic (FAL), also ratifying the **European Agreement on Main Domestic Shipping Routes of International Importance.**

National strategic and planning documents

The following sectoral national and local strategic documents were developed in the environmental, regional development, energy, digitalization, and civil protection sectors related to the transport sector:

- Sustainable Development Agenda 2030
- National Development Strategy - European Moldova 2030
- National Economic Development Strategy 2030[26] (draft)
- National Development Plan 2024-2026[27]
- The government's action program Prosperous, Secure, European Moldova
- Low-Emission Development Strategy 2030 (LEDS)

[26] Anunț privind inițierea elaborării Strategiei Naționale de Dezvoltare Economică a Republicii Moldova până în anul 2030 (în continuare SNDE 2030) | Particip.gov.md

[27] HG1031/2023 (legis.md)

- Energy Strategy until 2030[28]
- Regional development strategy for 2022-2028[29]
- Moldova Energy Strategy 2030[30]
- Digital transformation strategy for 2023-2030
- National strategy for road safety
- National Mobility Strategy 2023-2030 (concept)[31]
- Low Emission Development Program until 2030
- National Energy and Climate Plan (concept)[32]
- Concept for the restructuring of the national railway company[33]
- Green City Action Plan for the City of Chisinau
- Chisinau Intelligent Transport and Mobility Strategy[34]
- Strategy for the development of infrastructure for alternative transport in Chisinau[35]

The 2030 Agenda for Sustainable Development[36] sets as a national target 11.2:

- ensuring access to safe, fair, accessible and sustainable transport systems for all, improving road safety, in particular by expanding public transport networks.

The National Development Strategy "European Moldova 2030"[37], approved by Parliament through Law No. 315/2022, is a national document of long-term strategic vision, which indicates the directions of development of the country and society and which adapts the priorities, objectives, indicators and targets of the international commitments assumed by the Republic of Moldova with the national context, especially the association agreement between the Republic of Moldova and the European Union and the commitments deriving from the status of candidate country for accession to the European Union, including the *2030 Agenda for Sustainable Development*. In the strategy, the government has established national priorities, and its structure and elements underpin the development of the national strategic planning framework, highlighting the vision, priorities, objectives and directions of relevant long-term intervention.

[28] HG102/2013 (legis.md)

[29] HG40/2022 (legis.md)

[30] HG102/2013 (legis.md)

[31] Anunț privind inițierea elaborării Strategiei de Mobilitate pentru anii 2023-2030 | Particip.gov.md

[32] Anunț privind inițierea elaborării Planului Național integrat privind Energia și Clima | Particip.gov.md

[33] HG1042/2017 (legis.md)

[34] Smart Transport and Mobility Strategy and Action Plan for Chisinau City - CUP (undp.cz)

[35] Strategia de dezvoltare a infrastructurii pentru transport alternativ în orașul Chișinău | United Nations Development Programme (undp.org)

[36] Cancelaria de Stat | Guvernul Republicii Moldova (gov.md)

[37] LP315/2022 (legis.md)

Under general objective 2 (improving living conditions), to enhance mobility through efficient, sustainable and safe transport systems, access to safe, affordable, accessible and sustainable transport systems for all shall be ensured, road safety will be improved, in particular through the expansion of public transport networks (SDG 11.2).

Impact assessment indicators:

- Share of electric and hybrid cars in total passenger cars, % - 1.2(2020) - 8(2025), 15(2030)
- Road accident rate per 100 thousand population 98(2021) – 80(2025) – 70(2030)
- Number of deaths from road accidents per 100 thousand population - 10.3 (2019), 7.3 (2025), 5.1 (2030)
- Status of national public roads, share of roads in "bad" and "very bad" condition, % - 46.8 (2020), 25 (2025), 10 (2030).

National Development Plan 2024-2026[38] includes the set of reforms that will contribute to achieving the objectives impacting all areas of activity of the government in the context of the implementation by the Republic of Moldova of the criteria for accession to the European Union and will contribute to the achievement of the four priorities set out in the national plan *Building European Moldova*, namely:

- Ensuring peace and security.
- Economic development and job creation.
- Modernization of infrastructure and improvement of living conditions in our localities.
- Justice reform.

For the horizon 2026, the Republic of Moldova aims to reach the scale of 3.5 points at international level in the quality of road infrastructure (where 0-bad quality, 7-excellent; Global Competitiveness Report), increasing the turnover of transported goods and passengers up to 20 t/km and respectively 40 passengers/km and reducing the rate of road accidents to 100 thousand population up to 78, in this respect medium-term priorities being focused on the rehabilitation, modernization and construction of road, rail and naval transport networks, and the development of an accessible system, sustainable and interoperable passenger and freight transport.

National Development Plan 2024-2026[39] sets under specific objective 1.3 the following actions and measurable indicators:

[38] HG89/2023 (legis.md)

[39] PROIECT_PND_24-26_pentru_avizare_midr.pdf (gov.md)

- Ensure qualitative and safe transport infrastructure for integration into the European transport network
- Rehabilitation, modernization, and construction of access roads to bridges and customs posts (5 access roads, estimated 16 km)
- 15% reduction in 'bad' and 'very bad' public roads
- 8% increase in improved national roads and transferred to the category of roads in "good" and "very good" condition, approximately 450 km
- A decrease in the number of road accidents in 2026 by 10% compared to 2023
- Elaboration of the feasibility study on building the Chisinau-Iasi highway[40]
- Making passenger and freight transport more efficient through accessibility, sustainability and interoperability:
  - A feasibility study, developed for the extension of Giurgiulesti port and the construction of a dry port
  - The fleet renewal program involved in passenger transport on regular services drawn up
- Implementation of four functional subsystems within the Integrated Management System for Road Transport
  - Functional professional attestation platform within the National Road Transport Agency
  - State Enterprise "Moldovan Railways" reorganized
  - Increase of the wagon fleet by 2000 freight wagons
  - 233 km of repaired railway section Bender – Causeni-Basarabeasca-Etulia-Giurgiulesti
  - 128 km of connected railway of the railway section Vălcineț-Ocnița-Bălți-Ungheni-Căinari
  - Functional information system within the Civil Aviation Authority
  - Functional information system compatible with European databases "National Flight Safety Program"

Indicators to measure the impact of actions by the end of the plan are as follows:

- Share of electric and hybrid cars in total passenger cars, % (from 1.2% to 10%)
- Condition of national public roads, share of roads in "bad" and "very bad" condition, % (from 46.8% to 28%)
- Road accident rate per 100 thousand population, % (from 84% to 78%)
- The journey of transported goods, by mode of transport (air, road, rail, river), mio. tone-km (from 7872.8 to 9648.9)
- The turnover of transported passengers, by mode of transport (air, road, rail, river), mio. passenger-km (from 5518.1 to 6844.1)

[40] https://www.ziarulnational.md/semnat-primul-pas-pentru-construirea-autostrazii-iasi-ungheni-chisinau-odesa-asociatia-mondiala-a-drumarilor-va-finanta-realizarea-studiului-de-fezabilitate-pentru-construirea-autostrazii-pe-teritoriul-r-moldova-si-ucrainei/

- Quality of road infrastructure according to the Global Competitiveness Report, on a scale from 0 to 7 points (from 2.6 to 3.5)
- Number of deaths due to road accidents per 100 thousand population (from 10.3 to 6.8)

The government's activity program, *MOLDOVA prosperous, secure, European*[41] sets as objectives:

- Implement coherent policies and measures to accelerate the transition to the circular and green economy and adapt all sectors to the impacts of climate change, with a view to achieving carbon neutrality by 2030.
- Enhancing citizens' mobility through efficient, sustainable, and safe transport systems, developing multimodal hubs, promoting road safety, developing road and road transport infrastructure, restructuring, modernizing and enhancing rail interconnection.

Strategy for low-emission development[42] of the Republic of Moldova until 2030 and the action plan for its implementation are strategic documents that allow the Republic of Moldova to move towards a low-carbon economy and achieve the targets of the document *Intentionally determined national contribution* through a green sustainable development, based on the socio-economic priorities of the country's development.

The objectives in the field of reducing greenhouse gas emissions in the transport sector are set out in the ***Energy Strategy of the Republic of Moldova until 2030***[43]. Thus, according to the mentioned strategy, the following types of activities are priorities in the short and medium term in reducing the impact of the transport sector on the environment:

- Replacing traditional fuels with compressed natural gas and liquefied well gas, which are less polluting;
- Development and implementation of national environmental protection standards and norms in accordance with EU standards, to reduce emissions of pollutants, including those in the transport sector;
  - Implementation of Directive 93/76/EEC on the limitation of CO2 emissions, Directive 94/63/EEC and Directive 96/59/EEC;
- Raising awareness of the problem among target groups, as well as among the general public.
  - Development of creative financing schemes.

[41] HP28/2023 (legis.md)

[42] HG1470/2016 (legis.md)

[43] HG102/2013 (legis.md)

The Energy Strategy until 2030 set a target share of biofuels at at least 10% by 2020, but according to statistical data, no biofuel is used in the transport sector.

According to the strategy, the aviation sector contributes about 2% of global greenhouse gas emissions and is included in the greenhouse gas emission allowance trading system of the European Union. This means that all airlines flying to and from the EU must compulsorily offset in-flight emissions by buying certified emission permits and/or emission reductions. The EU regulations for flights from Moldova to the EU and vice versa are also valid for Moldova. Thus, the aviation sector is the first sector in Moldova to be mandatorily included in the emission trading scheme of the European Union, with an officially established emission ceiling.

Aggregate prospecting of sectoral and national greenhouse gas emissions directly in the Republic of Moldova within the analyzed scenarios for the period up to 2030, Gg CO2 equivalent in transport should decrease (conditionally) from 7,762 in 1990 to 1,533 in 2030.

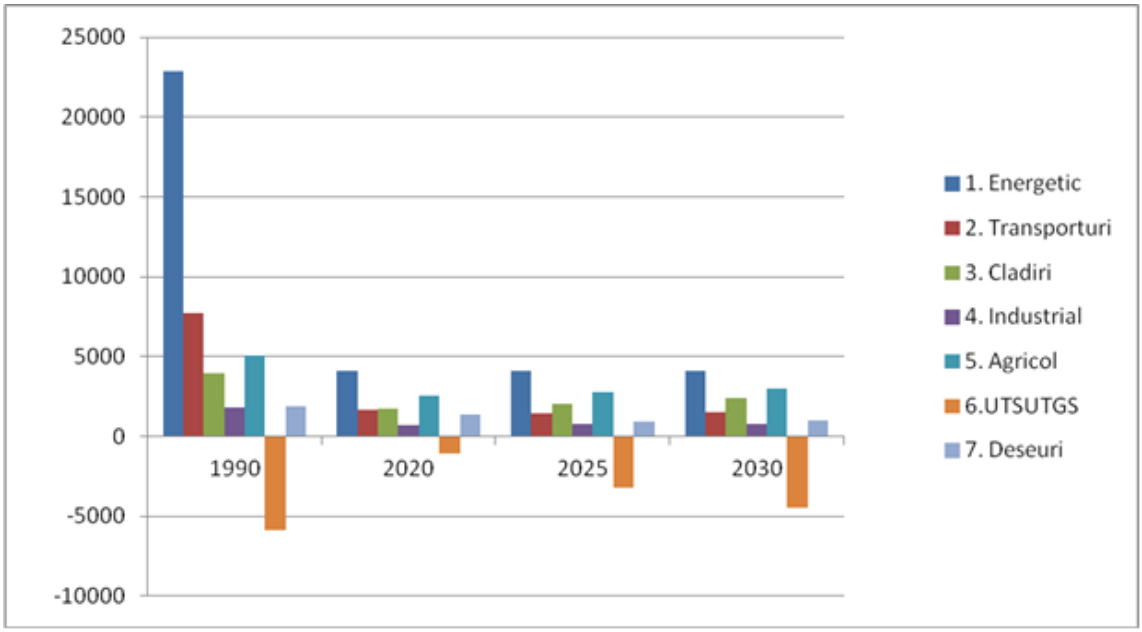

Figure 8. Sectoral greenhouse gas emissions directly in the Republic of Moldova under the scenario with additional measures (conditional) for the period until 2030. Source: Strategy for low-emission development

Digital transformation strategy 2023-2030[44] serves as a guidance document for central public administration authorities, local public administration authorities, the business community, academia, civil society, and strategic development partners and serves to

[44] HG650/2023 (legis.md)

direct, plan, finance, implement and monitor the digital transformation agenda until 2030. By 2030, by implementing the strategy, the Republic of Moldova will have an innovative and inclusive digital society with digital skills, based on a modern digital infrastructure, with digital governance and a business community that fully exploits digital opportunities.

The strategy has no mobility/transport indicator, but under general objective 3 "Building an innovative and resilient digital economy", action 10 foresees:

- The implementation of digital transport corridors will take into account the significant dependence on commercial operations with the member states of the European Union, where the Republic of Moldova can use digital technologies and implement the provisions of the regulation on electronic information for the transport of goods to considerably improve the process of import and export of goods.

The National Road Safety Strategy (2010)[45] states that a high level of road safety can often result from a state of balance between the different interests, which the road sector must satisfy. Ideally, a road must meet the existing road transport demand in that sector, provide safety in transport, and cause minimal environmental damage. Given that the number of light commercial vehicles on the road is increasing, which increases the risk of their involvement in road accidents, it must also be analysed whether the idea of installing speed limiters on board these vehicles, considering the related benefits from the point of view of environmental protection and climate change.

To achieve the greenhouse gas emission reduction objectives set out in the nationally determined contribution, the ***Low Emission Development Program of the Republic of Moldova until 2030*** was adopted in 2023[46]. The program identifies key actions for different sectors of the economy to reduce greenhouse gas emissions compared to the level recorded in the reference year 1990, including transport. The following types of activities in the transport sector are to be promoted, with priority in the short and medium term, in reducing the impact of the transport sector on the environment:

- Encouraging the use of ecologically pure vehicles and promoting public transport, as well as zero-emission modes of transport (cycling) and walking.
- Replacing traditional fuels (gasoline and diesel) with compressed natural gas and liquefied petroleum and, at the same time, diluting traditional fuels with biofuels.

[45] HG1214/2010 (legis.md)

[46] HG659/2023 (legis.md)

- Increasing the efficiency of car fuel combustion by limiting the age of imported vehicles.
- Elaboration and implementation of national standards and norms for environmental protection in accordance with EU standards, to reduce emissions of pollutants, including those in the transport sector.
- Implementing Directive 2009/33/EC on the promotion of clean road transport vehicles in support of low-emission mobility, as well as Directive 94/63/EC on the control of volatile organic compound (VOC) emissions resulting from the storage of petrol and its distribution from terminals to service stations.

One of the program's specific objectives is to unconditionally reduce greenhouse gas emissions from the transport sector by 52% by 2030 and conditionally reduce them to 55% compared to 1990.

To achieve the objectives of the program, priority actions to mitigate greenhouse gas emissions in the transport sector are:

- Greenhouse gas-intensive fuel substitution, including broader use of vehicles on compressed natural gas, liquefied well gas, biodiesel, and bioethanol.
- Conversion of vehicles, including using hybrid electric vehicles (combining one internal combustion engine and one or more electric motors), electric grid-connected hybrid electric vehicles, and pure electric vehicles.
- Production of biodiesel and bioethanol.
- Implementation of the "Bus Rapid Transit" system (a high-capacity transport system used to change the trend of modal shifts to public transport);
- Creation of infrastructure for electric transport.
- Implementation of electronic road charging systems, etc.

To ensure the integration of climate adaptation measures into sectoral policies, the ***National Program for adaptation to climate change until 2030*** and its implementation plan were adopted in 2023[47]. They focus on six vulnerable sectors: agriculture, water resource management, health, forestry, and transport, to achieve the goals assumed by signing the *Paris Agreement*. Ministries, other central administrative authorities, and responsible public institutions carry out the actions included in the action plan for the implementation of the program and submit progress reports annually to the Ministry of Environment, as well as upon request.

Thus, the main adaptation actions in the transport sector are as follows:

[47] HG624/2023 (legis.md)

- Continuous development of management capacities in the sector of construction and maintenance of public roads, including active awareness of adaptation to climate change.
- Further transposition and implementation of the EU legislation and technical standards related to climate change and relevant to transport infrastructure.
- Application of new infrastructure standards relevant to climate change throughout the life cycle of infrastructure, including maintenance and rehabilitation.

The Action Plan for implementation of the Low Emission Development Program until 2030 contains several specific actions, responsible ministries, deadlines, progress indicators, estimated costs and funding sources, including:

- Promoting the use of biodiesel as fuel
- Promoting the production of bioethanol
- Repairing and/or rehabilitating and constructing public roads
- Promoting energy efficiency in rail transport
- Tyre labelling
- Promoting energy-efficient transport
- Optimizing transport on central streets in localities
- Promoting hybrid vehicles, e-mobility, and other friendly mobility options.

The Green City Action Plan (GCAP) for the City of Chisinau[48] is a strategic plan for the capital city of Moldova, prepared by a team of international consultants, to provide a comprehensive framework for green development and define priority actions that maximize positive environmental change in the city where it is most needed. Proposed actions aim at enhanced institutional capacities, sustainable mobility and transport, climate resilient blue-green infrastructure, sustainable and efficient energy, and sustainable resources and waste management. Specific objective 1 is to create an easy and safe commute to connect parts and people of the city in an environmentally safe, healthy, and pleasant mobility. Several main actions have been planned to achieve this goal, namely:

- Increasing the energy efficiency of public transport
- Switching to public transport and active means of transport
- Improving the reliability of the transport system.

To increase the energy efficiency of public transport, renewing the urban bus fleet and introducing a car-free day annually in the city centre were proposed.

[48] GCAP_Chisinau-ENG.pdf (ebrdgreencities.com)

For switching to transport and active means of transport, the Chisinau city hall should:

- Create a controlled parking area
- Develop and operate bus corridors
- Connect urban parks and green areas through a cycle route and a bike-sharing system
- Calm traffic in areas with schools, and develop a network of connected sidewalks between schools.

Road rehabilitation and maintenance, as well as the development of a traffic monitoring center, are needed to improve the reliability of the transport system.

Looking at the above policy documents and plans, the following nationally agreed objectives and targets can be highlighted:

- Ensure access to safe, fair, accessible and sustainable transport systems for all, improving road safety, by expanding public transport networks.
- Increase the share of electric and hybrid cars in total passenger cars by 1.2% (2020), 8% (2025), and 15% (2030).
- Reduce road accident rate per 100 thousand population 98(2021) – 80(2025) – 70(2030).
- Decrease the number of deaths from road accidents per 100,000 population: 10.3 (2019), 7.3 (2025), and 5.1 (2030).
- Improve the status of national public roads, share of roads in “bad” and “very bad” condition, % - 46.8 (2020), 25 (2025), 10 (2030).
- Rehabilitate, modernize, and construct access roads to bridges and customs posts (five access roads, estimated 16 km).
- Develop a feasibility study on building the Chisinau-Iasi highway.
- Develop and implement national environmental protection standards and norms in accordance with EU standards, to reduce emissions of pollutants, including those in the transport sector.
- Encourage the use of ecologically pure vehicles and promote public transport, as well as zero-emission modes of transport (cycling) and walking.
- Replace traditional fuels (gasoline and diesel) with compressed natural gas and liquefied petroleum and, at the same time, dilute conventional fuels with biofuels.
- Increase the efficiency of car fuel combustion by limiting the age of imported vehicles.
- Implement Directive 2009/33/EC on the promotion of clean road transport vehicles in support of low-emission mobility, as well as Directive 94/63/EC on the control of volatile organic compound (VOC) emissions resulting from the storage of petrol and its distribution from terminals to service stations.

- Convert vehicles, including hybrid electric vehicles (combining one internal combustion engine and one or more electric motors), electric grid-connected hybrid electric vehicles, and pure electric vehicles.
- Increase production of biodiesel and bioethanol.
- Implement the Bus Rapid Transit system (high-capacity transport system used to change the trend of modal shifts to public transport).
- Create infrastructure for electric transport.
- Implement electronic road charging systems, etc.

Unfortunately, the current general urban plan of Chisinau was approved in 2007, and initiatives to develop/approve a new plan have failed. The expansion of dedicated bus lanes is based on a roadmap developed by UNDP experts; the city hall has not approved the plan. There is also no approved plan for the expansion of cycling lanes.

3.1.2 Compliance of national legal framework to international obligations/conventions and EU approximation

This part aims to assess the level of national legal framework, including the status of the approximation to the EU smart and sustainable transport thematic area relevant legislation in relation to the EGD. In doing so, it will identify remaining legal gaps and likely obstacles to meeting the objectives of the EGD framework.

According to the EU-Moldova Association agenda[49], Moldova will ensure further implementation of the EU legislation mentioned in the annexes to the association agreement with the focus on connectivity, road safety and sustainable transport systems, including:

Connectivity

- Implement the EU-Moldova Common Aviation Agreement which has a potential of boosting the tourism and thus the economic development of the country.
- Develop and implement a new national transport (mobility) policy document, including a national maritime policy document.
- Raise the safety, security, and marine environmental standards, which would lead to an improved Flag State performance of Moldova under the Paris Memorandum of Understanding on Port State Control.
- Reform Moldova's inland waterways transport sector, including through capacity and institutional building.
- Implement infrastructure projects identified by extending the indicative core TEN-T network and include them in the Commission's January 2019 *Indicative TEN-T Investment Action Plan*. Implementation of priority projects identified in the action plan should lead to completion of the indicative core TEN-T network by

[49] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22022D1997

2030, leading to better, more efficient, and safer transport links between the EU and the Republic of Moldova. Consider further developing the bridging role of the Black Sea basin in terms of connectivity.

Road safety

- Improve Moldova's current road safety-related data collection system by developing a national road safety database that could serve as a basis for more tailored road safety policy (road safety policy and implementation planning documents).

Sustainable transport systems

- Reform the railway sector to provide competitive, reliable, and safe railway services, which could help shift freight from roads to rail and contribute to a more sustainable transport sector.
- Improve urban mobility given decarbonization of the transport sector and develop a closer cooperation in sustainable urban mobility planning.
- Implement jointly developed awareness-raising campaigns aimed at the public to raise citizens' awareness of alternative ways of mobility in cities, such as cycling and public transport, to reduce pollution and congestion.
- Support for the uptake of energy-efficient vehicles to reduce pollution and enhance the environmental performance of the transport sector.

Thus, Moldova undertook to gradually approximate its legislation to the following EU legislation and international instruments within the timeframes set in annex X to the association agreement:

Road transport

- Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods.
- Regulation (EC) No 561/2006 of the European Parliament and of the Council of 15 March 2006 on the harmonisation of certain social legislation relating to road transport.

Railway transport

- Directive 2001/14/EC of the European Parliament and of the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification
- Regulation (EC) No 1370/2007 of the European Parliament and of the Council of 23 October 2007 on public passenger transport services by rail and by road

- Regulation (EC) No 1371/2007 of the European Parliament and of the Council of 23 October 2007 on rail passengers' rights and obligations

Air transport (listed in the *Common Aviation Area Agreement,* signed on 26 June 2012)[50]

- Directive (EC) No 2009/12 of the European Parliament and of the Council of 11 March 2009 on airport charges
- Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky (the framework Regulation)
- Commission Regulation (EC) No 1033/2006 of 4 July 2006 laying down the requirements on procedures for flight plans in the pre-flight phase for the single European sky.
- Commission Regulation (EU) No 176/2011 of 24 February 2011 on the information to be provided before the establishment and modification of a functional airspace block.
- Commission Regulation (EU) No 677/2011 of 7 July 2011 laying down detailed rules for the implementation of air traffic management (ATM) network functions and amending Regulation (EU) No 691/2010.
- Regulation (EC) No 261/2004 of the European Parliament and of the Council of 11 February 2004 establishing common rules on compensation and assistance to passengers in the event of denied boarding and of cancellation or long delay of flights, and repealing Regulation (EEC) No 295/91
- Regulation (EC) No 1107/2006 of the European Parliament and of the Council of 5 July 2006 concerning the rights of disabled persons and persons with reduced mobility when travelling by air.
- Regulation (EC) No 80/2009 of the European Parliament and of the Council of 14 January 2009 on a Code of Conduct for computerised reservation systems and repealing Council Regulation (EEC) No 2299/89

Inland waterway transport

- Directive 2006/87/EC of the European Parliament and of the Council of 12 December 2006 laying down technical requirements for inland waterway vessels.
- Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods
- Directive 2005/44/EC of the European Parliament and of the Council of 7 September 2005 on harmonised river information services (RIS) on inland waterways in the Community

[50] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22012A1020(01)

According to the **European Commission report**[51] published in November 2023, which preceded the European Council's decision to start accession negotiations, Moldova has some preparation in transport and trans-European networks, including association with the Connecting Europe Facility. Limited progress was made in the reporting period. The country needs to continue aligning with the EU acquis on all modes of transport and implement it effectively.

On general transport, Moldova is currently preparing a *Mobility Strategy for 2023-2030* to be adopted by the end of 2023 and replace the 2013-2022 *Strategy on transport and logistics*. On public services, Moldova is aligned with the EU acquis on rail but not road transport. Moldova has plans to increase the administrative capacity for the rail and maritime sectors, while aviation authorities have already implemented some measures. Those include upgraded IT devices for inspectors, new sets of equipment for RAMP and in-flight inspections. During the reporting period, the government approved the creation, organization and working methods of the Transport Accident and Incident Investigation Bureau and the Railway Agency.

In 2022, Moldova was granted observer status in the Transport Community Treaty as the basis for further integration in the EU transport market. The country is collaborating proactively with the treaty's structures. Closer association with the Transport Community can support Moldova's European path and facilitate closer alignment with the relevant EU transport acquis.

On **road transport**, national legislation is partially aligned with the EU acquis on road safety. Moldova’s new road safety strategy needs to be aligned with the EU *Road Safety Policy Framework 2021-2030* and be based on the safe system approach and key performance indicators defined by the EU. Road safety is still a concern as casualties are far above the EU average. A National Road Safety Observatory was created as a coordination centre. The use of funds for the maintenance and repair of roads has become more efficient, and resources allocated for road safety are better absorbed.

The legislation on **dangerous goods** is partially aligned with the EU acquis. Although the existing regulations do not include rules for transporting hazardous substances, they do include references to applicable provisions of the European Agreement concerning the international carriage of dangerous goods by road (ADR).

Legislation on **market access**, the profession of road transport operators, digital tachographs and access to the haulage market is partially aligned. The rights of passengers are regulated by the Road Transport Code, which is partially aligned with the EU legislation. A government decision partially harmonises the EU acquis on maximum weights and dimensions of heavy-duty vehicles. Access to the international

[51] Moldova Report 2023 - European Commission (europa.eu)

market for coach and bus services is regulated by bilateral agreements or multilateral agreements to which Moldova has acceded. No timeline has been produced to align each relevant piece of legislation with the EU social and market legislation, including amendments introduced in Mobility Package 1. The current national regulatory framework does not provide for implementing the *Intelligent Transport Systems Directive* (ITS), and the country also has insufficient capacity and resources to implement it. A concept for developing an integrated system exists, which includes subsystems like e-tickets, e-GPS, and a registry of transport operators. A road transport agreement to liberalize bilateral and transit road transport between the EU and Moldova was signed in June 2022 and has been extended up to 2024.

On **rail transport**, the adopted Railway Transport Code, which will enter into force in 2024, is partially aligned with the EU acquis. It includes provisions on: (i) separating train operations from infrastructure management; (ii) the independence of infrastructure managers to make decisions; (iii) railway safety; (iv) the roles of those involved in the rail system; (v) the supervision of safety management systems; (vi) safety certificates and safety authorisations; (vii) train drivers; and (viii) regulation of the railway market. A railway agency reporting to the Ministry of Infrastructure and Regional Development was created as the safety authority and will become operational when the new code enters into force. Railway safety legislation, including safety management systems, safety responsibilities of railway companies and infrastructure managers, and licensing of train drivers, is partially aligned with the EU acquis through the Railway Transport Code. Efforts are needed to adopt legislation on railway interoperability. Legislation is also not aligned with the EU rules on passengers' rights.

On **maritime transport**, a ship register that includes merchant vessels operating internationally has been set up. The Moldovan flag vessel is on the blacklist of the Paris Memorandum of Understanding on Port State Control. Authorities should put in place a roadmap to remove their vessels from this list. Legislation on port services is not aligned with the EU acquis.

Moldova has observer status in the Black Sea Memorandum of Understanding on Port State Control. It does not have a maritime coastline, but it has access to the maritime sector of the Danube River. The country is not a party to the Maritime Labour Convention. Moldova also participates in the Black and Caspian Sea (BCSEA II) technical assistance project implemented by the European Maritime Safety Agency (EMSA).

The country has two **inland waterways** of international importance, the Nistru and Prut Rivers. Moldova also has access to the Danube River and participates in the EU strategy for developing the Danube region. Moldova has also signed an agreement with Romania on inland waterway navigation. The normative framework for inland waterways does not align with the EU acquis. A draft government decision for the

approval of the rules and standards regarding the technical examination of connected inland navigation vessels and the recognition of inland navigation classification societies is in the approval process. In the approved 2023-2025 government national plan for development, an increase in the administrative capacity of the Naval Agency is envisaged.

Moldova has no legislation on training navigation personnel and no relevant educational institutions. The legislation on the recognition of crew qualifications is not aligned with the EU legislation, and Moldova should continue working on fulfilling the preconditions for recognition of navigation certificates in the EU.

The country is partially aligned with the EU acquis on **aviation**, having harmonised more than half of the legal acts in the EU-Moldova Common Aviation Area Agreement with its legislation. This covers aviation acquis in personnel licensing, air operators' certification, airworthiness and aerodromes, aviation safety and security, and passenger rights. The acquis on air navigation services is at an advanced stage of implementation. The national legal framework has been harmonised with several EU regulations under the Single European Sky framework.

There are no legal and technical provisions on **intermodal transport** in Moldova.

Moldova needs to apply the **EU passenger rights** acquis for all forms of transport.

Moldova needs to align its legislative framework with the Trans-European Network for Transport and the Trans-European Network for Energy regulations and develop its infrastructure.

The current strategic framework for **transport networks** is set out in the 2030 national strategy for development. The priority transport corridors are outlined in the EU-Moldova Association Agreement. In addition, the Trans-European Transport Networks (TEN-T) were extended to the Eastern Partnership, including Moldova.

In May 2023, Moldova was the first non-EU country to be associated to the Connecting Europe Facility (CEF) that will support the implementation of the extended TEN-T networks. Road works, which include TEN-T network, are advancing with some delays on sections where the contracts for works were terminated and new tenders launched.

The administrative capacity of the authorities responsible for implementing major projects needs to be improved. Moldova is a key transit route under the EU-Ukraine Solidarity Lanes initiative. The EU provided a EUR 20 million grant in 2022 to rehabilitate part of the north-south railway corridor. This is planned to be finished by the end of 2024, but some effort is needed to ensure the smooth implementation of the project. Following a landslide in August 2022, Moldova must ensure urgent repairs

to the Cahul-Giurgiulești railway line, part of the TEN-T network. Work is currently ongoing to rehabilitate the railway segment Basarabeasca-Giurgiulesti.

In the year 2024, Moldova should in particular:

- Progress to get removed from the blacklist of the Paris Memorandum of Understanding on Port State Control;
- Implement the Railway Transport Code in a timely manner;
- Adopt the new national mobility strategy 2023-2030, covering all transport modes and prepare an action plan to implement it, and a new road safety strategy;
- Make progress in completing the urgent priority infrastructure projects on solidarity lanes, in particular rehabilitating the north-south railway corridor and mobilising resources to absorb Connecting Europe Facility funds to support the alignment to the EU gauge.

An alternative progress report on the implementation of public transport-related provisions from the EU-Moldova Association Agreement[52] has been earlier developed by a group of national experts within the EU-financed project *MOVE IT like Lublin*. Their findings show that the following parts of the EU aquis have been transposed (fully or partially) into national legislation:

- Directive No. 92/6/EEC on the installation and use of speed limitation devices for certain categories of motor vehicles in the Community (GD 475/2026)
- Directive No. 96/53/EC laying down, for certain road vehicles circulating within the Community, the maximum authorized dimensions in national and international traffic and the maximum authorized weight in international traffic (GD 1073/2007)
- Directive No. 91/439/EC on driving licenses (GD 1452/2007)
- Directive No. 2008/68/EC of the European Parliament and of the Council of September 24, 2008, on the inland transport of goods (GD 143/2026)
- Regulation (CE) No 561/2006 of March 15, 2006, on the harmonization of certain provisions of social legislation in the field of road transport (GD 437/2016)
- Directive No. 2006/22/EC on minimum conditions for the implementation of the Regulations (CEE) 3820/85 and (CEE) 3821/85 on social legislation relating to road transport activities (Road Transportation Code 150/2014, Law 131/2007)
- Regulation (CE) 1071/2009 laying down common rules on the conditions to be met for the occupation of the road transport operator (Road Transportation Code 150/2014, GD 854/2006)

[52] https://mill.md/wp-content/uploads/2022/12/MILL_AA_Raport.en_.pdf

- Directive (CE) 2002/15/EC on the organization of the working time of persons performing mobile road transport activities (Road Transportation Code 150/2014)
- Directive No. 1999/62/CE of 17 June 1999 on the application of charges to heavy goods vehicles for the use of certain infrastructures (Fiscal Code 1163/1997).

Meanwhile, a separate chapter in the report is dedicated to the EU legislation on urban mobility and public transport.

The updated ***National Action Plan for Moldova's accession to the European Union for 2024-2027,***[53] approved by the government in October 2023, includes in cluster 4 (green agenda and sustainable connectivity), 84 actions in chapter 14 (transport policy) and 16 relevant actions in chapter 21 (trans-European networks). The main actions are:

- Adoption of the new Air Code
- Amendment of the National Civil Aviation Security Programme
- Approval of the 2030 Mobility Strategy
- Approval of the Mobility Strategy Implementation Programme
- Approval of the Single European Sky Regulation
- Definition of common projects, establishment of governance and identification of incentives to support the implementation of the European Air Traffic Management Master Plan
- Development of chartering and pricing systems in national and international inland waterway transport
- Elaboration of the feasibility study for the extension of Giurgiulesti port and the construction of a dry port, considering its connection to the railway infrastructure
- Implementation of the Law on Road Infrastructure Safety Management
- Approval of the National Road Safety Programme
- Reorganization of the Moldovan Railways Company (CFM) into a joint stock company with internal, separate and functional subdivisions
- Approval of the multiannual contract for the maintenance of railway infrastructure, to increase the competitiveness of rail transport
- Approval of the methodology for calculating charges for the use of railway infrastructure
- Approval of the rules for the allocation of infrastructure capacity
- Amendment of the regulation on public passenger transport services by rail
- Approval of the regulation on the carriage of passengers and luggage by road, to regulate the rights and obligations of the parties participating in this type of transport

[53] HG829/2023 (legis.md)

- Approval of the regulation on the creation and functioning of the information subsystem "GPS Monitoring"
- Approval of the regulation on the creation and functioning of the information subsystem "e-ticket"
- Transposition of the EU acts regulating access to the occupation of road transport operators, regulation of working and rest arrangements, roadside and premises checks, and passenger rights to transport on regular services
- The introduction of staggered import restrictions on polluting means of transport, as well as the gradual introduction of charging mechanisms according to the level of pollution of vehicles
- Deployment of Intelligent Transport Systems in road transport and for interfaces with other modes of transport
- Review of the competences of authorities involved in regulating road transport, tariff policy, and regulating the activity of mobile platforms for accessing taxi services
- Review of the principles for the formation of road transport programmes in national traffic
- Approval of common rules for access to the international market for coach and bus services
- Interoperability of electronic road toll systems and facilitation of cross-border exchange of information on failure to pay road fees
- Traffic safety management on road infrastructure to increase the safety level of existing and newly built roads, including the TEN-T network
- Reorganization of the State Administration of Roads, by transforming it into a joint stock company.
- Continuation of the Local Road Improvement Project
- Launch of works foreseen under the Connecting Europe Facility Program, to develop the cross-border infrastructure Ungheni (RO) – Ungheni (MD) and Albita (RO) – Leuseni (MD)
- Rehabilitation of the Cahul-Giurgiulesti railway section
- Establishment, organization and operation of the Railway Agency.

3.1.3 Summary of gaps/bottlenecks and needs

Table 4. Summary of gaps in implementing EGD

Summary of gaps
Are all the thematic areas relevant EGD subtopics covered by national strategic documents?

1. Decarbonization (electrification) of transport:
   - The use of ecologically pure vehicles is not encouraged, and public transport and zero-emission modes of transport (cycling) and walking are not sufficiently promoted.
   - There are no clear plans for replacing traditional fuels (gasoline and diesel) with CNG and LPG, diluting conventional fuels with biofuels.
   - There are no planned measures to increase the share of EV/hybrid cars.
2. Development of green and sustainable infrastructure
   - No provisions in the legislation on the development and operation of bus corridors or the implementation of the BRT system.
   - No targets and support for the development of infrastructure for electric transport.
   - There are no controlled public parking areas.
   - No action plans to connect urban parks and green areas through a cycle route and a bike-sharing system.
3. There is no single document on implementing the EU Sustainable and Smart Mobility National Mobility Strategy. EGD-related measures are contained in various national and local strategies and programs, but are missing from sectoral ones.

Have the related sector-specific international agreements been honoured? What are the main issues?

1. According to the 2020 report[54], the EU-Moldova Association Agreement implementation progress in the transport sector is under 50%
2. The existing Air Code needs to be updated to transpose the new EU regulatory framework under the Common Aviation Area Agreement
3. A Railway Code in line with EU Regulations and Directives was adopted, but its implementation is pending, i.e., establishment of railway authority, unbundling of railway activities, etc.

Are the current strategic objectives and targets in the thematic area aligned with those of the EGD? How much do they differ?

1. To make transport drastically less polluting, a strategic objective to increase the share of electric and hybrid cars in total passenger cars to 15% by 2030 is

[54] | Ministerul Afacerilor Externe al Republicii Moldova (gov.md)

foreseen. This could be considered in line with the 30 million zero-emission vehicles number EGD target.
2. The national strategy documents do not target a 90% reduction in the transport sector's emissions by 2050. The national objective is a 55% reduction in greenhouse gas emissions by 2030 compared to 1990.
3. No objectives are set for multimodal transport development or ITS implementation.

Has the relevant EU legal framework been transposed in a suitable way relative to the EGD? What are the most significant issues?

1. Some EDG-related directives and regulations were included in the National Action Plan for Moldova's accession to the European Union for 2024-2027
2. Regarding multimodal and combined transport, Moldova has not yet developed sufficient advanced solutions, including digital infrastructure, multimodal mobility and intelligent transport system services. It must also develop alternative fuel infrastructure and promote cleaner vehicles.
3. National public awareness campaigns are needed to raise citizens' awareness of alternative ways of mobility in cities, such as cycling and public transport, to reduce pollution and congestion. Also, national legislation does not contain provisions on the obligation and content of sustainable urban mobility plans.

Are there ongoing discussions on transposing the EU acquis to align it with national and EGD goals? How far along are they?

1. *The National Mobility Strategy 2023-2030* is being developed, which refers to the EGD objectives and targets
2. Moldova joined the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)
3. The EU-Moldova (MOU) was signed to revise their territories' trans-European transport (TEN-T) network and improve connections with the EU.

3.2 Instruments for policy implementation

This part describes the implementation of policies in the countries and analyses whether they are enough to achieve the ambitions of the national policy and international agreements (objectives and targets as well as legal responsibilities presented above).

3.2.1 Regulatory and economic instruments

The general regulatory framework includes various acts that affect public transport, such as the legal relationships between the transport operators and passengers, and between operators and public administration bodies. Besides technical and road safety regulations, it also includes fiscal (such as customs duties for imported vehicles), social (consumer) and environmental protection (such as emissions or energy-efficiency) regulations.

The analysis of the acts regulating transport services carried out by the OECD within the *Promoting Green Growth and Low-Carbon Development* project[55] showed that several provisions were insufficiently adapted to current economic realities and only partly harmonised with the relevant EU directives, i.e.:

- Law on transport no. 1194/1997[56]
- Aviation Code no. 301/2017[57]
- Road Transport Code no. 150/2014[58]
- Railway Transport Code no. 19/2022[59]
- Commercial Maritime Navigation Code no. 599/1999[60]
- Law on Domestic Shipping no. 176/2013[61]
- Law on Road Traffic Safety no. 131/2007[62]
- Law on Roads no. 509/1995[63]
- Law on Road Fund no. 720/1996[64]
- Road traffic regulations GD 357/2009[65].

The law on transport sets out the general framework for operating all modes of transport in Moldova. According to it, the country's transport system includes rail, car, air, naval, electric urban transport, and pipeline transport. State administration of the transport system is carried out by the Ministry of Infrastructure and Regional Development, the local public administration authorities, and other authorised bodies. Appropriate central and local public authorities check compliance with transport legislation within the limits of their competence. The law is outdated and not relevant in the context of EGD implementation. Meanwhile, other sectoral laws contain few

[55] Promoting Clean Urban Public Transportation and Green Investment in Moldova | OECD iLibrary (oecd-ilibrary.org)
[56] LP1194/1997 (legis.md)
[57] CA301/2017 (legis.md)
[58] CP150/2014 (legis.md)
[59] CTF19/2022 (legis.md)
[60] LP599/1999 (legis.md)
[61] LP176/2013 (legis.md)
[62] LP131/2007 (legis.md)
[63] LP509/1995 (legis.md)
[64] LP720/1996 (legis.md)
[65] HG357/2009 (legis.md)

provisions on mobility; in particular, the Road Transport Code refers to the right of local councils to approve sustainable urban mobility plans.

The implementation of the provisions of primary legislation is done through the adoption by the government and other central public authorities of the relevant acts.

A recent overview,[66] made by a group of experts within the EU-funded project *MOVE IT LIKE Lublin,* shows that the regulatory framework for urban mobility and public transport in the Republic of Moldova consists of over twenty laws, complemented by even more regulations (government decisions, regulations, orders, issued by ministries/agencies/directorates), programs in the field of road transport, with implication in the public transport field, technical requirements for road vehicles, gas emissions, and energy efficiency standards. Cross-sectoral legislation includes:

- Tax Code no.1163/1997
- Customs Code no.1149/2000 (Repealed since 01.01.2024)
- Civil Code no. 1107/2002
- Contravention Code no.218/2008
- Environmental Protection Law no. 1515/1993
- Local Public Administration Law no. 436/2006
- Etc.

Road traffic regulation includes the norms that determine the movement of vehicles and pedestrians on public roads in the Republic of Moldova, as well as in adjacent territories. Compliance with this regulation shall guarantee the safety of all road users, environmental protection, protection of legitimate rights and interests, as well as protection of property.

The Air Code was not amended in 2023, and the draft of the new law has not yet been subject to public consultation. The situation is aggravated by the lack of a development strategy for Chisinau International Airport, which returned under state control after the termination of the concession contract with a private partner. While maintaining the airport's operation is ensured by an influx of travellers from Ukraine to Europe and holiday destinations, this traffic could spill over to Iasi airport (Romania), which will open a new passenger terminal in spring 2024.

As evidenced by the European Commission's annual report, the country is in large arrears in implementing national policies and international commitments, the priority of which is the EU. This situation is also confirmed by the long list of actions the government will take in the transport field for the next four years (over 100) and legal

[66] https://mill.md/wp-content/uploads/2022/12/MILL-LEX_Raport.en_.pdf

acts to be adopted in 2024 (around 70). There is no institutional capacity to implement planned measures on time.

Firstly, the legislation regulating road transport is not fully adapted to the EU acquis, and smart mobility and intermodal transport are not a priority for the authorities. The introduction of ITS elements such as e-tickets and GPS tracking was planned for 2023 but was transferred to 2024. In 2023, the concept of weighing in motion (WiM) on national roads was approved, but no mechanism for its implementation followed.

Even though the primary railway legislation has been adopted, the Railway Agency has not yet been established. The implementation of the Action plan for the development of railway infrastructure and modal shift to rail of passenger and freight transport flows 2021-2026 has not started. The Strategy for European Integration of Moldovan and Ukrainian Railways, developed by EIB experts, was not followed by a feasibility study and a modernization program to be submitted to the IFI for financing.

While the *Energy Strategy of the Republic of Moldova until 2030* and the *Environmental Strategy for 2014-2023* set objectives in greenhouse gas emissions mitigation in the transport sector and provide for an increase in the share of biofuels to at least 10% of the total fuels used in the transport sector by 2020, this objective has not been achieved. Energy saving programmes in the transport sector were to be developed, and an action plan was to be implemented to specify the potential use of biofuels to be produced from biomass. At the same time, from 2020, restrictions on the import of cars with an operating age of over 10 years were removed, but increased excise duties were introduced for them. Imports of vehicles equipped with electric motors were exempted from VAT, and customs duties for hybrid motor vehicles were reduced by half. A similar measure, taken in June 2023, was included in the Customs Code, which included a 70% reduction in excise duty for vehicles over seven years circulating in Moldova for at least 90 days cumulatively but registered in another state. According to an analysis by IPRE experts, the state budget lost about 28 million euros in six months. Over 45% of the total cars registered (11.4 thousand) are over 16 years old, and 89% have diesel engines.[67]

Moldova has joined the ***Global Civil Aviation Carbon Offsetting and Reduction Scheme* (CORSIA)**, which is internationally approved through Annex 16, Volume IV to the Convention on International Civil Aviation. Thus, all airlines operating flights from and within the member states of the International Civil Aviation Organization must implement the monitoring, verification, and reporting system and necessarily offset carbon emissions from international flights. A regulation on implementing the CORSIA

[67] https://ipre.md/wp-content/uploads/2024/02/NA_1_2024_masini_diesel.pdf

Scheme in the Republic of Moldova has been drafted and is to be approved by the government soon.

In the series of measures in the transport sector aimed at reducing greenhouse gas emissions, the government approved the regulation on reducing emissions from air conditioning systems in motor vehicles in 2016. According to that document, air-conditioning systems in any motor vehicle shall no longer be charged with fluorinated greenhouse gases with a GWP100 higher than 150, except for the recharging of air-conditioning systems containing such gases, which were installed on vehicles before 1 January 2021.

The main document containing the priority directions and measures for the implementation of the country's strategic objectives for a period of three years is the ***National Development Plan for 2024-2026***,[68] recently approved by the government. The plan contains an estimate of the costs of implementing reform actions, including the sources of its coverage and references to budgetary programmes/sub-programmes to align the objectives and actions of this plan with the medium-term fiscal framework. The plan also contains estimates of financing needs for reform actions that do not have financial coverage from budgetary resources. The financial resources needed to implement the reform actions projected in the plan, which do not have financial coverage, are to be identified and considered within the dialogue with potential investors and development partners, including within the Support Platform for Moldova.

Another document planning the government's activity towards achieving the set development objectives is the ***Annual Action Plan of the government***. It includes normative commitments, which will contribute to the achievement of objectives with impact on all fields of activity in the context of the implementation by the Republic of Moldova of the criteria for accession to the European Union and to the achievement of the four priorities set out in the national plan *Building European Moldova*, namely:

- Ensuring peace and security.
- Economic development and job creation.
- Modernization of infrastructure and improvement of living conditions in our localities.
- Justice reform.

530 normative actions are planned for 2024, including 128 draft laws, 394 draft government decisions, and eight public policy documents. Of these, 56 projects refer to the transport sector under the Ministry of Infrastructure and Regional

[68] https://gov.md/sites/default/files/document/attachments/subiect-08-nu-1019-cs-2023_0.pdf

Development's responsibility. This includes, inter alia, the development of the program for implementing the 2030 Mobility Strategy.

In addition to the government action plan, the ministry responsible for the transport sector (MIDR) develops and approves its annual activity plan. According to the plan for 2023, MIDR must carry out 95 actions in transport and transport infrastructure.

Unfortunately, no instruments have been identified aiming to avoid and reduce long car trips. Also, measures that help shift people's travel modes from more polluting and wasteful to more sustainable ones, in practice, mostly form car use to PT and active modes are missing.

Considering that the main municipalities in the country have approved or will approve sustainable urban mobility plans, we hope these measures will be included in SUMPs and subsequently implemented by local authorities.

Urban planning regulations should be updated to meet new mobility requirements. For example, the last master plan in Chisinau[69] was approved in 2007. ***A Street Design Guide***[70] was approved by the Chisinau Municipal Council in 2020 for an integrated approach to the sustainable urban planning process, but it is not binding. To ensure a higher level of comfort for passengers and attract more residents to opt for public transport, the Municipal Council approved the Quality Standards in Public Transport in the municipality of Chisinau[71]According to them, municipal transport must comply with European Euro 6 or Euro 7 standards only partially. At the same time, all buses and trolleybuses must be equipped with ramps for people with reduced mobility by 2025. Introducing new standards reduced the city's fleet of obsolete and polluting minibuses, allowing for an increase in travel fares and the renewal of the buses/trolleybuses fleet.

The main land-use planning instruments are the master urban plan (PUG) and the zonal urban plan (PUZ). Since in many cities (e.g. Chisinau, etc.) there are no recent master plans, a zonal plan is used to regulate land use.

Some economic instruments have also been established in the mobility sector. When importing cars into the Republic of Moldova, excise duties are levied depending on the engine type, cylinder capacity and year of manufacture. From January 1, 2021, the ban on importing cars older than 10 years has been removed, and cars can be imported into Moldova without an age limit.

[69] PUG plan urbanistic general (chisinau.md)

[70] The Guide for Street Design in Chisinau

[71] https://actelocale.gov.md/ral/act/cu-privire-la-aprobarea-standardelor-de-calitate-n-transportul-public-din-municipiul-chiinu-780325.html

The excise duty rate is reduced by 50% for cars with a plug-in hybrid engine (which can be charged by connecting to an external source of electricity) and 25% for cars with hybrid engines. No excise duty is paid on imported electric cars.

Persons with disabilities of the musculoskeletal system may import cars for their transportation (with engine cylinder capacity up to 2500 cm3) once every five years, with exemption from excise duties, regardless of the term of operation, according to the provisions of the Customs Code, the Tax Code and Law no 1380/1997 on customs tariffs.

3.2.2 Funding and financing

Expenditures for the development, diversification and consolidation of the transport system and infrastructure are financed from the state budget and by attracting external resources. According to **the draft *Sectoral Spending Strategy for 2022-2024*,**[72] the distribution of the budget by development priorities is as follows:

Table 5. Distribution of budget by development priorities

Name of priority	2022		2023		2024	
	MDL mil.	%	MDL mil.	%	MDL mil.	%
Development and maintenance of public road infrastructure	3,221.9	96.1	2,135.1	94.3	2,069.1	94.1
Development of shipping	18.5	0.55	18.5	0.82	18.5	0.84
Development of rail transport	2.5	0.07	2.5	0.11	1.4	0.06
Development of road transport	44.7	1.34	44.7	1.97	44.7	2.03
Development of air transport	63.4	1.9	63.4	2.8	63.4	2.9
Total	3,341.9		2,264.3		2,197.1	

The main investment projects are "Support to the Program in the Road Sector", "Rehabilitation of Local Roads" and „Locomotive procurement and railway infrastructure restructuring project “.

[72] https://midr.gov.md/files/shares/3-proiectul_strategiei_sectoriale_de_cheltuieli_pe_sectorul_transporturi_si_infrastructura_drumurilor_pentru_anii_2022-2024.pdf

The ***Low Emission Development Program 2030*** (Annex 1) also specify financial resources needed to unconditionally reduce greenhouse gas emissions from the transport sector by 52% by 2030 compared to 1990. The total estimated amount for priority actions (e.g. promotion of biofuel production and use; repair, rehabilitation and construction of national roads, promotion of energy efficiency in rail transport, labelling of tyres, promotion of efficient energy transport, optimization of transport on central streets in localities; promotion of hybrid means of transport, e-mobility and other environmentally friendly mobility options) represents over MDL 5.5 billion (approximately EUR 284.8 million[73]).

Table 2. Action plan for the implementation of the *Low Emission Development Program until 2026*

Specific Objective 2. Reduction of GHG emissions from transport by 52% compared to 1990 level.			
No.	**Mitigation action**	**Progress indicator**	**Estimated costs (million MDL):**
2.1	Promoting the use of biodiesel as fuel	249.1 TJ of biodiesel marketed annually	29.2
2.2	Promotion of bioethanol production	11,37 TJ bioethanol marketed annually	1.9
2.3	Repair and/or rehabilitation and construction of public roads	934.4 km repaired public roads/ rehabilitated and built	4339.6
2.4	Promoting energy efficiency in rail transport	Amount of fuel used by rail transport reduced by 2.0% or 1.6 TJ	1060
2.5	Tyre labelling; transport purchases; promoting efficient energy transport; optimization of transport on central streets in localities	Fuel consumption used in the road transport sector reduced by 2.0% or 625.9 TJ	0.3
2.6	Promotion of hybrid means of transport, e-mobility and other environmentally friendly mobility options	Fuel consumption used by registered vehicles reduced by 0.1% or 31.1 TJ	80.35

In the ***National Development Plan for 2024-2026***, the total costs for the implementation of the following actions are estimated:

- Ensuring qualitative and safe transport infrastructure to integrate into the European transport network (18,029 million MDL).
- Making passenger and freight transport more efficient through accessibility, sustainability and interoperability (7,400 million MDL).

The state budget 2023 allocates about 3.2 billion MDL to the Ministry of Infrastructure and Regional Development (MIDR) for the development of the transport sector, of which almost 70% represents external resources.

The expenditure budget allocated to MIDR in 2023 for the sector development is distributed as follows:

[73] NMB exchange rate, 19.12.2023

- Roads (95.8%)
- Shipping (0.5%)
- Motor transport (1.5%)
- Rail transport (0.2%)
- Air transport (2%)

In addition to funding from the state budget, the plan indicates the project *Procurement of rolling stock and rehabilitation of railway infrastructure*, financed by EBRD and an additional source of cost coverage. The main instrument for financing road infrastructure is the Road Fund within the state budget. The sources of fund revenues are:

- Revenues from excise duties on petrol and diesel fuel.
- Road use tax levied on owners of vehicles registered in Moldova.
- Fee for licensing motor transport activities.
- Toll for passing on public roads for vehicles registered abroad.

Of the total revenues accumulated in the Road Fund in 2023 (MDL 2.2 billion), over 69% are destined to maintain national public roads.

According to the draft *Sectoral Spending Strategy for 2022-2024*, the following relevant project proposals are considered and need future funding:

- Construction of the European gauge railway from Chisinau to the border with Romania.
- Implementation of the energy-efficiency system in rail transport.
- Reactivation of inland waterway transport by carrying out fairway maintenance works.
- Implementation of an e-ticketing system.
- Assessment of the road infrastructure's impact on road accidents.
- Implementation of the road traffic monitoring and control system.

Table 7. Notable sectoral funding and financing policies and initiatives

Name of the instrument	Description including segment/target groups and the measure it covers	Budget allocation, if any	Level of adoption	Reference or link for us to follow up
Fiscal incentives				
Excise tax exemption	Vehicles imported and delivered for the transport of persons with disabilities of the	N/A	Law	Article 124 (14) of the Fiscal Code[74]

[74] CP1163/1997 (legis.md)

	musculoskeletal system			
50% Excise tax reduction	Imported car with a plug-in hybrid engine			Article 124 (18) of the Fiscal Code
25% Excise tax reduction	Imported car with a hybrid engine			
Local Authorities: Partnerships for Sustainable Cities	EU-funded project that promotes integrated urban development by fostering peer-to-peer exchanges among local authorities of the EU member states and lower-income countries around shared challenges		2020-2024	https://ecdpm.org/
MOVE IT like Lublin	Supports the sustainable development of the public transport system in Chișinău	EUR 3.3m (grant)	Ongoing	https://eu4moldova.eu
Edineț – insights into tomorrow cities	Support Edineț in the process of transition towards a modern and sustainable municipality	EUR 4.1m (grant)	Ongoing	https://eu4moldova.eu
EU4Moldova: Focal Regions	To strengthen the economic, territorial and social cohesion in the Republic of Moldova by facilitating inclusive, sustainable and integrated local socio-economic growth and improving the citizens' living standards in two focal regions: Ungheni and Cahul.	USD 25.9m	Ongoing Period?	https://www.undp.org/moldova/projects/eu4moldova-focal-regions
Moldova Sustainable Green Cities (GEF, UNDP)	To catalyse investments in low-carbon green urban development based on an integrated urban planning approach by encouraging innovation, participatory planning and partnerships between various public and private sector entities.	USD 2.8m	Ongoing 2018 – 2023	https://www.undp.org

Construction of Inland Freight Terminal in Chisinau		N/A	Under development	euneighbourseast.eu
Moldova railway infrastructure rehabilitation	Enhancement of the railway connection between Moldova and Ukraine	EUR 41.2m (EBRD) EUR 12m (EU)	MoU signed	https://www.eeas.europa.eu
EUROCONTROL Solidarity fund	Voluntary solidarity fund to support Ukraine and Moldova in air traffic crises due to reasons beyond their control.	EUR 46.5m (donation)	Ongoing	https://www.eurocontrol.int
Moldova Roads Rehabilitation V	Rehabilitation and widening of national roads	EUR 150m (EBRD)	Approved	https://www.ebrd.com
Balti Mobility and Street Lighting	Expand and improve the city's public passenger transport and reduce the energy consumption and carbon footprint of the street lighting system, while enhancing road security and safety at night by improving the quality of street lighting.	EUR 7m (EBRD)	Ongoing	https://www.ebrd.com
RLF - Moldovan Railways Crisis Response	Acquisition of materials required for the rehabilitation of railway infrastructure	EUR 23m (EBRD) EUR 20m (EU)	Ongoing	https://www.ebrd.com
GrCF - Balti Trolleybus	Expansion and improvement of the existing trolleybus network of the city of Balti	EUR 2.5m (EBRD)	Ongoing	https://www.ebrd.com
Chisinau Urban Road Sector Project	Rehabilitation of the main streets in the city centre	EUR 14.4m (EBRD)	Ongoing	https://www.ebrd.com
Moldova Roads Rehabilitation IV	Rehabilitation of main road sections in Moldova	EUR 250m (EBRD) EUR 150m (EIB) EUR 15m (EU)	Ongoing	https://www.ebrd.com

Danube Logistics - Giurgiulesti Port	Completion of the port infrastructure and in particular the building of a mixed-gauge rail terminal and roll-on-roll-off ramp	USD 12m (EBRD)	Complete	https://www.ebrd.com
Moldovan Railways Restructuring Project	Acquisition of new multi-purpose locomotives to offer higher service quality, safety and energy efficiency benefits, and the rehabilitation of priority rail infrastructure investments and related supervision services.	EUR 76m (EBRD)	Ongoing	https://www.ebrd.com/
Balti Trolleybus Project	Improve the quality of public transport services and for the modernisation of the trolleybus fleet in the City of Balti.	EUR 3m (EBRD)	Complete	https://www.ebrd.com
Moldova Road Rehabilitation III	Rehabilitation of main road sections in Moldova	EUR 75m	Ongoing	https://www.ebrd.com
Chisinau Airport Priority Modernisation Programme	Refurbishment of the airport terminal; acquisition, installation and training in the use of specialist airport equipment; acquisition and implementation of an accounting and management information system; and consultancy services for project preparation and implementation.	USD 9m	Complete	https://www.ebrd.com
Moldova Road Rehabilitation V*				

Table 3. Summary of sector segments and activities requiring investments

Activities per area segment	Purposes of finance for transition
Infrastructure	Road and highway network
	Railway network rehabilitation and rolling stock renewal
	Extension of Giurgiulesti Port and development of inland waterways
	Cycling and walking infrastructure
	Park & Ride platforms, charging stations
Sustainable vehicles	Investment support for alternative fuel uptake

	Investment support for attaining sustainable vehicles for public transport, including electric vehicles
Digitalisation and automatization	Adaptive traffic lights and pedestrian-activated signals in urban areas
	E-ticketing and passenger information systems
	Traffic monitoring systems
	On-road traffic control stations and Weight in Motion systems
	Road infrastructure management system
Measures promoting behavioural changes	Dedicated bus and bicycle lane use promotion
	Shared economy approach in mobility and transport
	Awareness-raising campaign, including European Mobility Week
	Sustainable Urban Mobility Plans development
	Promote a shift from road to rail

3.2.3 Summary of gaps/bottlenecks and needs

Table 9. Summary of gaps in implementing EGD

Summary of gaps
Are all key policy and legal areas covered with appropriate regulatory and economic instruments to ensure compliance with EGD? 1. Key policies and sectoral laws were not updated to ensure compliance with EGD 2. Meanwhile, several actions were included in the Government Plan for 2024, such as implementing the *National Mobility Strategy 2030*, streamlining measures to advance the realisation of the trans-European transport network, developing GPS monitoring and e-ticketing, and interoperability of Moldova's railway system with the European Union's system. 3. Major cities have no land use planning policies (e.g., the Chisinau plan is from 2007), and the new Urbanism and Building Law, recently approved by the Parliament, will enter into force in 2025.
Are the regulatory and economic instruments sufficient to ensure they lead to real and measurable environmental improvements (achieving sectoral EGD goals)? 1. There are few instruments to promote green transition in the sector, but they are insufficient. 2. Electric vehicles are exempt from the national road use tax. However, some incentives were removed on 1 January 2024, which could negatively impact drivers' decisions to buy electric cars. 3. There is no state policy to develop EV charging infrastructure, nor to renew public transport fleets
Are the regulatory and economic instruments efficient, considering their ability to reduce emissions or promote sustainability while minimizing economic distortions and administrative costs? 1. Exemption from or reduction of import duties for electric/hybrid vehicles led to a doubling of the number of such vehicles registered in 2022 compared to 2021. 2. No analysis was made on the efficiency of the instruments applied

Are the sectoral funding and financing instruments realistic relative to the sectoral goals related to the EGD?

1. Funding estimated in the *National Development Plan (2024-2026)* for measures to ensure qualitative and safe transport infrastructure for integration into the European transport network is provided from the state budget in the proportion of 76.3%, and the deficit of 23.7% has no coverage. The second action (make passenger and freight transport more efficient through accessibility, sustainability, and interoperability) will be totally financed by EBRD and EIB with a 4.4% deficit.

2. The medium-term budgetary framework (2024-2026) contains separate estimated amounts for road, waterborne, rail and air transport but covers road and railway rehabilitation/development projects only.

3. No estimated costs related to actions listed in the plan and framework above are available to assess them, i.e. no spending strategy approved nor published;

Is funding the sectoral EGD-related goals important to the national government, or does most funding come from outside donors?

1. The government funding in the transport sector is mainly for public road maintenance

2. Transport development projects are mainly financed by IFIs and their share is 40% of total external funding (appr EUR 100m in 2023)

3.3 Institutional/governance capacity

This part describes and analyses the governance structures, roles and performance in the thematic area to assess whether the institutions can execute the proper level of policy planning and implementation to reach the EGD targets.

3.3.1 Existing institutional set-up

Table 10. Roles and status of transport authorities

Authority	Main roles and responsibilities	Continuity
Ministry of Infrastructure and Regional Development	• Analyse the situation and problems in the managed sectors. • Develop efficient public policies for transport and transport infrastructure development. • Promote state policy in infrastructure and regional development areas.	It was established in 2017 and took over the duties previously exercised by the Ministry of Transport and Road Infrastructure.

(MIDR)	• Ensure state administration of the transport system. • Implement normative acts and international treaties in the sectors, and prepare reports on their implementation. • Align sectoral policies in the sectors, according to the accession chapters to the EU. • Implement the Association Agreement in the sectors. • Implement and monitor the Mobility Strategy. • Develop the National Transport Model.	
National Road Transport Agency (ANTA)	• Implement public policy documents and national development strategies in the road transport sector. • Control and supervise compliance with national and international legislation by road transport operators and undertakings carrying out activities related to road transport.	Founded by the government in 2008, reorganized in 2022.
Civil Aviation Authority (AAC)	• Certification, supervision, and control in the civil aviation area. • Implement civil aviation policies and monitor compliance with legislation to ensure flight safety, aviation security and consumer protection.	Established in 1993, it has a long history of having mostly the same structure and responsibilities.
Naval Agency (AN)	• Implement state policies in the naval transport area and supervise compliance with the relevant regulatory framework. • Ensure the safety of navigation on inland waterways and in the port area, as well as the quality and safety of naval transport services and navigation.	Established in 2018, it succeeded the "Giurgiulesti Port Captaincy" and the State Naval Register.
Railway Agency	• Implement state policy in the railway transport area. • Ensure an optimal level of rail transport safety and consumer protection in rail transport. • Certification, continuous supervision, and control activities. • Implement obligations resulting from provisions of international treaties in railway transport.	Established in 2022, and is in the process of hiring staff.
State Roads Administration (ADS)	• Implement state policy in the road maintenance and development area. • Development and modernization of the national public road network. • Repair and maintain the national public road network. • Ensure fast and safe road traffic.	It is to be reorganized into the Joint Stock Company (SA) with full state capital.
Railways of Moldova (CFM)	• All national rail operations. • Construction, repair and maintenance of railways.	State-owned enterprise, having the latest statute approved in 2014.

Local municipalities (incl. Urban Mobility Dept in Chisinau)	• Infrastructure development and maintenance. • Develop medium and long-term strategies for modernising road transport. • Approve Sustainable Urban Mobility Plans (SUMP)	Long history of similar structure and responsibilities.
Congress of Local Authorities (CALM)	• Promote the principles laid down in the European Charter of Local Self-Government. • Coordination and promotion of cooperation between local authorities. • Active participation in the process of modernization and decentralization of public administration. • Formulation of proposals in the process of drafting normative acts. • Unitary representation of common interests of local communities in relations with central public administration, etc.	Founded in 2010, the latest statute from 2016.

The Interministerial Committee for Strategic Planning[75] was established in 2008 to ensure an integrated strategic planning process, in which to correlate most efficiently the national priorities, established in the primary strategic documents of the government, with the policies elaborated by the specialized central bodies of public administration, the international commitments assumed and the internal and external resources framework. The committee holds regular meetings once a month or, if necessary, extraordinary meetings to discuss, inter alia, major transport development projects. Latest decisions can be accessed on the State Chancellery website[76].

Shortly after the adoption of the *2030 Agenda for Sustainable Development* in 2016, the government established the **National Coordination Council for Sustainable Development** to create an appropriate institutional framework, but also to ensure a participatory and transparent process in adapting and implementing the sustainable development goals at the national level. The council has been active since 2024 and has already met in January to approve the list of public policy priorities for the period 2025-2027[77].

The National Council for Coordination of Regional Development is a functional structure established to approve, promote, and coordinate regional development policy objectives at the national level. This council includes government members, chairpersons of regional councils (north, south and centre), and representatives of the private sector in the respective regions.

[75] HG838/2008 (legis.md)

[76] https://cancelaria.gov.md/ro/apc/comitetul-interministerial-pentru-planificare-strategica

[77] https://cancelaria.gov.md/ro/apc/consiliul-pentru-coordonarea-dezvoltarii-durabile

Another platform for coordination, facilitation, and monitoring of the activity of government agencies, scientific institutions and NGOs, aimed at promoting the principles of sustainable development and green economy in all socio-economic sectors of the Republic of Moldova, is the interministerial working group for promoting sustainable development and green economy, created in 2015. Among the general responsibilities to promote the green economy, the working group is responsible for developing the roadmap for promoting the green economy in the country. In December 2023, it discussed the draft Green and Circular Economy Promotion Programme for 2024-2028[78]. The Group's meetings are supported by the EU-funded EU4Environment programme as part of its component Output 1.1 on "Green economy ownership, policy coherence and cross-sectoral coordination", which is implemented by the UN Environment Programme (UNEP). Usually, the group convenes once a year, and at its last year's meeting, it discussed:

- EU4Environment progress in Moldova so far;
- Preparations for the EU4Environment Regional Assembly;
- National objectives BIG-E (Nicosia EfE Ministerial Conference);
- The process of developing the Green Economy Promotion Programme for 2023-2027;
- The process of drafting the Law on Pollution Payments and Taxes for Natural Resources;
- World Cleanliness Day 2022 in Moldova (national campaign – 01-17.09.2022 and Cleanliness Day, September 17);
- Synergies with other projects.

3.3.2 Capacity assessment of the existing institutional set-up

The mission to analyse the situation and issues in the thematic area, to develop efficient public policies, to monitor the quality of policies and normative acts and to propose justified interventions of the state that are to provide efficient solutions, ensuring the best ratio between expected results and expected costs, is assigned to the **Ministry of Infrastructure and Regional Development**. The main functions of the ministry are:

- Develop ex ante analyses, policy documents, draft normative acts, including those for ensuring the execution of normative acts and decrees of the President of the Republic of Moldova, after their publication in the Official Monitor of the Republic of Moldova, in collaboration with relevant representatives of civil society and the business community;
- Monitor the score and position of the Republic of Moldova in international indicators and rankings related to its specific areas and develop proposals for their improvement;

[78] https://www.mediu.gov.md/ro/content/4298

    - Monitor the perception of citizens and businesses regarding public policies, normative acts and state activity in the fields of activity specific to the ministry and develop proposals for its improvement;
    - Monitor the quality of public policies and normative acts in its areas of activity, including in collaboration with civil society and the private sector;
- Collaborate with specialized institutions abroad;
- Implement normative acts and international treaties, prepare progress reports;
- Align sectoral policies, according to the chapters of accession to the European Union;
- Implement the EU-Moldova Association Agreement;
- Review and approve of draft normative acts developed by other public administration authorities and submitted for its consideration;
- Draft and submit budget proposals, develop the annual activity plan, as well as annual monitoring reports;
- Organize budget planning, execution, accounting and reporting systems within the ministry and, where appropriate, within subordinated budgetary authorities/institutions;
- Coordinate and monitor the activity of subordinated administrative authorities and public institutions in which it is a founder, etc.

The structure of the ministry includes the following subdivisions with functions relevant to achieving the EGD goals:

- Road Transport Policy Directorate
- Rail and Naval Transport Policy Directorate
- Air Transport Policy Service
- Road Development Policy Directorate
- Road Maintenance Policy Directorate, including Road Safety Service.

The subdivisions listed above have 15 positions in the transport field and 13 positions in the field of roads, of which two and five, respectively, are vacant.

In addition to the minister, the ministry leadership includes four state secretaries, including one for transport and another for road infrastructure. The secretaries of state, in the areas for which they are responsible:

- Participate in determining the objectives and strategic directions of the ministry's activity.
- Participate in the elaboration of programs and activity plans of the ministry, and report on their implementation.
- Propose initiating draft normative acts in accordance with the minister's objectives and strategic directions.
- Represent the ministry, based on the minister's delegation, in relations with central and local public administration authorities and other public authorities,

representatives of civil society and individuals and legal entities from the Republic of Moldova and abroad.

The ministry also has the deputy secretary general, who:

- Ensures coordination of the elaboration and monitoring of the implementation of the requirements for accession of the Republic of Moldova to the European Union.
- Coordinates the activity of subordinated subdivisions of the ministry's central apparatus to achieve the objectives and tasks set in implementing the requirements for the Republic of Moldova's accession to the European Union.
- Ensures planning, monitoring, evaluation and reporting on the execution of activities regarding the implementation of the requirements for the Republic of Moldova's accession to the European Union.
- Ensures the elaboration and approval of draft normative acts in accordance with the requirements for the Republic of Moldova's accession to the European Union, according to the ministry's fields of competence.

Within the ministry there is an advisory body (council), composed of the minister (president of the council), state secretaries, secretary general of the ministry, deputy secretary general of the ministry, heads of internal subdivisions of the central apparatus of the ministry, as well as heads of organizational structures within the competence of the specialized body and other persons. The council discuss in its meetings issues related to the organization of the activity of the ministry to promote policy in managed sectors, solving pressing issues, and developing and implementing long-term and short-term forecasts. Also, the council discusses issues related to the activity of administrative authorities subordinated to the ministry, considers draft normative acts, debates reports and reports of heads of subdivisions of the ministry and subordinated administrative authorities.

The list of administrative authorities subordinated to the ministry includes:

- National Inspectorate for Technical Supervision,
- National Agency for Motor Transport,
- Civil Aviation Authority,
- Naval Agency,
- Railway Agency.

Table 11. Gaps in sector policy planning and implementation

Elements/capacities	Gaps and needs	Status
Long-term planning	• Despite the existence of several interinstitutional platforms, the leading role in coordinating thematic EDG policies and activities across sectors and government levels is not well defined.	Requires strengthening

	• It is recommended to create a national platform for implementing the EGD package in the mobility area, including central, local authorities and the business environment. Also, the interministerial group promoting sustainable development and a green economy should be renamed and established at the governmental level, including representatives of the Ministry of Infrastructure and Regional Development.	
The extent of the mandates and authority	• EDG goals are missing from sectoral development strategies, and existing laws do not establish powers for the central government to influence policies at the local level regarding smart and sustainable mobility. • National legislation needs to be complemented with requirements and guidelines for developing infrastructure for active mobility, drawing up sustainable urban mobility plans, and incentives for local authorities to promote sustainable mobility.	Requires strengthening
Resource allocation	• The government's activity plan for 2024 provides for the ministry's resources from the state budget only for drafting some decrees relevant to the thematic area. Local authorities finance similar actions from the available budget or through external technical assistance. • Human resources allocated at both the central and local levels are insufficient, with many vacancies. Unfortunately, vacancies may not be filled in 2024 either, as the government has imposed a moratorium on hiring in public institutions until the end of the year. The Railway Agency also does not have a director so far. • The duties of both public authority officials and subordinated structures employees should be reviewed in the light of new challenges related to the achievement of EGD goals and activities. An example in this regard could be the reorganization, with the support of foreign experts, of the transport department within Chisinau City Hall in the urban mobility directorate and the inclusion of new attributions arising from the SUMP.	Requires strengthening
Interagency coordination	• There are no well-defined mechanisms of strategic coordination in the transport sector, except for public consultations organized by the ministry to discuss proposed drafts. • There is a lack of collaboration between transport and land use departments within local authorities. At the national level, this collaboration is facilitated by both areas being within one ministry, or all relevant agencies are subordinated to the government. • Active engagement of all relevant stakeholders in developing SUMPs of localities is recommended.	Requires strengthening
Compliance and enforcement	• The main barrier to implementing EGD policies is that they are not yet part of national legislation, and only a few elements are to be adopted in 2024. Public authorities do not influence private land development. • After transposing EGD policies, implementation plans are to be developed to include actions for local authorities.	Requires strengthening

Data collection, monitoring and reporting	• The ministry deals with policies in the area, and data collection and monitoring of activities are the responsibility of the authorities subordinated to it. • Meanwhile, the Monitoring, Reporting and Verification System of Carbon Emissions from International Aviation (CORSIA) has not yet been transposed into national legislation, and national airlines' participation is currently voluntary. • The system for monitoring, reporting and verifying carbon dioxide emissions from maritime transport is also lacking. It is due to be transposed in 2024. • The National Agency for Road Transport does not yet have a platform for analysing and generating reports. It will be implemented in 2024, along with GPS tracking and e-ticketing systems.	Requires strengthening
Capacity building	• No ongoing or planned training activities have been identified to increase institutional capacity and employee training in EGD areas. • The national education system is not adapted to the challenges arising from EGD activities. The Technical University of Moldova offers only courses in transport infrastructure engineering, urbanism and urban design areas within the Faculty of Urbanism. The Transport Department trains engineers for road and rail transport. Research into intelligent, environmentally friendly and integrated means of transport is at the beginning. A Road Infrastructure Safety Observatory was created in 2018. • There is no traffic engineering profession in addition to road engineering.	Requires strengthening
Stakeholder engagement, awareness and communication	• Several professional associations represent the interests of businesses and NGOs in the sector. Relationships with stakeholders are reduced to inviting discussion meetings on draft normative acts elaborated by the ministry and road transport tariffs. • Representatives of the public and private sectors participate together in the activity of the Working Group of the State Commission for Regulation of Entrepreneurial Activity. They analyse the impact on the process of substantiating draft normative acts. • The Economic Council to the Prime Minister[79] was assigned the mission to facilitate the dialogue between the representatives of the business environment, the donors' community and policy makers to develop a favourable socio-economic climate and a non-discriminatory, transparent business environment, which would be attractive for investment.	Sufficient
Transparency and accountability	• National legislation establishes a clear, logical, and transparent chain of decisions between long-term goals, policy design and implementation. • The State Chancellery provides methodological and organisational support for the system of planning, elaboration, and implementation of public policies by governmental authorities, monitors the implementation	Sufficient

[79] https://consecon.gov.md/wp-content/uploads/2022/07/GD-EC-2011-08-22.pdf

	of the government program, and presents analytical and informational materials. • There is no mechanism to collect and share data on EGD progress metrics.	

3.3.3 Summary of gaps/bottlenecks and needs

Table 12. Summary of caps in the implementation of EGD

Summary of gaps
Are the roles and responsibilities in the thematic area in the institutions clearly established from the perspective of the EGD? 1. As EGD goals and activities are not transposed into national legislation, the roles and responsibilities of the relevant institutions are not determined. 2. The interministerial working group for promoting sustainable development and the green economy was created in 2015. The Green and Circular Economy Promotion Programme for 2024-2028 was drafted but lacks specific thematic area-specific objectives, actions, and measurable indicators. 3. There is no interinstitutional and interlevel platforms to coordinate policies arisen from EGD goals and activities.
Have the proper institutions been given a clear mandate that is sufficient to reach the EGD-related goals set up in the thematic area? 1. The line ministry mandate and structure must be updated to reach EGD goals. 2. Job descriptions of the government agencies' officials and employees should include the EGD goals implementation functions. 3. There is no institutional capacity to implement appropriate measures in a timely manner. The ministry's mandate, structure and functions should be modified to empower it.
Do the relevant institutions have enough (human) resources to handle the EGD-related requirements? 1. Relevant agencies are understaffed, and some positions are vacant, including the head and deputy of the Railway Agency. 2. Employment in public institutions in 2024 is suspended due to the moratorium instituted by the government.

3. With the retirement of the specialists, expertise in multiple areas will soon be lacking. Capacity-building programs should be implemented to avoid a lack of expertise.
Do the relevant institutions have transparent and sufficient data collection, monitoring and reporting systems? 1. Data reporting in the transport sector is done according to the forms and instructions of the National Bureau of Statistics[80], using the government's one-stop shop for electronic reporting[81]. Development of new data collection and monitoring mechanisms in aviation, naval and road transport agencies is on the government agenda for 2024. 2. No publicly available statistical data on registered vehicles grouped by age are available to analyse the impact of restrictions or incentives over time.
Do the relevant institutions have sufficient stakeholder engagement and communication activities in place? 1. Relevant stakeholders can participate in the policy setting process, including working groups at the Prime Minister and State Chancellery levels and public consultations, but broader representation is needed. 2. The level of engagement and its efficiency are not monitored to determine whether improvements should be made to existing communication mechanisms. 3. Zonal urban development plans are submitted by authorities to public consultations before approval, but stakeholders do not participate actively.

3.4 Non-governmental actor capacity

This part describes and analyses sectoral capacity in the thematic area to assess whether the most important stakeholders are capable of supporting inclusive policymaking and have the resources to apply the relevant policies coming from the EGD targets.

[80] Transport (gov.md)

[81] Ghișeu unic de raportare electronică - (gov.md)

3.4.1 Technical and infrastructure capacity – current capacities and future needs

Except for airlines that switched to electronic tickets in an organized manner since 2005, in other modes of transport, such as road and rail, the e-ticketing system is in its infancy.

Only Chisinau municipality is currently developing a feasibility study in this regard, followed by the testing and implementation phase of the system. In the past, several initiatives have been to promote payment for travel on city public transport using POS terminals offered by local banks.

At the same time, using a mobile application and card payment to rent electric scooters in Chisinau, offered by the company Bolt, can be considered a success, perhaps because the main users are young people. Amigo's electric carsharing in Chisinau, using the dedicated mobile application, is also growing.

A positive fact is also the possibility of real-time tracking of the movement of public transport in Chisinau through the Tranzy application, due to the equipping of all buses and trolleybuses with GPS modules. Passenger information panels connected to the fleet management system have been installed in some public stops.

Following the implementation of the *Mobility and Intelligent Transport Strategy*[82], as well as the *Green Cities Action Plan*, the Traffic Monitoring Center in Chisinau is being created. In 2024, a mobile app and dashboard dedicated to public transport will be developed.

At the national level, the government plans to develop a regulation on the creation and functioning of the e-ticket information system in 2024. They also plan to create and put the GPS monitoring subsystem into operation. At the end of 2023, the technical concept of the system of weighing in motion, the means of transport included in traffic on public roads, was approved.

The problem of integrating into a common system the video cameras installed for monitoring traffic in cities and on national roads to more efficiently manage the road situation and provide solutions to relieve traffic congestion remains unsolved.

There are no standard models for estimating and comparing the costs of different modes of transport, so authorities and operators are basing their calculations on their own historic data. A good recommendation for this would be the tool developed by the International Energy Agency for electric vehicles[83].

[82] Pagina oficială a Municipiului Chișinău (chisinau.md)

[83] Electric Vehicle Charging and Grid Integration Tool – Data Tools - IEA

To identify the best solutions for the renovation of the rolling stock of the public transport system in Chisinau, a group of municipal councillors developed a report in which they established the number of vehicles needed to ensure minimum standards of quality and convenience[84]. Thus, Chisinau City Hall aims to buy 300 new buses in the next three years. In 2020-2022, 174 buses and 95 trolleybuses equipped with air conditioning and ramps for people with disabilities were purchased, including ten autonomously powered trolleybuses.

On the streets of the Balti municipality will soon appear 22 battery-powered trolleybuses.

The city of Edinet has recently purchased eight compact buses. They have low floors, access ramps for people with mobility difficulties, air conditioning and wireless connection. Moreover, the buses have implemented an electronic payment system from the start, through which the trip can be paid contactless, with a bank card or a phone that has implemented ApplePay or GooglePay systems. The buses also have integrated GPS tracking; inside, screens show the route followed and the bus's progress in real time.

Other cities are less prepared for the green transition due to the lack of public funding and external assistance, and because transport services are concessioned to private operators.

National passenger and freight transport, as well as international transport, are provided by private companies that do not benefit from support programs to modernize the operating fleet.

The national railway company CFM also needs significant investments in rolling stock and railway infrastructure development. The locomotives are diesel and have 34 to 52 years of operation. Only 12 new locomotives were recently purchased with the support of IFIs; the acquisition of 25 shunters and over 3000 freight wagons is in the discussion phase. The entire network is non-electrified and has a 1520mm track gauge vs. 1435mm in the EU.

A recent strategy for the EU integration of Ukrainian and Moldovan rail systems[85] aims to develop and assess operational alternatives and their associated requirements: infrastructure (gauge, siding requirements, power supply system, signalling, multimodal & transshipment terminals, logistic centres, etc.), rolling stock, maintenance requirements, customs operations, passport controls and other inspections. It recommends building a 1435mm track gauge network corridor

[84] https://www.chisinau.md/ro/span-stylecolorredimportantspan-raportul-grupului-de-lucru-al-reprezentantilor-a-20292_243983.html

[85] Strategy-for-the-EU-integration-of-the-Ukrainian-and-Moldovan-rail-systems.pdf (eib.org)

connecting the Romanian border to Chisinau and its electrification. As none of the existing lines are electrified, electrification in Moldova will also be subject to an assessment of the ability of the Moldovan energy system and grid to accommodate it. As shown in the analysis, the current signalling systems in Ukraine and Moldova are outdated, operating primarily on relay-based interlockings, even with some sections operated manually. The EU-integrated rail systems must be based on modern, interoperable signalling systems.

Moldova is a part of the international network of charging stations for electric vehicles built by EV Point[86]. It has 270 charging points and 120 charging stations in 42 localities. The company has its unique mobile application for Moldovan and Romanian users, which allows customers to interact with the charging station, track charging status, station availability, pay for services, reserve the station for a period and much more. The application has a convenient and intuitive interface and is available for download in the App Store and Google Play. Recently, the first fast charging hub for EVs in Moldova was opened.

An Italian renewable energy producer flyElectric[87] has built the cluster for charging stations in Moldova, delivering 60 chargers in operation and more than 200 points of service in the pipeline. It has its own mobile app - the flyElectric app, offering a comprehensive back-end solution to manage the network.

Many gas stations, commercial centres and business offices have installed EV charging points on their territory. Full list of EV charging points can be found by accessing PlugShare website[88] or using its mobile app.

Even though it's a promising start, the EV charging network isn't developed enough to meet EGD's goals and charging times are too long to handle the growing demand.

3.4.2 Green skills and awareness

In recent years, the annual organization of the European Mobility Week in September has grown in Moldovan cities. This is a convenient platform for promoting the benefits of increasing the use of sustainable modes of mobility. Businesses, NGOs, schools, and other actors, including cities, are invited to participate in the EMW campaign and encouraged to register their mobility actions.

[86] evpoint.md/en/

[87] flyRen Energy Group - The culture of clean energy

[88] PlugShare - EV Charging Station Map - Find a place to charge your car!

In 2022, the first Festival of Alternative Transport was held in Chisinau. It was meant to promote walking, bicycle riding, scootering, roller skating and other forms of active mobility.

To better promote the EU initiatives in sustainable mobility, it is recommended that a dedicated website be created and a national coordinator appointed, who has not been appointed so far, as cities have taken scattered action in this regard.

The link between EGD goals and their achievement at the local level is ensured through Green Cities Action Plans developed with EBRD support (e.g., in Chisinau and Balti). Also, EBRD financing is preceded by feasibility studies, transport strategies and development plans.

Another program contributing to achieving EDG goals in the regions is EU4Moldova: Focal Regions,[89] implemented by UNDP. The European Union also finances projects implemented by Chisinau and Edinet municipalities within the Partnership for Sustainable Cities[90] that includes smart mobility initiatives.

Connections are ensured at the national level through the Mobility Strategy and other policy documents, as well as the government's action plan.

The current level of awareness of behavioural changes is low. A way to raise it and shift the pyramid of mobility needs in cities is to promote the development of urban mobility plans (SUMP) and discuss them publicly with the involvement of all stakeholders. As mentioned above, it is necessary to include in the national legislation the definition and principles of SUMP and provide support for its elaboration.

The implementation of sustainable mobility principles is not possible without adequate national/local capacities and human resources. This requires capacity-building programs and the development of specialized courses (e.g. for mobility experts, traffic engineers, urban planners, etc.) at the university level. Study visits to more advanced cities and countries should be organised to familiarise oneself with the best EU practices.

3.4.3 Stakeholder capacity

There are several relevant non-governmental stakeholders active in the mobility area.

The mobility sector does not have many non-commercial organisations that are actively involved. One is the **Green City Lab,**[91] created with UNDP support within the

[89] EU4Moldova: Focal Regions | United Nations Development Programme (undp.org)

[90] Partnerships for Sustainable Cities - European Commission (europa.eu)

[91] GreenCity | GreenCity

recently concluded Sustainable Green Cities Project in Moldova[92]. Among the accomplishments of the project are:

- 30 electric scooters integrated in a public sharing service;
- Three pedestrian crossings rehabilitated;
- 16 Fast Track Challenge Programme innovation projects tackling mobility, waste management, water pollution and energy efficiency implemented;
- Feasibility study *Development of the electric vehicles charging infrastructure* developed;
- The electric cars' marathon editions accomplished;
- A roadmap for the Sustainable Urban Mobility Plan for Chisinau developed;
- Urban Street Design Guideline developed;
- Bicycle Infrastructure Strategic Development Plan for Chisinau developed;
- A strategy and an action plan for smart technology and mobility for Chisinau municipality were developed;
- Establishment of the dedicated bus lanes, implemented on the main transit streets from the city centre.

Green City Lab further promotes urban mobility and the green economy transition by organizing public events, participating in podcasts, and providing grants for innovative solutions for modern and environmentally friendly urban development. Examples of this are the following projects implemented in 2019-2021:

- Green and safe corridors in Chisinau (creating a base for bicycle infrastructure using tactical urbanism);
- Green wheels – a bicycle delivery service for products within Chisinau;
- A new utility for used batteries from electric vehicles (reusing used electric car batteries to store surplus green energy).

Another NGO involved in the area is the **Automobile Club of Moldova (ACM),**[93] created in 1998 to develop motoring, technical road assistance service and motor tourism. Its recent activities[94] include:

- Safe roads to school campaign (increasing the level of road safety by developing local policies to introduce 30 km/h speed limits in school areas; developing and testing an extracurricular policy for introducing and institutionalizing road safety education);
- Organizing the UN Global Road Safety Week in the Republic of Moldova;
- Campaign Streets for Life: For People and Planet;

[92] [Closed] Moldova Sustainable Green Cities | United Nations Development Programme (undp.org)

[93] ACM :: About ACM

[94] Make Roads Safe Campaign - Home (saferoads.md)

- Unique campaign in dance steps entitled "#YouAreMyStreet" (calling on the responsible authorities to ensure an accessible infrastructure for all categories of road users).

The **Chisinau Bicycle Alliance (ABC)**[95] aims to gather activists and organizations that advocate for a qualitative, convenient, safe, and efficient bicycle infrastructure to finally appear in Chisinau under one umbrella initiative.

ABC promotes the development of velo-infrastructure and encourages responsible use of bicycles as a sustainable means of transport. Among other activities, they:

- Collaborate with Chisinau City Hall in arranging the network of bicycle lanes and lanes;
- Propose and support legislative changes in the field of road traffic and norms in road construction;
- Strengthen and expand the community of bicycle users through events such as: repair workshops, road education trainings, Velo-Mentor program, Car Free Day, BikeFest.

The ABC also includes the initiatives Girls on Bikes, Bike Point and Moldova on Bikes, a project dedicated to cycling culture and marking tourist routes for bicycles implemented by EcoVisio.

A community **PrimariaMea** (MyCityHall)[96] was created in 2016 to present the activity of municipal authorities in Chisinau in a more accessible way and to provoke the interest of residents. It comprises citizens who want a comfortable, accessible, and beautiful Chisinau. The project promotes the idea of a better city, where authorities consult citizens when setting priorities, developing, and implementing public policies. Once the capital's inhabitants follow the activities of those they elected and get involved in decision-making processes, their efficiency will improve.

All these organizations have limited human and financial resources and rely heavily on their members' enthusiasm. At the same time, they actively participate in public events promoting sustainable mobility, along with the organizers (public authorities, etc.).

Other non-government stakeholders' groups include the private sector (e.g. transport operators, service providers, etc.), academia (e.g. Technical University, etc) and international organisations.

[95] ABC - Chisinau Bicycle Alliance or community umbrella for alternative transport - EcoVisio - A sustainable vision for Moldova

[96] Despre noi - Primăria Mea (primariamea.md)

Chisinau International Airport is Moldova's main air gate, from which 17 airlines operate scheduled flights, including two national air companies. In 2023, the airport served 2.8 million passengers, 23% more than in 2022. Another airport in the vicinity of Moldova is the one in Iasi (Romania), through which, according to some estimates, 800 thousand Moldovan passengers passed out of a total of 2.3 million passengers served in 2023.

Other important stakeholders are public transport operators from Chisinau and Cahul municipalities. These operators are owned by local public authorities and benefit from subsidies from the local budget and financing from international development banks.

Private transport operators participate in the decision-making process through professional associations in public consultations and meetings of the Working Group of the State Commission for Regulation of Entrepreneurial Activity, in which it has a permanent representative and contributes with experts on topics of interest. The leading associations are the International Association of Motor Carriers (AITA), the Union of Transporters and Road Workers and the Employers' Association of Motor Transport Operators. Following recent legislative initiatives to amend the Road Transport Code, many route owners said they risked losing their license and came out to protest last November[97].

The Technical University of Moldova participates with its experts in elaborating studies and development plans in the transport sector. Moreover, within the university, a Road Safety Observatory was created, which attracts students and specialists to carry out fundamental and applied scientific research.

3.4.4 Summary of gaps/bottlenecks and needs

Table 13. Gaps in implementing EGD

Summary of gaps
Does the thematic area have sufficient technical and infrastructure capabilities to reach related national and EGD goals? 1. According to the EC's latest report on Moldova from November 2023[98], the current national regulatory framework does not provide for the implementation of the

[97] Transportatorii au decis ziua în care vor ieși la protest. Oleg Alexa: „Vom ieși în Piața Marii Adunări Naționale" (radiomoldova.md)

[98] SWD_2023_698 Moldova report.pdf (europa.eu)

Intelligent Transport Systems Directive (ITS), and the country also has insufficient capacity and resources to implement it. 2. Only a concept for developing an integrated system exists, which includes subsystems like e-tickets, e-GPS, and a registry of transport operators. The approval of the systems is planned for 2024, and their implementation will take time. 3. One of the constraints in developing international transport is the long waiting time at the border with Romania due to the war in Ukraine.
Are the discussions related to the technical and infrastructure development focusing on making changes required for the green transition? 1. Green transition is just becoming a topic of discussion in Moldova, starting with the development of SUMPs and the National Mobility Strategy.
Are there enough skilled workers in the thematic area to support the green transition, and does the government have plans and measures in place to support the development of green skills? 1. Moldova does not have or prepare specialists necessary for the green transition. 2. The program has not yet been approved for promoting the green and circular economy for 2024-2028, which provides for increasing the number of educational programs in the field of green economy by 20% in 2026.
Is the sector aware of the changes it needs to make to reach the green transition-related goals and the challenges it needs to overcome? 1. The topic of green transition has not yet been discussed in public debates or stakeholder meetings. 2. Due to the voluntary adoption of SUMP by cities in Moldova, a limited number of sector representatives are beginning to understand the changes needed for the green transition. 3. The sector's low interest in implementing the EGD objectives was also demonstrated by its low participation in the presentation meeting of the first draft of the Mobility Strategy.
Do the key stakeholders in the thematic area have the capacity and resources to implement and support an inclusive transition?

1. The sector lacks the capacity and resources to implement the inclusive transition, and there is no state support program for this.

4. Overview of crosscutting issues within the thematic area

4.1 Financing the transition

The Low Emission Development Program 2030 (Annex 1) specifies financial resources needed to unconditionally reduce greenhouse gas emissions from the transport sector by 52% by 2030 compared to 1990. The total estimated amount for priority actions (e.g. promotion of biofuel production and use; repair, rehabilitation and construction of national roads, promotion of energy efficiency in rail transport, labelling of tyres, promotion of efficient energy transport, optimization of transport on central streets in localities; promotion of hybrid means of transport, e-mobility, and other environmentally friendly mobility options) represents over MDL 5.5 billion (approximately EUR 284.8 million).

The National Development Plan for 2024-2026 estimates the total costs of ensuring qualitative/safe transport infrastructure and making passenger/freight transport more efficient.

The main instrument for financing road infrastructure is the Road Fund within the state budget.

Meanwhile, the EBRD, EIB, AFD, and the European Commission are foreign financiers of the modernization of the national transport network.

Moldova joined the Connecting Europe Facility programme in 2023. Starting this year, Moldova can access funds under the Interreg Europe and Interreg Black Sea Basin programmes.

4.2 Just transition

According to public data, almost 5% of the population is employed, 4.6% in the transportation and storage sector, and 31.2% are women.

As a result of the e-ticketing system implementation in municipal public transport, jobs for tollers will be gradually reduced. Meanwhile, Chisinau e-ticketing study under development will consider integration of vulnerable groups to avoid technology-driven exclusions.

New Intelligent Transport Systems Directive (ITS) solutions may exclude passengers, such as those with limited access to digital technologies or people with disabilities.

Road infrastructure is not adapted to the requirements of active mobility. The electrification of the public transport fleet is delayed due to limited local financial capacity and reduced accessibility of external financing.

The needs of disabled people are not properly considered in transport infrastructure planning.

To ensure a higher level of comfort for passengers and attract more residents to opt for public transport, the Chisinau Municipal Council approved the quality standards for public transport. According to them, transport operators must only partially comply with European Euro 6 or Euro 7 standards. At the same time, all buses and trolleybuses must be equipped with ramps for persons with reduced mobility by 2025. As a result, introducing new standards reduced the fleet of obsolete and polluting minibuses in the city, increasing the travel fare and the renewal of the buses/trolleybuses fleet.

4.3 Digitalization

According to the European Commission's latest report on Moldova from November 2023, the current national regulatory framework does not provide for the implementation of the ITS, and the country also has insufficient capacity and resources to do so.

Although the government approved the Digital Transformation Strategy in September 2023, it does not include objectives and indicators for the mobility sector.

Meanwhile, the Government's Activity 2024 provides for actions, such as developing an integrated system at the national level, which includes subsystems like e-ticketing, e-GPS, and a registry of transport operators. At the end of 2023, the technical concept of the system of weighing in motion of the means of transport included in traffic on public roads was approved.

The e-ticketing system is in its infancy in most modes of transport (e.g. road and rail), except for airlines that switched to electronic tickets in an organized manner in 2005. Only the Chisinau municipality is currently developing a feasibility study in this regard, followed by the testing and implementation phase of the system. Also, there are several initiatives to promote payment for travel on city public transport using POS terminals offered by local banks.

At the same time, using a mobile application and card payment to rent electric scooters in Chisinau offered by Bolt company can be considered a success, perhaps

since the main users are young people. Amigo's electric carsharing in Chisinau, using the dedicated mobile application, is also growing.

A positive fact is also the possibility of real-time tracking of the movement of public transport in Chisinau through the Tranzy application, due to the equipping of all buses and trolleybuses with GPS modules. Passenger information panels connected to the fleet management system have been installed in some public stops.

Following the implementation of the *Mobility and Intelligent Transport Strategy* and the *Green Cities Action Plan*, the Traffic Monitoring Center in Chisinau is being created. In 2024, a mobile app and dashboard dedicated to public transport will be developed.

The problem of integrating into a common system the video cameras installed for monitoring traffic in cities and on national roads to more efficiently manage the road situation and provide solutions to relieve traffic congestion remains unsolved.

There are no standard models for estimating and comparing the costs of different modes of transport, so authorities and operators are basing their calculations on their own historic data. A good recommendation for this would be the tool developed by the International Energy Agency for electric vehicles.

4.4 Research and innovation

Notable initiatives include the establishment of the Green City Lab and the Road Safety Observatory, as well as participation in international programs like Horizon Europe. However, there is a recognized need for MA/PhD programs dedicated to the green transition in smart mobility. The sector is supported by various strategic plans, such as the new *National Mobility Strategy* and the *Intelligent Transport and Mobility Strategy for Chisinau*, focusing on areas like traffic management, electromobility, and sustainable urban mobility plans. The private sector is actively engaged, with several startups and international collaborations contributing to developing intelligent transport systems. The third sector, including NGOs and international organizations like UNDP and EBRD, is crucial in supporting public transport modernization and sustainable mobility projects. Despite progress, continuous efforts are required to ensure effective implementation and address the challenges of urban mobility and environmental sustainability.

5. Summary and conclusions

The Green Agenda for Georgia, Ukraine, Moldova, and Armenia (GA GUMA) project aims to assist the four countries in aligning policies with the European Green Deal and achieve climate neutrality goals through a green transition with a regional and local focus. The project implementation covers a broad range of policy areas associated with the European Green Deal, organized under distinct thematic categories.

This report represents the project's first key deliverable, evaluating Moldova's readiness for the transition to sustainable and smart mobility. The assessment examines policy planning capacities, implementation levels, institutional collaboration, and stakeholder inclusion.

The scope of sustainable and smart mobility is primarily based on the ***Sustainable and Smart Mobility Strategy*** (SSMS), which is integral to the *European Green Deal* (EGD). This strategy lays the foundation for how the EU transport system can achieve its green and digital transformation, enhancing resilience against future crises.

Mobility encompasses not only the movement of people and goods but also physical and digital infrastructure, resource management, production and disposal, safety, security, and accessibility. These aspects significantly impact health and wellbeing and are interconnected with zero pollution, building and renovation efforts, and industrial practices. While the report provides an overview of sector-specific measures to reduce greenhouse gas emissions and enhance energy efficiency in the transport sector, the overall progress toward EGD goals is detailed in relevant reports. Additionally, the concept of fair and just mobility is explored through spatial proximity and planning aspects of accessibility, while other dimensions are addressed in the cross-cutting Just Transition report.

5.1 Current state of the green transition

The transport sector in Moldova, contributing 7% to the GDP, is heavily dominated by road transport, making it the second-largest source of greenhouse gas emissions, with 22% of the country's total emissions. The rapid increase in motor vehicles, from 300,000 in 1990 to over 1,000,000 units in 2023 and the overall motorization have increased from 226 vehicles in 2018 to 314 vehicles per 1000 inhabitants in 2023. With over 80% of the fleet being more than ten years old, alongside an outdated public transport fleet, it has increased air pollution levels in urban areas, especially in Chisinau.

The transport sector's structural profile reveals a heavy reliance on road transport, with trolleybuses accounting for 64.1% and buses for 30.9% of passenger mobility, while 91.9% of freight was transported by road in 2022. Due to recurring economic crises, the logistics sector is poorly developed, with almost no intermodal transport operations and only a few operating logistic centres that are not dimensioned for future needs.

The broad standard gauge rail network in Moldova is fully non-electrified. Several initiatives are ongoing to reinforce rail infrastructure's connectivity with the EU network and include parts of the networks as TEN-T corridors, which could enhance Moldova's position as a transit country.

The aviation sector is of minimal importance in freight transport, with a higher share of passenger kilometres flown due to international connections and only one airport open for regular flights. Shipping in Moldova is possible on the lower Prut and Nistru

rivers, but water transportation plays only a modest role in the country's transportation system.

Compared with the base year level (1990), by 2020, the Republic of Moldova had reduced its greenhouse gas emissions by 69.8%. However, the decrease in greenhouse gas emissions over the last 30 years is only marginally a result of environmental policy, and mainly the mathematical consequence of the decrease of some essential economic and social indicators with the greenhouse gas intensity (CO2eq/GDP) going down by 60.0% within this time period. In 2020, the transport sector had a share of 26.3% of the total national emissions, double that of the 1990 level of only 13.1% of national emissions.

Energy consumption in the transport sector has steadily risen for diesel, petrol, and the road transport sector, whereas LPG use has decreased. There is no information available on the use of biofuels. In 2019, Moldova's road transport fuel mix was 44% gasoline, 43% diesel, and 13% other fuels, including electric. Hybrid and electric vehicles have grown rapidly, with a 9.4-fold increase from seven units in 2004 to 14,737 units in 2019, which is still only about 1.5% of the total fleet.

Due to reduced rail services and a road-centric transport system, Moldova's limited intermodal connectivity hinders the efficient movement of people and goods, particularly for domestic passenger transport. The limited data collection on the existing modal share in passenger transport poses an additional challenge to progressing towards a sustainable and climate-friendly transportation system. An underdeveloped and inefficient public transport system disproportionately affects vulnerable populations who rely on it, leading to increased use of ageing and unsafe vehicles, contributing to high emissions and traffic accidents in Moldova. The number of traffic accidents and fatalities has decreased by about 24% over the past ten years, with 8.3 per 100,000, but is still almost double the European Union's average of 4.6 per 100,000.

Improvement of mobility conditions in the Republic of Moldova and its alignment with the European Union standards, and even the average mobility conditions in most EU member states, remain complex challenges. The sector inherits years of underinvestment, and the succession of international crises has questioned its resilience capacities. Despite Moldova's economic progress over the past two decades, the infrastructure still requires significant upgrades in terms of quality, sustainability, accessibility, and safety. The low urbanization rate, with approximately 60% of the population living in rural regions, poses additional challenges, together with the expected rapid urbanisation to come within the next 10-20 years.

The Ministry of Infrastructure and Regional Development (MIDR) is tasked with developing ex ante analyses and effective public policies in the transport sector, monitoring the implementation of policies and regulatory measures, and recommending well-founded state interventions that offer efficient solutions. Even though numerous interinstitutional platforms have been established, there is a lack of a clear definition regarding the primary responsibility for coordinating thematic EDG

policies and activities across various sectors and government levels. Furthermore, current legislation does not grant the central government the authority to shape policies at the local level in the pursuit of smart and sustainable mobility.

Moldova lags behind in deploying Intelligent Transport Systems (ITS) due to limited digital interfaces for transport users. While some progress has been made in public transport in certain cities, these technologies are missing in most services. Further digitalisation may deepen inclusion problems, especially for older people and those with limited digital literacy. Sectoral policies pay little or no attention to questions of just transition, including addressing possible job loss or gender inequality issues. Neither is the national education system adapted to the challenges arising from EGD activities, nor is it ensuring the availability of highly qualified experts.

The main challenges of the sector are:

- deteriorated infrastructure and poor connectivity, notably at borders;
- increased greenhouse gas emissions and high road traffic fatalities;
- slow digital solution adoption and underdeveloped logistics;
- challenges in harmonizing with the EU transport regulations;
- public transport system inefficiencies and inadequate inclusiveness;
- slow progress in sustainable urban mobility and active transportation development.

Despite these challenges, initiatives aimed at modernizing the transport infrastructure and fleet, promoting low-emission vehicles, and enhancing the sector's sustainability are underway. Adopting the EU core transport legislation has become a priority obligation after being granted the EU candidate status. Furthermore, efforts to develop the infrastructure for alternative transport modes like cycling and walking in urban areas like Chisinau are in progress, although national strategies for non-motorized transport remain limited.

The pace of the process in moving towards data-driven transport planning and innovative public transport solutions, the adoption of electric vehicles, and the development of climate-resilient infrastructure is strongly influenced by a significant funding gap of EUR 1.227 million between the investment required and the available funds.

Table 14. EGD objectives/targets and status/progress in smart mobility

EGD objectives and targets (including 8th EAP targets and indicators)	Relevant EGD indicators and EU level reference (8th EAP)	Assessment (relevant country indicators/level of achievement)
EU mobility strategy. By 2030: • At least 30 million zero-emission cars will operate on European roads. • 100 European cities will be climate-neutral.	• New registrations of electric vehicles in Europe EEA • Greenhouse gas emission intensity of fuels and biofuels for	1. Stock of registered vehicles per type (No) (2022): • cars, incl. taxi: 745,970 • buses and minibuses: 21,055

• High-speed rail traffic will double across Europe. • Scheduled collective travel for journeys under 500 km should be carbon neutral. • Automated mobility will be deployed at a large scale. • Zero-emission marine vessels will be market-ready. **By 2035:** • Zero-emission large aircraft will be market-ready. **By 2050** • Nearly all cars, vans, buses and new heavy-duty vehicles will be zero-emission. • Rail freight traffic will double. • The multimodal Trans-European Transport Network (TEN-T), equipped for sustainable and smart transport with high-speed connectivity, will be operational for the comprehensive network. • The death toll for all modes of transport in the EU will be close to zero.	road transport in Europe EEA (overlap with Climate Change) • Greenhouse gas emissions from transport EEA • Use of collective transport modes for passenger transport and non-road transport modes for freight transport in Europe Source EEA • Share of buses and trains in inland passenger transport EEA	• goods vehicles: 194,523 New vehicle registration per fuel type a) (%) (2018) • Hybrid (incl. EV): 4 • Gasoline: 44 • GPL, GNC: 7 • Diesel: 43 • Others: 4 b) Alternative fuels, incl. hybrid and electric (nr) (2022) • passenger cars: 6,520 • coaches, buses and trolley buses: 21 2. Total greenhouse gas (GHG) emissions from transport (ktCO2e) 1990 – N/A, 2018 - 6167.1, 2022 - 125.6 2. Final energy consumption of the sector (KTOE) 2018 – 758, 2022 – 793 3. Modal split according to passenger kilometres ran (pkm) (2022) • Rail: 0.6% • Bus: 50.7% • Air: 35.9% • Taxi: 3.7% • Trolleybus: 9.1% Modal split according to freight ton kilometres ran (tkm) (2022): • Rail: 15.5% • Road: 84.4% • Naval: 0.004% • Air: 0.015% Share of public transportation use of all trips 2022 – 49% (In Chisinau)

		4. Road fatalities by transport 2018: 109; 2022: 92

5.2 Summary of the gap assessment

Table 2. Summary of the main enabling conditions, gaps and needs

Main elements	Enabling conditions	Key gaps	Needs

EU Strategic framework and acquis (policy and legal readiness) **(section 3.1)**	A strategic goal has been established to significantly reduce pollution from transport by setting a target to increase the proportion of electric and hybrid cars to 15% of the total number of passenger cars by 2030. This target aligns with the broader goal of achieving 30 million zero-emission vehicles as outlined in the European Green Deal (EGD). The development of the *National Mobility Strategy 2023-2030* aligns with the objectives and targets of the EGD, aiming to integrate sustainable and green mobility practices into the national framework. The action plan for implementing the low-emission development program until 2030 contains several specific actions, responsible ministries, deadlines, progress indicators, estimated costs and funding sources. Moldova's participation in the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) showcases its commitment to international efforts in reducing aviation emissions and promoting sustainable aviation practices.	1. According to the 2020 report[99], the EU-Moldova Association Agreement implementation progress in transport sector is under 50%. This situation is also confirmed by the long list of actions of the government in the field of transport for the next four years (over 100) but also legal acts to be adopted in 2024 (around 70). There is no institutional capacity to implement planned measures on time. The low priority of sustainable mobility and intermodal transport topics on national level is aggravating the process furthermore. 2. The country's policy and planning frameworks for sustainable transportation have significant gaps. National strategy documents only set a short-term goal of 55% greenhouse gas emissions reduction by 2030 compared to 1990 but long-term goals and visions for 2050 are missing. Furthermore, the implementation of the EU Sustainable and Smart Mobility Strategy is fragmented, with measures scattered across various documents and missing from sectoral ones. Insufficient promotion of zero-emission vehicles, alternative fuels, and public transport limits decarbonization efforts. Also, national legislation does not contain provisions on the obligation and content of sustainable urban mobility plans, which	1. A comprehensive policy framework is needed. Mid- and long-term goals must be set to promote cleaner and greener transportation options.

[99] | Ministerul Afacerilor Externe al Republicii Moldova (gov.md)

	The signing of the Memorandum of Understanding (MOU) between the EU and Moldova to revise the trans-European transport network (TEN-T) within their territories, enhancing connectivity with the EU through improved transport links.	contributes to the lack of infrastructure for electric vehicles, dedicated bus corridors, bike-sharing systems, etc.	

Instruments for policy implementation (implementation readiness) **(section 3.2)**	The advances in EU accession negotiations and the accession plan have also sparked the development of the main instruments for moving towards sustainable mobility. In total, 530 normative actions are planned for 2024. Of these, 56 projects refer to the transport sector under the Ministry of Infrastructure and Regional Development's responsibility, including developing a program for implementing the 2030 Mobility Strategy. Major municipalities in the country are taking the initiative and moving towards adopting sustainable urban mobility plans (SUMPs), fleet modernization, and fare adjustments. The exemption from or reduction in import duties for electric and hybrid vehicles has resulted in a significant increase, doubling the registration of such vehicles in 2022 compared to 2021.	1. Despite the existence of some instruments to promote the green transition in the transportation sector, they fall short of what is needed. Notably absent are policies and tools to encourage a shift towards more sustainable modes of travel, such as public transportation and active modes in passenger transport and increasing rail freight traffic. Additionally, the lack of comprehensive state policies to facilitate the expansion of EV charging infrastructure and the modernization of public transportation fleets further hinders the transition towards a greener transportation system and aligning with EGD goals. While some incentives, such as the exemption from national road use tax for EVs, have been implemented, others have been removed, potentially discouraging drivers from purchasing EVs. At the same time, the lifting of restrictions on importing cars over ten years old in 2020, coupled with increased excise duties for such vehicles, has led to a surge in imports of older, more polluting vehicles. Over 45% of the total number of cars registered during this period were over 16 years old.	1. To support the transition towards a greener transportation system, a more comprehensive and coherent policy framework, coupled with additional instruments based on the avoid, shift, improve approach, is needed. This includes updating urban planning regulations to meet new mobility requirements. After transposing EGD policies, implementation plans are to be developed to include actions for local authorities.

Financial capacity (implementation/financial readiness) **(section 3.2.2)**	Some national-level investment estimations for necessary actions have been compiled. The medium-term budgetary framework (2024-2026) details separate allocations for road, waterborne, rail, and air transport, focusing specifically on road and railway rehabilitation and development projects. Additionally, the Low Emission Development Program 2030 outlines the mitigation actions and associated resources required to achieve a 52% reduction in greenhouse gas emissions from the transport sector by 2030, relative to 1990 levels.	Government funding for transport is predominantly directed toward public road maintenance (approximately 94% of the total budget), which has been declining in recent years. International financial institutions (IFIs) contribute significantly to transport development projects, accounting for 40% of external funding (approximately EUR 100 million in 2023). Despite the IFI support, the medium-term budgetary framework (2024-2026) only allocates funds for road and railway rehabilitation/development projects. This leaves other transport modes, such as waterborne and air transport, without dedicated funding. Moldova's National Development Plan (2024-2026) aims to ensure qualitative and safe transport infrastructure for European integration and improve passenger and freight transport efficiency; however, these goals face funding gaps of 23.7% and 4.4%, respectively.	To achieve the objective of unconditionally reducing greenhouse gas emissions from the transport sector by 52% by 2030 compared to 1990, over MDL 5.5 billion of investments would be required. Extensive investment is needed to ensure quality and safe transport infrastructure, and to make passenger and freight transport more efficient through accessibility, sustainability, and interoperability. The government needs to address these funding gaps and ensure a more balanced allocation of resources across all transport modes.
Public capacity (institutional capacity - effectiveness and efficiency - implementation readiness) (section 3.3)	Several working groups, like the Interministerial Working Group and the National Council for Coordination of Regional Development, have been established in recent years to foster a holistic approach to promoting sustainable development and a green economy and encouraging knowledge transfer. Despite the observed lack of collaboration between transport and	1. Despite the existence of several interinstitutional platforms, the leading role in coordinating thematic EDG policies and activities across sectors and levels of government is not well defined. EDG goals are missing from sectoral development strategies and existing laws do not establish powers for central government to influence policies at local level regarding smart and sustainable mobility. There is a lack of collaboration between transport and land use departments within local authorities.	1. It is recommended to create a national platform for the implementation of the EGD package in the mobility area including central, local authorities and the business environment. Also, the interministerial group promoting sustainable development and green economy should be renamed, established at governmental level to include representatives of the Ministry of

	land use departments at the local level, national coordination benefits from the integration of these areas within a single ministry or their subordination to the government, facilitating a more unified approach. In the transport sector, data reporting adheres to the standards and protocols of the National Bureau of Statistics, utilizing the government's electronic one-stop shop for reporting. Moreover, the government plans to develop new data collection and monitoring mechanisms for aviation, naval, and road transport agencies by 2024.	2. Human resources allocated at the central and local levels are insufficient due to understaffing and lacking expertise, with many vacancies. No ongoing or planned training activities have been identified to increase institutional capacity and employee training in EGD areas. The national education system has not been adapted to the challenges arising from EGD activities. The sector lacks the capacity and resources to implement the inclusive transition, and there is no state support program for this. Moldova does not have and does not prepare specialists necessary for the green transition. 3. The data collected and made publicly available to monitor progress towards the EGD targets and analyse the impact of implemented policies have significant gaps.	Infrastructure and Regional Development National legislation needs to be complemented by requirements and guidelines for developing infrastructure for active mobility and drawing up sustainable urban mobility plans, as well as incentives for local authorities to promote sustainable mobility. The duties of public authority officials and subordinated structure employees should be reviewed in light of new challenges related to achieving EGD goals and activities. 2. Capacity-building programs and the development of specialized courses (e.g., for mobility experts, traffic engineers, urban planners, etc.) at the university level are required to support building public sector capacity and awareness and avoid a lack of expertise. 3. Data collection and public availability need to be reviewed and widened to enhance the capacity to track progress, identify challenges, and make informed decisions to accelerate the achievement of EGD goals.

Non-governmental capacity (implementation readiness) **(Section 3.4)**	Due to the voluntary adoption of SUMP by cities in Moldova, a limited number of representatives in the sector are beginning to understand the changes needed for the green transition. The annual European Mobility Week has gained traction in Moldova, providing a platform to promote sustainable mobility. Several non-governmental stakeholders, such as Green City Lab or Chisinau Bicycle Alliance, are focused on promoting a better living environment, urban mobility, and green economy transition by engaging in public activities and policy planning. The private sector's initiatives in developing and widening the EV charging point networks and diversifying the charging options are contributing to the efforts to increase the adoption of zero-pollution vehicles.	1. National passenger and freight transport and international transport are provided by private companies that do not benefit from support programs to modernize the operating fleet. Even though it's a promising start, the EV charging network isn't developed enough to meet EGD's goals and charging times are too long to handle the growing demand. 2. There is little awareness of green transition, sustainable mobility and the need for behavioural changes, which is also reflected in the sector's low participation in policy development and stakeholder consultation processes. The implementation of sustainable mobility principles is not possible without adequate national and local capacities and qualified human resources. 3. Regarding the deployment of intelligent infrastructure, Moldova is still at an early stage in developing ITS solutions. According to the EC's latest report on Moldova from November 2023, the current national regulatory framework does not provide for implementing the Intelligent Transport Systems Directive (ITS), and the country also has insufficient capacity and resources to implement it.	1. Support programs for private companies involved in national passenger and freight transport and international transport are needed to modernize their operating fleets. 2. To support the building of non-governmental capacity and awareness, capacity-building programs and the development of specialized courses (e.g., for mobility experts, traffic engineers, urban planners, etc.) at the university level are required. National public awareness campaigns are needed to raise citizens' awareness of alternative ways of mobility in cities, such as cycling and public transport, to reduce pollution and congestion. 3. Digitalized interfaces with transport users should be better developed. Progress was made in public transport in some cities and services, but most of the public transport services sparsely use these technologies.

Several enabling conditions have been established to achieve the European Green Deal (EGD) goals in Moldova's mobility sector. The strategic goal to increase the proportion of electric and hybrid cars to 15% by 2030 aligns with the broader EGD target of 30 million zero-emission vehicles. This is supported by the *National Mobility Strategy 2023-2030*, which integrates sustainable mobility practices into national policies, and the *Action Plan for the Low Emission Development Program until 2030*, detailing specific actions, responsible ministries, and funding sources. Moldova's participation in CORSIA and the MOU with the EU to revise the TEN-T network further enhance connectivity and sustainability efforts. Additionally, fiscal incentives like import duty exemptions for electric and hybrid vehicles have significantly boosted their adoption, demonstrating the country's commitment to reducing transport emissions.

The primary challenges in achieving the EGD goals in Moldova's mobility sector are diverse. Firstly, the progress on implementing the EU-Moldova Association Agreement in the transport sector is below 50%, with over 100 actions planned for the next four years and around 70 legal acts set for adoption in 2024, underscoring the insufficient institutional capacity to implement these measures on time. This problem is exacerbated by the low priority given to sustainable mobility and intermodal transport at a national level, making the implementation process more difficult. Furthermore, Moldova lacks comprehensive policy and planning frameworks for sustainable transportation, focusing on short-term goals (55% reduction in greenhouse gas emissions by 2030) without long-term visions for 2050.

Additionally, the promotion of uptake of zero-emission vehicles, prioritising modal shift to public transport or rail for freight, and active transport like cycling and walking is minimal at a national level. There are no clear plans to replace traditional fuels such as gasoline and diesel with CNG and LPG, or to mix traditional fuels with biofuels. Moreover, there are no strategies to increase the share of EV/hybrid cars or to develop multimodal transport and implement Intelligent Transport Systems (ITS).

Although some instruments to support the green transition exist, they are insufficient. There is a significant lack of policies and tools to promote sustainable travel modes such as public transportation and rail freight. The absence of comprehensive state policies to expand EV charging infrastructure and modernize public transport fleets further hampers progress. Financial incentives like the national road use tax exemption for EVs are undermined by the removal of other incentives, which could discourage EV purchases.

Despite support from international financial institutions, the medium-term budgetary framework (2024-2026) primarily allocates funds for road and railway projects, neglecting other modes of transport like waterborne and air transport. This funding gap obstructs the comprehensive development necessary to meet EGD goals. Furthermore, coordination of EGD policies across various sectors and government

levels is poorly defined, and interdepartmental collaboration between transport and land use is lacking.

Challenges in human resources are also prevalent, with a shortage of staff and expertise at both central and local levels. There are no ongoing or planned training activities to enhance institutional capacity in EGD areas, and the national education system does not cater to these requirements. Additionally, data collection and availability gaps hinder the monitoring and analysis of progress towards EGD targets. Private transport companies lack support programs to modernize their fleets, and the EV charging network is underdeveloped, failing to meet growing demand effectively.

The primary needs in Moldova's mobility sector include establishing a comprehensive policy framework with mid- and long-term goals to promote cleaner and greener transportation options. This framework should include updating urban planning regulations and developing detailed implementation plans for local authorities, incorporating the avoid, shift, improve approach. The development of the National Mobility Strategy should incorporate the EU’s sustainable and smart mobility measures. Relevant stakeholders' engagement in the decision-making process regarding smart mobility should be clearly described in national legislation, involving line ministries, local administration, the private sector, civil society, and academia. Implementing the new Railway Code to transpose EU Aquis, which includes establishing a railway authority and commercializing the railway sector, is also critical.

A national platform for implementing the EGD package in mobility should be established, involving central and local authorities and the business environment. This includes complementing national legislation with requirements for active mobility infrastructure and sustainable urban mobility plans and revising the duties of public officials to align with EGD goals. Capacity building programs and specialized courses at universities are essential to address the lack of expertise and support public sector capacity. Enhanced data collection and public availability are crucial for tracking progress and making informed decisions. The National Strategy for Digital Transformation should be reviewed to include long-term and medium-term measures in the mobility sector.

Significant investments, estimated at over MDL 5.5 billion, are required to reduce greenhouse gas emissions from the transport sector by 52% by 2030 compared to 1990 levels. Additionally, a more balanced allocation of resources across all transport modes is necessary to ensure quality, safe transport infrastructure and efficient passenger and freight transport. To support modal shift, extensive investments in public transport systems and infrastructure for alternative mobility/electromobility are necessary, together with national public awareness campaigns to raise citizens' awareness of alternative mobility options, such as cycling and public transport, to reduce pollution and congestion.

5.3 Main conclusions

The main gaps in Moldova's mobility sector in achieving the goals set in EGD and the Smart and Sustainable Mobility strategy include insufficient institutional capacity, low prioritisation of sustainable mobility, and a lack of comprehensive long-term policy frameworks. The progress on implementing the EU-Moldova Association Agreement in the transport sector is below 50%, highlighting the need for better coordination and more robust planning. Furthermore, there is minimal promotion of zero-emission vehicles, alternative fuels, and public transport, and no clear plans for replacing traditional fuels or increasing the share of EV/hybrid cars. The underdeveloped EV charging infrastructure and lack of strategies for multimodal transport and Intelligent Transport Systems (ITS) further hinder progress.

To support a sustainable, efficient, and low-emission transport sector and address these gaps, Moldova needs a comprehensive policy framework with mid- and long-term goals to promote cleaner and greener transportation options. This includes significant investments, estimated at over MDL 5.5 billion, to reduce greenhouse gas emissions by 52% by 2030. A balanced allocation of resources across all transport modes is essential to ensure quality and safe transport infrastructure. Establishing a national platform for EGD implementation involving central and local authorities and the business environment is crucial. Additionally, enhancing stakeholder engagement, developing capacity-building programs, and raising public awareness of alternative mobility options are necessary steps. Updating urban planning regulations and implementing the new Railway Code to transpose the EU Acquis will further support the transition to a greener transport system. In addition, Moldova must enhance data collection and its public availability, improve coordination of EGD policies across sectors, and address human resource challenges by providing specialized training and education programs.

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Annex 1. Mapping the strategic national documents as well as relevant thematic objectives and targets

Relevant international or EGD policy area/strategic document	Existing national strategic document	Time of adoption and date of last revision	Legally binding or not	Relevant objectives and targets	Comments:
"White Paper – Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system" **COM (2011) 144 final**	National Development Strategy "European Moldova 2030"	November 2022	Yes	Ensure access to safe, affordable, accessible and sustainable transport systems for all, improve road safety, in particular through the expansion of public transport networks. **Indicators by 2030:** • Share of electric and hybrid cars in total passenger cars, 15% • Road accident rate per 100,000 inhabitants - 70 • Number of deaths from road accidents per 100,000 population - 5.1 • Status of national public roads, share of roads in 'bad' and 'very bad' condition – 10%	
	National Development Plan 2024-2026 (draft)	Adoption in Q1 2024 expected	Not yet	• Feasibility study developed for the extension of Giurgiulesti Danube port and the construction of a dry port • Fleet renewal programme involved in passenger transport on regular services drawn up	

				• Implementation of 4 functional subsystems within the Integrated Management System Road transport • Functional professional attestation platform within the National Road Transport Agency • State Enterprise "Moldovan Railways" reorganized • Increase of the wagon fleet by 2000 freight wagons • 233 km of repaired railway network • 128 km of connected railway • Functional information system within the Civil Aviation Authority • Functional information system compatible with European databases "National Flight Safety Program".	
EU GD Sustainable and Smart Mobility Strategy – putting European transport on track for the future **COM/2020/789 final**	National Development Plan 2024-2026 (draft)	Adoption in Q1 2024 expected	Not yet	• Share of electric and hybrid cars in total passenger cars, % (from 1.2% to 10%) • Condition of national public roads, share of roads in "bad" and "very bad" condition, % (from 46.8% to 28%) • Road accident rate per 100 thousand population, % (from 84% to 78%); • The journey of transported goods, by mode of transport (air, road, rail, river), mio. tone-km (from 7872.8 to 9648.9) • The turnover of transported passengers, by mode of transport (air, road, rail, river), mio. passenger-km (from 5518.1 to 6844.1) • Quality of road infrastructure according to the Global Competitiveness Report,	

				on a scale from 0 to 7 points (from 2.6 to 3.5) • Number of deaths due to road accidents per 100 thousand population (from 10.3 to 6.8).	
New EU Urban Mobility Framework **COM/2021/811 final**	National Mobility Strategy (draft)	Adoption in Q1 2024 expected	Not yet		
	Chisinau Green City Action Plan	June, 2020	Yes	• Increase energy efficiency of public transport • Switch to public transport and active means of transport • Improving the reliability of the transport system. • Renew urban bus fleet • Introduce car-free day annually in the city centre • Create controlled parking areas • Develop and operate bus corridors • Connect urban parks and green areas through cycle route and bike sharing system • Calm traffic in areas with schools, develop network of connected sidewalks between schools • Road rehabilitation and maintenance • Development of a traffic monitoring center	
	Sustainable Urban Mobility Plan of Chisinau	Under development	Not yet		

	Sustainable Urban Mobility Plan of Cahul	Approval pending	Yes		
	Sustainable Urban Mobility Plan of Ungheni	Under development	Not yet		
Trans-European transport network policy (the TEN-T policy) Regulation (EU) No 1315/2013	National Development Plan 2024-2026 (draft)	Adoption in Q1 2024 expected	Not yet	• Rehabilitation, modernization, and construction of access roads to bridges and customs posts (5 access roads, estimated 16 km) • 15% reduction in 'bad' and 'very bad' public roads • 8% increase in improved national roads and transferred to the category of roads in "good" and "very good" condition, approximately 450 km. • Decrease in the number of road accidents in 2026 by 10% compared to 2023. • Elaboration of the feasibility study on "Building the Chisinau-Iasi highway."	

Annex 2. EU approximation assessment

Relevant EU legal document (only key directives and regulations relevant for the thematic area)	Existing national law	Planned national law (including drafted, but not adopted)	Status of transposition (fully, partially, not transposed)	Further steps in transposition	Competent Authority	Comments: issues/difficulties that can create problems for further transposition
Name of the directive	**Name and date of adoption**	**Name and planned date of adoption**				
Regulation (EC) 300/2008, Regulation (EC) 1254/2009 and 72/2010	Law 192/2019 on aviation security		fully		CAA	
EU Regulation 965/2012	GD 831/2018		fully		MIRD	
EU Regulation 95/93	GD 462/2018		fully		MIRD	
Directive 2012/34, Directive 2001/14, Regulation 913/2010, Directive 2016/798, Directive 2007/59, Directive (EU) 2016/797, Directive 2016/798, Regulation 1370/2007; Regulation 1371/2007; Directive 92/106	Railway Code 19/2022		fully		MIRD	
Directive 92/6/EEC	GD 475/2016		fully		MIRD	
Directive 96/53/EC	GD 979/2010		partially		MIRD	
Directive 2006/126/EC	GD 1452/2007		fully		MIRD	

Directive 2008/68/EC	GD 143/2016		partially		MIRD	
Directive 1999/62/CE	Fiscal Code 1163/1997		partially		MIRD	
				GD Jan 2024		PNAA
Regulation (EU) 2018/842 (doc 32018R0842)						
Directive (EU) 2023/959 (32023L0959)			not transposed			
Regulation (EC) 595/2009 32009R0595			not transposed	GD Dec 2024	MIDR	AA 2018, PNAA
Regulation (EU) 2023/1805 32023R1805			not transposed			
Regulation (EC) 715/2007 32007R0715			not transposed	GD Nov 2024	MIDR, MM	AA 2018, PNAA
Directive 2009/33/EC 32009L0033			not transposed	Law Dec 2025	MM, Men; MIDR	AA 3 years, PNAA
Directive (EU) 2019/1161 32019L1161			not transposed			
Regulation (EU) 2023/1804 32023R1804			not transposed			
Directive (EU) 2018/2001 32018L2001	NI		NI	Law Jan 2023, GD Dec 2024	Men, MM	PNAA
Regulation (EU) 913/2010			not transposed	GD Jun 2025	MIDR	AA 4 years, PNAA

32010R0913						
Regulation (EU) 2021/1153 32021R1153			not transposed			
Directive 92/106/EEC 31992L0106			not transposed	GD Jul 2026	MIDR	AA 4 years, PNAA
Directive 2010/40/EU 32010L0040			not transposed	GD Dec 2025	MIRD	PNAA
Regulation (EU) 1315/2013 32013R1315			not transposed			

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